

# CULTURE, PHILOSOPHY, SPIRITUALITY and EDUCATION FORUM



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AT THE COUVENT DES JACOBINS • RENNES MÉTROPOLE CONFERENCE CENTRE

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# **CULTURE, PHILOSOPHY, SPIRITUALITY and EDUCATION Board**

- Véronique Chable (INRAE, France)
- Sophie Valleix (ABioDoc-VetAgro Sup, France)
- Bernard Schmitt (MABD, France)
- Patricia Flores (IFOAM - Organics International)
- Jean-Michel Florin (Goetheanum, Switzerland)
- Gauthier Chapelle (Biomimicry, Belgium)

# CULTURE, PHILOSOPHY, SPIRITUALITY and EDUCATION Face-to-face Sessions

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## SESSION CULTURE, 8/09, 9/09 AND 10/09, 9:00-10:30

CUL A - Culture and Organic agriculture: how the cultural roots of organic agriculture are still alive today and represent a lever to transform deeply the values of the society (8/09)

Expert facilitator: Jean-Michel Florin, Goetheanum, Switzerland

CUL B - Philosophy and OA: how organic agriculture can initiate a first comprehensive philosophy of agriculture and convey new understanding of the nature of organic processes (9/09)

Expert facilitator: Sylvie Pouteau, senior scientist at INRAE

CUL C - Spirituality and OA", how organic agriculture resorts to profound human expectations to reconnect themselves to their innermost roots and to the meaning of life (10/09)

Expert facilitator: Véronique Chable, senior scientist at INRAE and Voyage en Terre Bio

Common facilitators for the three sessions: Gauthier Chapelle and Jean-Michel Florin. The expert-facilitator will introduce the question. The workshops will be inspired by the ideas and thoughts found in all the abstracts of digital sessions. A person from the board will help to prepare the introduction from the main inputs founds in the papers of this proceeding, even if the authors will not attend the face-to-face meetings. A publication will be published from the inputs of the people who will attend the meeting.

## SESSION EDUCATION, 8/09 15:30-17:00 AND 9/09 11:00-12:30

EDU A - Education and OA, how teach OA and how ethics and values are approached in education (8/09)

Content and organisation of the session: (1) Quick roundtable (name, structure, activities), (2) How AB is approached in training, does the context of organic change the way of teaching? (3) Beyond organic farming practices and techniques, how do you approach the ethics and values of organic farming, and in particular aspects of social, climatic and economic justice?

EDU B - Training and knowledge dissemination for OA, how ethics are disseminated beyond the technical, regulatory and economic aspects in the value chains (9/09)

Content and organisation of the session: (1) Quick roundtable (name, structure, activities tools used and target audience), (2) Beyond the technical, regulatory and economic aspects, how do you approach ethics and the notion of value chains?

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## CULTURE 1: Spiritual approach of agriculture - 8/09/2021, 15:30

OWC2020-CUL-1422 (CUL-1)

# POUR UNE AGRICULTURE DE L'AMOUR

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**Targeted audience:** Teachers, trainers

**Keywords:** Agroecology, agroforestry, Amour, Permaculture

**Summary:**

*The concept of agriculture can be considered technically. For several centuries, generations of agronomists and peasants - and more recently entrepreneurs - have worked to improve agricultural techniques.*

*The farmer, like the agronomist, has deepened this technical approach in a laudable and laborious effort to feed the growing humanity and to try to increase the economic profitability of companies.*

*The limits and failings of this approach are often reached. Many indicators are in the red: erosion, air, water and soil pollution, biodiversity, carbon depletion, indebtedness, economic viability, massive intervention of public funding, and perhaps more serious, a profession that no longer encouraging his children to adopt the same profession is a potentially dead profession.*

*Not that the technique is bad, but rather that it is not sufficient to generate happy humans, to cultivate the land and to breed cattle.*

Le concept d'agriculture peut être envisagé techniquement. Depuis plusieurs siècles, des générations d'agronomes et de paysans – et plus récemment d'entrepreneurs – ont œuvré à l'amélioration des techniques agricoles.

L'agriculteur, comme l'agronome, a approfondi cette approche technicienne dans un effort louable et laborieux de nourrir l'humanité grandissante et de tenter d'accroître la rentabilité économique des entreprises.

Les limites et travers de cette approche sont souvent atteints. De nombreux indicateurs sont dans le rouge : érosion, pollution de l'air, de l'eau, des sols, biodiversité, déstockage de carbone, endettement, viabilité économique, intervention massive de financements publics, et peut être plus grave, une profession qui n'encourage plus ses enfants à reprendre le métier est une profession potentiellement morte.

Non pas que la technique soit mauvaise, mais plutôt qu'elle n'est pas suffisante pour générer des humains heureux, de cultiver la terre et d'élever des bêtes.

**Background:**

Le fruit de la terre et du travail des Hommes a trop souvent l'amertume du désespoir.

Cette agriculture est peut-être morte, cela n'empêche pas de nombreuses personnes de démarrer leur projet de vie, en agriculture et en quête de sens.

Si l'être humain est fait pour aimer, ses activités, fussent-elles agricoles, doivent aussi lui permettre de grandir en Amour.

Bien sûr, l'amour de sa famille, de ses proches, de l'humanité entière trop souvent affamée. Mais aujourd'hui, un fait nouveau tend à se généraliser : l'amour de la Terre.

Trop souvent, nous avions appris à lutter contre la terre, ne voyant et ne mesurant que les échecs, les ravageurs, les destructeurs, comme autant de plaies à soigner et d'ennemis à abattre.

En quelques décennies, le nombre de traitement a prodigieusement augmenté.

Curieusement, dans le même laps de temps, les ravageurs et maladies n'ont pas arrêté de progresser, faisant même stagner la productivité des meilleurs agriculteurs.

**Core messages and conclusions:**

Être constamment dans la lutte n'est pas très propice au développement d'une relation amoureuse.

Et certains se sont mis à aimer différemment :

Si je reprends mon parcours personnel, il a commencé par de toutes petites choses : quelques coccinelles, quelques auxiliaires que j'ai acheté à grand frais. C'est techniquement irrationnel et pourtant beaucoup le font également.

Est venu ensuite la terre : les vers de terre d'abord, architectes bien visibles d'un sol vivant, et puis les bactéries, les champignons mycorhiziens : être invisibles et symbiotiques. Je me suis mis à les aimer, à les nourrir, à les choyer de délicates attentions.

Puis est apparu une plus grande diversité de culture : arriver à cultiver de nouvelles plantes dans les laps de temps où la terre était nue. Des cultures gratuites, juste pour nourrir le sol.

Ensuite j'ai laissé ces nouvelles plantes pousser avec mes propres cultures : des couverts végétaux, du pré-ensemencement. Les plantes sont des êtres sociaux, qui aiment vivre en communautés variées. Ce qui est bon pour mes amis et sûrement bon moi.

Ce fut la phase la plus difficile où tout semblait bloqué dans une nouvelle lutte. Mes plantes compagnes pouvaient devenir de plus en plus envahissantes et certaines sauvageonnes semblaient réduire à néant mon amour.

Est venu alors cette étrange connaissance : les plantes indiquent une direction et remédient aux blocages. Et chez moi, elles ont appelé des arbres que j'ai commencé à planter autour de mes parcelles puis au milieu. Offrir des arbres à mes sols.

Ce fut le don le plus osé qui en quelques années a généré des sols profonds, fertiles, humifères. A mes peurs du début, la terre a répondu par une étonnante générosité : de nouveaux fruits, du bois, une biodiversité telle que depuis je n'ai plus utilisé un seul insecticide.

Et chaque fois que l'ombre devenait trop dense je réalisais une taille en trois parts : un tiers pour nourrir le sol, un tiers pour mes usages et un tiers pour l'arbre. Mes arbres sont devenus des trognes.

Ma terre fertile a commencé à devenir féconde : le fruit de la Terre et du travail des Hommes. L'abondance de la production m'a fait réintroduire des animaux pour recycler au plus juste toute cette biomasse végétale. La plante appelle l'herbivore. C'est ainsi que je réponds aujourd'hui aux besoins de ma terre.

Animaux domestiques et aussi animaux sauvages : dans les haies, dans les marres, dans les fossés et les cours d'eau, dans les bosquets et jusque dans un vieil arbre qui marque une borne de ma terre. J'y ai décelé une telle diversité ! Ce vieil arbre est la mémoire de mon domaine : il a passé les siècles, bravé des tempêtes, les canicules et les sécheresses. J'ai comme l'impression qu'il veille sur moi et sur les miens, qu'il nous protège.

J'ai appris à aimer ma terre.

Elle m'a appris que tout est lié, que tout est donné et que tout est fragile.

Je crois que je commence à trouver du sens dans Notre existence : La Vie est belle.

**Suggested readings and/or references:**

[http://w2.vatican.va/content/francesco/fr/encyclicals/documents/papa-francesco\\_20150524\\_enciclica-laudato-si.html](http://w2.vatican.va/content/francesco/fr/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html)

<https://www.ap32.fr/>



OWC2020-CUL-751 (CUL-1)

## BIODYNAMICS, AN AGRICULTURE OF SALUTOGENESIS

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**Keywords:** Biodynamic farming, farm organism, Health of Soil, Food, People and the Planet, salutogenesis

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Food (non food) processors, Trade (incl. retailers) / fair trade, Consumers (and citizens), Teachers, trainers, Students, Researchers, Philosophers, historians, NGO representatives

**Summary:** Agriculture is working with living beings. So the question is how to understand the principles of life and out if this how to preserve and support life to produce healthy « living » products? Biodynamic agriculture takes the principles of the living beings and specially of the human being to design and take care of the health of the farm. So we tried to apply the principles of salutogenesis which is coming from human medicine to better understand the core principles of biodynamic farming. So we can show that it's really a new understanding of agriculture. Instead of focussing on how to kill parasites, fungus or weeds, we enhance the health, the resistance and the resilience of the farm as a unity. In such challenging times like now, it's a very important capacity to have healthy and strong farms...

**Background:** Biodynamic agriculture can be considered as an agriculture of salutogenesis or of regeneration. His founder, R. Steiner, gave his Agriculture Course in response to regeneration questions asked by participants. Unlike the principle of pathogenesis, which looks for the conditions of disease and wonders how to control and destroy disease agents such as microbes, viruses, parasites, etc., salutogenesis looks for health conditions. In the agricultural field, the limits of the pathogenetic approach are now increasingly apparent. For example, the systematic use of herbicides has encouraged the development of resistant super weeds. So it's time to change our attitude towards nature. We need an approach aimed at preserving and strengthening the health of the earth and people. Today, the ecological situation of the planet is such that this question is becoming more and more existential: How to strengthen the health of each living being on the farm and of the farm as a unity?

**Core messages and conclusions:** Working in biodynamics requires a change in practice but also a parallel change in attitude towards life. It is about working with life and not against life.

Salutogenesis is based on three main principles:

- The first principle is the principle of heterostasis (heterostasis: different and stasis: state) as opposed to the principle of homeostasis. (homeo: equal). In other words, we are seeking to promote a dynamic balance, which must always be found by living beings in their relationship with the environment rather than aiming for a static state of health.

Thus, instead of completely protecting cultivated plants from the environment, we support the health of plants and animals so that they can actively confront their environment and strengthen themselves through this confrontation. In this context, it is interesting to reconsider the composition of the 6 compost preparations which constitute a kind of general regulator, a health remedy for the living soil (and therefore the crops).

- The second principle is that of coherence. It is about developing a sense of context for everything that exists, for everything that surrounds us. For the human being, it is the possibility of finding his place in the small local and regional context and in the large global context. Applied to agriculture, this means that each cultivated plant, each animal must be able to grow or live in a context adapted to its specific nature. To design the so called « farm organism ».

Each plant becomes healthier if it grows in a living environment between earth and sky.

In summary, it could be said that a diversified landscape must be shaped to ensure the coherence of all cultivated plants and agricultural animals. A vast challenge but also a very exciting path of innovation for farmers who want to convert a monoculture into biodynamic agriculture.

- The third principle is resilience. For humans, it is a resistance in the spiritual based on trust in the meaning of humanity's evolution and the connection with their « higher self » or real identity... What does this mean for the biodynamic farm? How and where does the farm as a place find its relationship with the spiritual? We touch here on the aspect of "agricultural individuality".

How is this concretely achieved? An important possibility is given by the use of sprayed preparations (horn dung and horn silica) which help cultivated plants to connect more closely to the depths of the earth, to the local mineral, to the soil by the horn dung and to their archetype, to their species by the horn silica. By growing in this way, plants are better able to express their identity; they are better preserved and more resistant to various hazards.

Taking into account these different aspects of the principle of salutogenesis is becoming increasingly important in a context of weakening the vitality of living beings and increasing climatic uncertainties due to the multiple current crises.

#### **Suggested readings and/or references:**

Glöckler Michaela. Salutogenèse, où trouver les sources de la santé physique, psychique et spirituelle ? Ed. APMA

Hurter Ueli (ed.) La biodynamie, une agriculture pour l'avenir. Actes sud. 2019.

Pfeiffer Ehrenfried, Fécondité de la terre et visage de la terre. Actes sud. 2017.

Steiner R. (1924) Agricultural course.

OWC2020-CUL-558 (CUL-1)

## LAUDATO SI: RESETTING THE MINDSET OF CONDEIXA, PORTUGAL

Pedro Bingre<sup>1</sup>, Pedro Manuel R. Mendes-Moreira<sup>\*1</sup> on behalf of Comissão Justiça e Paz, Unidade Pastoral de Conímbriga, Artur Barracosa<sup>2</sup>, Lara Campos<sup>1</sup>, Hélia Marchante<sup>1</sup>, Raquel Cardoso<sup>1</sup>, Idalino Simões<sup>3</sup> and Comissão Justiça e Paz, Unidade Pastoral de Conímbriga

<sup>1</sup>Coimbra College of Agriculture, Instituto Politécnico de Coimbra (IPC), Coimbra, <sup>2</sup>Instituto de História Contemporânea, Universidade Nova de Lisboa , Lisboa, <sup>3</sup>Comissão Justiça e Paz , Unidade Pastoral de Conímbriga, Condeixa-a-Nova, Portugal

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**Targeted audience:** Farmers, Consumers (and citizens), Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** Conimbriga, Laudato Si, Condeixa-A-Nova, Environmental impacts, Organic agriculture and territory

**Summary:** In 2019, and within the framework of Pope Francis' Laudato si', a cycle of lectures was made by the parish of Conímbriga (Condeixa), bringing together more than 200 persons. The objective of disseminating the encyclical had been, on the one hand, to ponder the need for ecological awareness on the part of Christians, and, on the other hand, to show some of the ways in which *Laudato Si'* may be put in practice. This reflection is even more urgent if we consider how environmental perturbations have influenced our past. This work intends to describe how this new spiritual doctrine may help the community to change its attitude towards current ecological issues

**Background:** Condeixa is a municipality where agriculture declined during the last decades, unable to compete with conventional farming practiced elsewhere. Land is now laying fallow, becoming covered with fire-prone Mediterranean shrubs. Climate change has brought to this shrubland unprecedented wildfires. Simultaneously, unemployment among farmers has risen. If demand for locally made organic farming products increased, local agriculture could be restored, benefiting the economy, reducing wildfire risk and increasing biodiversity.

Such change consumer preferences would require a massive change in ethical options — almost a spiritual awakening. Catholicism could provide momentum for it. White (1967) suggested that the problem of a desacralized natural world could be resolved by a Franciscan theology that reemphasizes the companionship of all creatures. With the encyclical *Laudato Si'* (2015), the Catholic Church has now issued a clear and extensive doctrinal view on environmental issues.

**Core messages and conclusions:** There are over 2.5 billion practicing Christians on earth, approximately 1 billion of whom are Roman Catholic. Historically, there has been stronger environmental concern associated with Protestantism than with other religious traditions. Catholic countries, by contrast, have seen much less environmental mobilization, and these countries have much laxer environmental regulations than those not in communion with the Holy See. Yet, involvement in secular environmental initiatives by Christians as such has been encumbered by the believers' suspicion that such movements represent not only a turn to the earth but a denial of the role of the Creator in creating the earth (Northcott, 1966).

To address such perplexities, Pope Francis' proposal in *Laudato Si'* embraces, from the theological point of view, a broad transformation of community life and of personal conversion. Building on the mystery of the Trinitarian communion of God, His Holiness proposes a challenging new framework of relations between men and nature. It is from this challenge that men's relationship to one another and to life and nature must be reorganized to restore the

balance that consumerism and greed are destroying, and that life can be recreated in an integral ecology.

*Laudato Si'* constitutes a profound aggiornamento of the Catholic doctrine on environmental issues. It plainly assumes the current scientific consensus about contemporary ecological problems. Although it acknowledges the need to improve our technology to make economic activities more sustainable, it considers that the solution to our environmental predicament absolutely needs a change in the consumeristic mentality of secular modes of thought. Consumers should focus on the reduction of waste, should abstain to purchase disposable, useless, products with a short lifecycle and inadequate for reutilization or recycling. Special preference should be given to fair trade markets, and to environmentally sustainable modes of production such as organic farming. Ecological (agri)culture needs such a vision, a policy, an educational program, a lifestyle and a spirituality that oppose resistance to the advancement of the technocratic paradigm, otherwise it will be more of a technical problem — to which successive waves of technical solutions haven't provided a holistic solution. A radical change is needed and many actors of society are acting, IPBES report in 2016 request "a fundamentally different model of agriculture based on diversifying farms and farming landscapes, replacing chemical inputs, optimizing biodiversity and stimulating interactions between different species, as part of holistic strategies to build long-term fertility, healthy agro-ecosystems and secure livelihoods, i.e. 'diversified agroecological systems'".

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For the population of Condeixa, which in spite of its rural past became recently a satellite town of Coimbra, this could motivate a return to agriculture, this time according to the tenets of organic farming. To provide concrete elements in term of organic farming the college of Agriculture of the Polytechnic of Coimbra (IPC-ESAC) has been able to implement projects in the field:

Providing debate for organic transition and implementation of organic across Portugal (DIVULGARBIO Project), providing conservation and breeding for maize and horticulture species in organic (PDR2020 Projects), Syntropy System implementation, direct selling from IPC-ESAC production, Participatory Plant Breeding in which IPC-ESAC has a long history and contributing for Urban Agriculture both throughout coordination and projects. At international level SOLIBAM 7FP, LIVESEED and DIVERSIFOOD H2020 contribute to deep our research and share experiences and knowledge. DIVERSIFOOD in particular contributed to redesign agricultural systems based on ecological and socio-cultural processes and emphasizing biodiversity (Chable et al, 2020).

#### Suggested readings and/or references:

Chable, V.; Nuijten, E.; Costanzo, A.; Goldringer, I.; Bocci, R.; Oehen, B.; Rey, F.; Fasoula, D.; Feher, J.; Keskitalo, M.; Koller, B.; Omirou, M.; Mendes-Moreira, P.; van Frank, G.; Naino Jika, A.K.; Thomas, M.; Rossi, A. (2020) Embedding Cultivated Diversity in Society for Agro-Ecological Transition. *Sustainability* 12, 784.

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FAO Commission on Genetic Resources for Food and Agriculture Assessments. Rome. 572 pp. (<http://www.fao.org/3/CA3129EN/CA3129EN.pdf>)

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IPES-Food (2016). From uniformity to diversity: a paradigm shift from industrial agriculture to diversified agroecological systems. International Panel of Experts on Sustainable Food systems. [www.ipes-food.org](http://www.ipes-food.org)

- Northcott, Michael S. (1996). *The Environment and Christian Ethics*. New York: Cambridge University Press.
- White, L. (1967). "The Historical Roots of Our Ecologic Crisis." *Science* 155: 1203–1207.

### Acknowledgements

Fraternidade Nuno Alvares, GRAL, Câmara M Condeixa

**OWC2020-CUL-312 (CUL-1)**

## IS ORGANIC FARMING HOLISTIC IF IT IGNORES THE HIDDEN HALF OF NATURE?

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Julia Wright<sup>\* 1</sup>

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**Targeted audience:** Farmers, Advisors, extension services (including transition support), Consumers (and citizens), Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** metaphysics, spirituality, transpersonal

**Summary:** The environmental movement has, more than for agriculture, not only acknowledged the need for a change in worldview if we are to overcome our contemporary crises, but also identified in broad terms that this new worldview build on indigenous understanding of the consciousness and connectedness of nature of which humans are a part. In fact, even the more sustainable forms of agriculture: agroecology, organic, permaculture, do not yet embrace the practical implications of such a worldview; it is only the biodynamic movement that, even though stemming from the West, has a metaphysical component. Yet the majority world also has a strong metaphysical epistemology. This paper argues that not only should this be harnessed as a fundamental basis in the transformation of our global farming systems, but further that we will be unable to make such a transformation if we don't embrace the metaphysical nature of agriculture.

**Background:** There is a perception commonly held amongst environmental organisations and individuals that we need to save the world, the planet, nature, Gaia, soils, species and so on, and that until we have achieved this goal then other, supposedly less important considerations will have to wait. This perception is useful in that it drives enthusiasm and action, yet it is goal oriented, outward focused and often fear based; all traits held by the industrial agricultural model that it wishes to replace.

This paper critically explores the reasons for the avoidance of spiritually-oriented practice in organic farming, and discusses why it is important to integrate this now. It also identifies and typologises key practices that can be divided into those that involve the human being as the subject and as influencing the practice, and those that do not.

**Core messages and conclusions:** The organic and agroecological farming sectors have for decades struggled with two contrasting approaches to their wider dissemination and uptake: one being to encourage conventional farmers to cherry-pick particular organic techniques –such as Integrated Pest Management or the application of compost - in the hope that this will induce a change in attitude and eventually a full embracing of the alternative system and its ideology. The other approach being the reverse, that only by understanding the ideology can the farmer properly manage a successful organic or agroecological system that claims the whole to be greater than the sum of its parts (Hall & Mogyorody 2001; Lampkin 1990). The danger of the former approach can be seen in the production of a report by members of the organic movement that ceded agroecological approaches to playing a role in sustainable intensification

in the UK and European contexts (Lampkin et al. 2015). With sustainable intensification being the term used by the farming industry to continue focusing on increasing yields within monocultural systems of the materialist, neo-productivist paradigm, concerned responses from the agroecological sector were exemplified by a contemporary paper by Levidow et al. (2014: 1) who noted that “Agroecology has been recently adopted by some actors who also promote conventional agriculture. Agroecology can play different roles—either conforming to the dominant regime, or else helping to transform it.” The authors went on to suggest that a neglect of the wider socioeconomic dimensions (that motivated the rise of agroecology) enable its principles to be appropriated, and that “To play a transformative role, participatory research needs to combine agroecological science, farmers’ knowledge, and citizens’ groups. Crucial is the opportunity and capacity for collective involvement in shaping research agendas. For a transformative role, farmers intensify their collective knowledge and use of local natural resources, in collaboration with scientists.” (2014: 15)

If the materially-focused organic and agroecological sectors experience such challenges of cherry-picking and appropriation rather than attitude shifts and transformation, what hope is there for biodynamic farming with its more far-reaching philosophy that embraces the non-material dimension and conceives of the farm itself as a living organism? Conversely, if the wider dimensions of biodynamic farming are neglected, will the measurable benefits of its distinctive physical practices – such as the preparations and the planting calendar, be sufficient to incentivise even organic and agroecological farmers to transform? The acknowledgedly subtle and qualitative effects of these practices are difficult to capture within the materialist paradigm that influences both conventional and alternative farming and research.

#### **Suggested readings and/or references:**

Wright J., Kieft H., von Diest S., Quantum-Based Agriculture: the Final Frontier? In: Rahmann G., Andres C., Yadav A. K., Ardakani R., Babalad H. B., Devakumar N., et al., Innovative Research for Organic 3.0 - Volume 1 : Proceedings of the Scientific Track at the Organic World Congress 2017 November 9-11 in Delhi, India. Braunschweig: Johann Heinrich von Thünen-Institut, 549 p, Thünen, 54, 1, 107-111 <http://orgprints.org/32350/>

#### **OWC2020-CUL-947 (CUL-1)**

### **UNDERSTANDING RELATIONSHIP: BIODYNAMICS PAST, PRESENT AND FUTURE**

Daphne Amory<sup>\* 1</sup>

<sup>1</sup>*Board Member, Biodynamic Association, Napa, United States*

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Trade (incl. retailers) / fair trade, Consumers (and citizens), Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** relationship, story

**Summary:** The dynamic elements of air, earth, water, and fire coming together, being held in imagination as they become an intuitively formed new element; relationship. The element of relationship with the other, rather than to the other. If I understand biodynamics as this element of being with the other, then Biodynamics is about relationship. The relationship with the actual farm organism is about understanding the creative depth of relational story and how the evolution of that story comes about.

**Background:** Relationship has many contexts. In the context of the holistic farm organism, relationship emerges from the dynamic tension of elements; becoming the shape of Story. Those elements, of Air, Earth, Water, Fire take themselves up in form, which expresses itself through the emerging story. These formed elements have now become the living farm. The synergy of how the farmer works and engages in relationship to the elements, allows for the forming of the farm as a living element. This element is not concrete as it is living in direct, engaged response to the elements. The farmer must be aware of any shift of dynamic within the elements to know how to relationally act. These actions that the farmer takes either builds balance, or it disrupts. The past 100 years has been of disruption in the larger agricultural fields. Today the farmer is rebuilding these connections to the elements, and is sensing into the story that speaks towards deepening relationship.

**Core messages and conclusions:** If the past has been of a disrupted story, the present is of sensing into the story, then what is the future story? It is in this present future where the ability to imagine will intuitively inform the farmer in relationship. The imagination holds that of plant, animal, land and human in their dynamic relationship with each other and within the whole. How do we, as farmers, intuitively measure this relationship? How do we understand when the balancing act of the elements truly inform the story? If the elements are shaping the form, then what are the practices we engage in with the other that will strengthen that form as a healthy, living farm organism with its own dynamic story? These are some of the questions that we hold as holistic farmers to deepen our understanding in relationship and actively create the future that we know is possible.

## CULTURE 2: To renew the cultural vision of OA - 8/09/2021, 11:00

OWC2020-CUL-940 (CUL-2)

### PROTECT THE LAND AND PURIFY THE MIND: THE PHILOSOPHY OF VENERABLE JIH-CHANG AND TSE-XIN ORGANIC AGRICULTURE FOUNDATION

Tsai-Ling Yeh<sup>\* 1</sup>

<sup>1</sup>Tse-Xin Organic Agriculture Foundation, Taipei, Taiwan

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Food (non food) processors, Trade (incl. retailers) / fair trade, Consumers (and citizens), Certification bodies / Participatory guarantee systems, Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives, Cook chiefs, restaurants and collective catering

**Keywords:** Buddhism, compassion, karma, life, nature, organic

**Summary:** Founded in 1997 by Venerable Jih-Chang, Tse-Xin Organic Agriculture Foundation (TOAF) is a non-profit organization guided by Buddhist teachings to promote a healthy environment and improve human well-being through the principles of organic farming. Buddhism believes there is close relationship between human morality and environment. Humans depend on nature for survival. Buddhism views that everything in the world is interconnected and living in harmony with the environment is a key part. Hence, by harming environment we are in fact harming ourselves. The law of karma states that deeds have penalty. If a person treats the environment roughly, then they will achieve negative karma. Thus, kindness to nature is the source of merit in Buddhism and can be used by humans to improve their lot in the cycle of rebirths and

approach the goal of Nirvana. The attainment of nirvana, having compassion on all sentient beings will not come to much unless there are dramatic changes in how we grow food.

**Background:** According to the Buddha's knowledge, all life is valuable and we should only obtain what we need from the environment. Attempts to increase food production by conventional means is proving ecologically unsustainable. As every action affects the whole universe, degradation of the environment without concern for the repercussions will otherwise lead to suffering. The concept of karma and reincarnation makes a person conscious that a living creature may have been somebody they cared for in a previous life and are therefore reverential of all living beings. Therefore, any misconducts in this life which cause harm to another living thing will be punished in the next life. Out of loving-kindness and compassion by cherishing natural resources, protecting the ecological environment, and minimizing the pollution we produce, it is possible to preserve the prospects for a safe world viable for future generations. Therefore, it is imperative for the Foundation to promote organic farming in Taiwan.

**Core messages and conclusions:** As revealed in the philosophical background of the Foundation, Buddhist faith may have contributed to the ongoing ethical initiatives among supported organic farmers. Soon after its establishment, TOAF launched and oversaw projects in the area of environmental protection as part of efforts to help all sentient beings as advocated by Buddha. These ecological activities raise an alternative paradigm whereby the founder and his followers worked collaboratively with private as well as public (government) agencies for the benefit of preserving nature, educating, training, and developing the society in general.

Through the continuous act of nurturing the soil, organic farmers developed a physical relationship with nature that led to a shift in their environmental values. In contrast to conventional farmers, organic farmers put forth a cyclical effort throughout the year to feed the soil. They conserved biodiversity, propagated microorganisms and grew crops to sustain soil fertility. Farmers perceived bountiful harvest and good health as outcome of an intimate relationship with the biodiversity on their farms. By virtue of their embeddedness in the land, organic farmers underwent a shift in their relationship with nature. This newly formed perception of the environment and a mutually-supportive belief system gave way to the development of a collective eco-consciousness.

Buddhist ethical values served as the foundation of farmers' belief systems and guided their actions towards nature. Farmers substantiated organic agriculture as a component of the "right livelihood". The idea is to follow an honest occupation, which fully respects other people and the natural world. Through the act of organic farming, they came to see themselves as part of an extended community of life. The worldview of local organic farmers reflects a deep connection to nature and a profound understanding of their place in the natural world. The actions of smallholders reflected a shared moral code that influenced their decisions about agriculture methods, the diversity of crops grown, and their relationships with other people. As people worked together to sustain their farms, they established relations of trust and built strong collectives to serve their needs. Members of these collectives demonstrated a willingness to share knowledge with fellow farmers and outsiders in a spirit of friendship. Although local farmers justified the use of organic methods with Buddhist doctrine, the decision to go organic is also a product of economic concerns. In spite of this, this paper shows that sustaining organic agriculture depends upon farmers' predisposition to a collective ecological worldview. The attitudes and values that shape people's concepts of nature come primarily from religious worldviews and ethical practices, hence, the moral imperative and value systems of religions are

indispensable in mobilizing the sensibilities of people toward preserving the environment for future generations.

## OWC2020-LEA-690 (CUL-2)

### EDUCATION FROM THE ROOTS

Tali Berner\* <sup>1</sup> and Israeli Bio-Organic Association

<sup>1</sup> Israeli Bio-organic association (I.B.O.A.A.), Tel Aviv, Israel

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**Targeted audience:** Advisors, extension services (including transition support), Certification bodies / Participatory guarantee systems, Policy makers (including institutions, local authorities and territories), NGO representatives

**Summary:** The presentation will focus on education & training to develop organic sector in Israel. The system, the people, the massage. Organic in Israel started at the 30th last century with a group of pioneers believing in the force of the nature, land and heritage since the bible days. Mario Levi made the organic revolution in Israel. He established the IBOAA - The Israeli Bio-Organic Agriculture Association in 1982. The main engine forces enable are belief and education. It is done by the team of the IBOAA, following Mario's ideas how to promote organic sector. Educate and training following program: constant and personal education in the field, obligatory basic course for one week in the class and in the fiend with certification at the end, regional organic clubs for each subject, round table club to deal with mutual problems.

**Conclusion:** Promoting the organic sector is supported by systematic and constant education and learning infrastructure.

#### Background:

From the bible the Ecclesiastes: "Make sure you are not destroying the world because nobody can correct your faults" (free translation) Mario Levi's philosophy, as it is promoting in Israel and around the world is that: Organic means keeping the balance and improving the earth, soil, water, air, plants, animals and human. Do not make the common mistake, explaining the Organic means no pesticides. No pesticides is small part of the organic activity. Organic is the responsibility of the environment, the human being, better and safe future. In order to act as an organic producer, a person should make the change in his mind. That is the reason for the conversion period, not only cleaning the soils and the surrounding. Main change is in one mind. In order to make it happen Mario Levi established, as main activity of IBOAA a set of education formats. training both theoretical and in the field that a producer should follow. It all starts with a Organic Basic Course.

#### Core messages and conclusions:

How does the education system, done by IBOAA team works:

#### The system

Organic Basic Course for the new commers - OBLIGATORY. Twice a year. One in the centre of Israel and one regional. The participant gets a certification, that will be checked and verified by the accredited certification bodies. The course contains 3 theoretical lectures on relevant issues like: organic principles, environmental issues, agricultural professional issues, organic regulations, organic law, etc.

- Annual one day course to refresh and update organic knowledge for every producer.
- Constant personal training in the field/plant by IBOAA experts

- Regional club meeting, dealing on relevant issues
- Round table for each section: vegetable, roots, green houses, citrus, etc.
- Advanced courses for advanced issues
- Conferences on special organic matters: Citrus growing. Olive oil producing and tasting.
- Independent field research managed by the organic instructor with the farmer can be linked to university or agriculture institute.
- Meeting with the regulator on a regular basis.

### The people

The IBOAA team behind the activities: A manager, a professional manager, 5 area experts: expert for open field grow, green houses expert, Agronomist, PHD plantations and citrus, Veterinar for animal care and a food technologist for the industry. Experts meet once a month to discuss, share ideas and plan future activities. Organic farmers are not financed by the government. Professional training financed by ministry of agriculture both conventional and organic. The special structure of the organic development in Israel is successful thanks to long dedication of the teams of IBOAA inspired by Mario Levi.

### The message

Followers, Mario's students keep on teaching, people age 50 to 70. New generation people of 30 to 40 years old keep the spirit going on. 2 special movements unique to Israel, to the holy land might be the background inspiration. One is the spirit of the Kibbutz which is a special cooperative community, many of these communities practice organic agriculture and organic processing like citrus products, herbs and spices. Other inspiring agriculture sector practicing organic are the Jewish religious communities. When investigating the reason for these two special groups, the conclusion is that these communities are familiar with practicing many rules, on a daily basis. They feel comfortable working with tight rules to promote the knowledge and maintain the trust.

OWC2020-CUL-1028

## STAYING TRUE TO THE VALUES OF THE ORGANIC MOVEMENT

Sara Kristin Karlsson<sup>\* 1, 2</sup>

<sup>1</sup>IFOAM Organics International, Bonn, Germany, <sup>2</sup>Ekologiska Lantbrukarna (organic farmers association in Sweden), Stockholm, Sweden

Targeted audience: Consumers (and citizens), Teachers, trainers, Students, Philosophers, historians, NGO representatives

**Summary:** In relation to the topics “*what does being an agent of change imply?*” and “*the spiritual and philosophical roots of organic movements*” I would like to contribute with my ideas on how the organic movement can strengthen the values needed to create a society more open to the core principles of organic as well as staying true to our values in times of rapid market growth and new actors, with other values, entering the organic movement.

**Background:** I worked as the Press manager for KRAV, the Swedish organic standard owner, for nearly eight years. During this time the sales of organic increased rapidly, with over 30-40 per cent each year. The organic sector was celebrating and in 2013 KRAV set up an ambitious target of reaching an organic market share of 20 per cent (counted in sales) by the year 2020. At the time organic had approximately a 4-5 per cent market share.

I strongly felt that the “organic values” were not represented in this goal and I felt isolated from the organic cause. Luckily, at the same time, I was part of the Organic Leadership Course in

Europe (IFOAM OI) and I also came in contact with the Common Cause Foundation in the UK. I later merged these two “events” and started teaching value-driven communication as a trainer for the Organic Leadership Course. Lately I have held the same workshop outside of the organic movement, with communication students at Uppsala and Karlstad universities in Sweden.

**Core messages and conclusions:** Regardless if my audience is people within the organic movement or students at a university in Sweden, my main messages remains the same and they are based on the work compiled by the Common Cause Foundation, set up by an environmentalist activist and lobby group in the UK. Their research asks the critical questions on why environmental organizations have not succeeded in bringing about the change needed to save our planet.

With help of decades of sociological research and science, the Common Cause Foundation have identified ten categories of fundamental human values. In turn, these values can be divided into intrinsic and extrinsic goals, where the first goal is inherently good for both planet and people and extrinsic goals are not necessarily good for everyone and are related to external rewards, for example fame and wealth.

I have interpreted the work of the Common Cause Foundation and put it in the context of the organic movement. How can we strengthen the values we want to see more of within society in order for more farmers to work along the principles of organic and for more citizens to understand why they need to know how their food is produced? The messages are clear:

1. Stay true to the intrinsic values you want to see more of in society

For example, if you believe that society and the planet as a whole will benefit from people looking after each other and taking care of nature, then in our work and communication we must always aim to strengthen these universalistic and benevolent values. What is good for the soil is good for us.

2. Always avoid the values you do not wish to strengthen

If you want to strengthen intrinsic values such as safeguarding clean soil and water, then the messages must be in line with these values. For example, do not ask farmers to convert to organic because they can earn money, stay true to the intrinsic values of the organic principles – ask them to convert for the reason of biodiversity and soil health.

3. No cause is an island

Be creative and ask yourself how you can work together with likeminded organizations that share or hold similar or related ambitions for a better planet. For example, in 2015 KRAV was tested on this topic, as many refugees from Syria came to Sweden. We decided then that there was little we could do to help the refugees, we felt we had to focus on the main tasks of KRAV (which at the time was to increase the market share to 20 per cent). A year later the much bigger organization of LRF, the Swedish farmer organization (mainly conventional farmers) had launched an initiative of integrating refugees by giving them work on farms.

Suggested readings and/or references to your work: Best reference of my work is Konrad Hauptfleisch, head of Capacity Development, IFOAM Organics International. He has listened and followed my workshops on value-driven communication for the Organic Leadership Course.

*Here you can read more about the Common Cause Foundation: <https://valuesandframes.org>*

*I also have a MA in politics and the mass media from the University of Liverpool, where my dissertation analyzed the differences in how the British media framed the EU-enlargement in 2004 and in 1995. The dissertation is in English and I can send a copy if you wish.*

*I also work as a freelance journalist and have written many articles about the great challenges of our time, for example loss of biodiversity and building on farmland. If you wish I can send copies of my articles, however, all in Swedish.*



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#### **OWC2020-CUL-538 (CUL-2)**

### **THE "UNIVERSITÉ DU VIVANT", A FRENCH COLLECTIVE INITIATIVE TO FOSTER THE ROOTS OF ORGANIC MOVEMENTS AND TO RECOGNISE THE "ARTISANS OF THE LIVING"**

Veronique Chable<sup>\*1</sup>, Jean-Pierre Anglade<sup>2</sup>, Estelle Belbès<sup>3</sup>, Jocelyne Boulnois<sup>4</sup>, Antoine Cormery<sup>5</sup>, Stéphane Cozon<sup>6</sup>, Charline Ducottet<sup>1</sup>, Jacques Maret<sup>4</sup>, Bruno Taupier-Letage,<sup>8</sup>Jean-Michel Florin<sup>9</sup>

<sup>1</sup>INRA, Rennes, <sup>2</sup>Nature&Progrès, Bagnolet, <sup>3</sup>Université du Vivant, Paris, <sup>4</sup>Ferme de la Levée, Saint Laurent de la Prée, <sup>5</sup>Ferme, Fondette, <sup>6</sup>Ferme de la Baume Rousse, Cobonne, <sup>7</sup>ITAB, Paris, MABD, <sup>8</sup>Colmar, France

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Food (non food) processors, Trade (incl. retailers) / fair trade, Consumers (and citizens), Certification bodies / Participatory guarantee systems, Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives, Cook chiefs, restaurants and collective catering

**Keywords:** Artisan, Collective initiatives, Diversity of Organic agricultures and approaches, LIVING, Participatory research

**Summary:** In 2009, the Université du Vivant, a participative cultural space, had emerged in France from a collective experience with some representatives of the founding associations of organic movements and researchers. The objective was the creation of a research network to sustain a cultural movement that recognizes and respects the living. Recently, UV has initiated annual

seminars (Les Journées de l'Université du Vivant) to think collectively in the ethical and practical roots of current organic movements for future developments of organic food systems beyond the values usually recognised for the organic certification or organic economical sector. Within the collective process, a specific concept has emerged to name the actors who respect and foster the living within food systems from seed to plate: "les artisans du Vivant" or "the artisans of the living". This concept means that artisans are creating know-how linked to their territories, to cultural values and often spiritual dimension

**Background:** In the 17th century came the modern concept of "nature" in the minds, often seen as a resource, just before the industrialization of the world. In parallel, the biological sciences have progressed, reducing the living beings to their material dimension. Agriculture has been particularly affected by this double distancing between human and his living environment.

At the beginning of the twentieth century, organic pioneers arose to warn of the deleterious effects of industrial form of agriculture. Various practices have emerged, resulting from the mutual enrichment of local cultures, the ethical aspirations of successive generations and the natural assets of the terroirs. One century later, whilst the founding messages of the pioneers has often been diluted in the rapid increasing of organic production, some representatives of the founding associations of organic movements in France have created a participative cultural space: the "Université du Vivant" (The University of the Living).

**Core messages and conclusions:** In 2009, the Université du Vivant (UV) had emerged from a collective experience where French historical movements have been represented such as Nature et Progrès, MABD (French Biodynamic Movement), ITAB (Institut Technique de l'Agriculture Biologique), la FNAB (National Federation of Organic Agriculture), ... The objective was the creation of a research network to sustain a cultural movement that recognizes and respects the living: (1) to welcome the diversity of knowledge and sensibilities, (2) to create spaces of pluralistic exchanges and (3) to promote participative research. Some researchers had joined the group. UV recognized different approaches to the living by questioning research and know-how experiences about their relationship to the living beings.

UV invites people to express, describe or experience their link to life, and how they act, during seminars, colloquiums or experiments. In 2012, UV has produced reports from several meeting on major organic issues where organic movements have specific positions: place of biotechnologies, development of farmers' seeds, participatory research, standards threats and global approaches of qualities.

Recently, UV has initiated annual seminars (Les Journées de l'Université du Vivant) to think collectively in the ethical and practical roots of current organic movements for future developments of organic food systems beyond the values usually recognised for the organic certification or organic economical sector. UV members have invited all French, Belgian and Luxembourgish movements/organisations/institutions involved today in organic development to reflect on organic agriculture in its plurality, to learn from each other's knowledge and skills.

Some practices have been caught up by the normative "culture" of the dominant socio-economic model, others have remained very close to their original ideal.

The "Journées" aimed to propose definitions and concepts to root deeply organic food systems in the cultural foundation of the society for tomorrow, taking care of using a language accessible to all who will ensure its development: the peasants and the people they feed every day from their work.

Within the collective process, a specific concept has emerged to name the actors who respect and foster the living within food systems from seed to plate: "les artisans du Vivant" or "the

artisans of the living". This concept means that the artisans are creating know-how linked to their territories, to cultural values and often spiritual dimension.

Then, the "Journées" questioned the economic system. In the 70s, the issue of organic production had a societal dimension refusing agro-industry and consumerism. The economic evolution has played against this project of society. The organic sector has become the future of agribusiness today, even though it has been built in opposition. The « artisans du vivant » will re-introduce a fundamental difference from industry with values such as pleasure, social recognition and pride.

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**Suggested readings and/or references:** Booklets already published - Emergence collection (<http://universite-du-vivant.org/-parutions-.html>): « Droits de Propriété intellectuelle et communs », « Le vivant en danger de normes », « La relation Homme Plante », « Visions paysannes de la recherche dans le contexte de la sélection participative : Comment co-construire et mutualiser les connaissances sur les plantes ? », « Nouvelles techniques de manipulation du vivant : pour qui, pour quoi ? »

A video : « Dialogues autour des plantes » (<http://universite-du-vivant.org/-parutions-.html>)  
Le Manifeste des artisans du vivant: to be published soon, Éditions Charles Léopold Mayer (ECLM) (<http://www.eclm.fr/>)

#### **OWC2020-CUL-1277 (CUL-2)**

### **MAKE ORGANIC FARMING UNDERSTANDABLE TO THE GENERAL PUBLIC AND FARMERS, THROUGH A DUAL AGRONOMIC AND ANTHROPOLOGICAL APPROACH**

Jacques P. Caplat<sup>\* 1</sup>

<sup>1</sup>Bio Cohérence, Castanet-Tolosan, France

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Consumers (and citizens), Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** agronomy, anthropological approach, curiosity, historical approach, popular education

**Summary:** Organic farming is often presented as a "chemical-free" adjustment of conventional agriculture. This approach creates misunderstandings and lack of attractiveness. My experience as a speaker/lecturer suggests an alternative approach, based on a popular education approach. By showing that there are historically several possible agronomies and thus several possible agricultures, it is possible to explain in a dynamic and stimulating way how to raise one's gaze and how organic farming takes both old and innovative paths.

**Background:** Many institutions, including educational institutions, approach organic farming from the perspective of a regulation banning synthetic chemicals. This approach is rather negative and does not easily create enthusiasm, each seeking to "compensate" the banned products. As a speaker, I noticed that the general public and farmers are much more sensitive to an ambitious approach, based on a shift in focus and understanding of basic agronomic mechanisms.

**Core messages and conclusions:** When you portray agriculture as a chemical-free agriculture, the premise is that there would be "one" universal agriculture that could be with or without

chemistry, industrial or peasant, and so on. This approach is false and leads to rejections, because many farmers and citizens do not conceive that we can do better with less.

History and anthropology allow for a new, far more fruitful approach, and one that I have been able to feel effective during my numerous conferences for the general public. The first is to explain that there are historically several agricultures, invented separately in various parts of the world. This openness greatly stimulates the public and opens its curiosity. It is then necessary to explain what are the specific characteristics of "conventional" agriculture, that is to say of agriculture which is currently a convention in international institutions. This agriculture, which was born in the Middle East and then disseminated in Europe and finally imposed on a large part of the world, is based on questionable technical choices: pure cultures, scientific reductionism, elitism of knowledge, centralised and standardised selection of plants and animals, constant increase in productivity, energy wastage. All of these concepts are very understandable when articulated in historical dynamics and supported by simple examples.

It then becomes very easy to explain how organic farming differs from conventional agriculture, and how it invents or reinvents fascinating and promising techniques. This pedagogical approach makes it possible to involve the public because it appropriates the concepts and can then discuss, enrich or qualify them. It also makes it possible to highlight the diversity of agriculture in the world and to recall the richness and inventiveness of traditional agriculture in the South.

#### **Suggested readings and/or references:**

Caplat Jacques, *Changeons d'agriculture – Réussir la transition*, Actes Sud, 2014.

Caplat Jacques, *L'agriculture biologique pour nourrir l'humanité*, Actes Sud, 2012.

## **CULTURE 3: Holistic approach and values - 9/09/2021, 11:00**

**OWC2020-CUL-831 (CUL-3)**

### **THE PLANTNESS OF THE PLANT: HOW TO ADDRESS CROP ONTOLOGY IN ORGANIC AGRICULTURE?**

Sylvie Pouteau<sup>\* 1</sup>

<sup>1</sup>Institut Jean-Pierre Bourgin, INRA, AgroParisTech, CNRS, Université Paris-Saclay, Inra, Versailles, France

**Targeted audience:** Farmers, Food (non food) processors, Consumers (and citizens), Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** Disappearance knowledge, philosophy of agriculture, plant labor, plant ontology, plant welfare

**Summary:** My research aims to propose an ethics for plants based on biological and philosophical arguments. In this paper, I will discuss why an explicit philosophical and ethical standpoint on crops is currently needed for organic agriculture (OA). I will first address the paradoxical disjunction between the greenness of plants used extensively for advertising and the plant as a *plant* which has become nearly invisible. I will then examine how missing plant ontology is linked to Western rationality and the spreading of disappearance knowledge all around the world. I will present new competing plant ontologies that have emerged within the last twenty years and currently stimulate more plant thinking and performing among scholars and artists. Finally, I will

open the discussion on how organic agriculture could address the issue of plant ontology in order to posit plant welfare requirements.

**Background:** Within the last two decades, a new task for plant science has been to integrate masses of environmental and biological data (so-called “big data”) collected from experiment and field trials around the world. Data-driven knowledge systems are being designed to serve the development of global indicators for sustainable development goals and the advance of “smart farming”, i.e. “automated and connected agriculture” using robotics and artificial intelligence. Implicitly, plant ontology is equated to data sets linked by patterns that can be processed by machine-learning algorithms but are beyond the capability of humans to recognize. However, for the tradition of philosophy the definition of ontology applies to the essence of being (*ontos* in Greek). Paradoxically, a philosophical definition of crop ontology is missing and to our knowledge there is currently no comprehensive framing that could incorporate plant-human interactions and co-creation of common places to inhabit and live in.

**Core messages and conclusions:** Plant ontology will be a major battle of the 21rst century and its outcome will affect agriculture worldwide. Dragging plant ontology to center-stage is an opportunity for OA to posit so far unspoken concern for plant welfare and to disentangle implicitly linked notions such as organicity, naturalness and aliveness. So far OA has focused on soil ontology and devoted little attention to crop ontology. Plant embodiment and passing over is an absolute requirement for organicity, so it is crucial to understand why the plantness of the plant remains a blind spot. One issue is to reveal the contradictions and paradoxes of accumulating knowledge that ignores meaningful aesthetic and relational content and promotes a utilitarian approach of plants as material and resource. I reckon to critically assess the raising reduction of plants to non-animal ingredients that come from the ground, e.g. in “plant-based” diets. Another issue is to encourage new awareness for the standing of plants and contribute to current debates on plant life integrity and agentivity. I recommend to integrate the notion of “plant labor” and the value of plant-human relation at work in the definition of organic sustainability. Finally, addressing core values of plant labor is well suited to seek a common language and accommodate community entanglement in a comprehensive philosophy of OA. To provide new plant narratives for the Anthropocenic era, I propose to collaborate with visual artists and stage plant labor and care.

**Suggested readings and/or references:** Pouteau, S., 2018, Plants as open beings: from aesthetics to plant-human ethics, in Kalhoff, A., Di Paola, M., Schörgenhummer, M., *Plant Ethics: Concepts and applications*, London, New York, Routledge, pp. 82-97.  
 Pouteau, S., 2016, Des modalités d'intervention « art-science-philosophique » pour éprouver les temporalités de l'urgence environnementale, *VertigO* 16(1), pp. 2-26.  
 Pouteau, S., 2014, Beyond « second animals »: making sense of plant ethics, *Journal of Agricultural and Environmental Ethics* 27, pp. 1-25.

### OWC2020-CUL-1296 (CUL-3)

## COSMOS, EARTH AND SEEDS

Caroline Miquel<sup>\* 1</sup>

<sup>1</sup>NGO The Inspired Gardens, Eysines, France

**Targeted audience:** Farmers, Consumers (and citizens), Teachers, trainers, Students, Philosophers, historians, NGO representatives, Cook chiefs, restaurants and collective catering

**Keywords:** Biodynamics, Co-Creation with Nature, Nature Spirits

**Summary:** In most cultures around our Planet, at any time, legends and fairy tales have talked about them, about the numerous invisible Spirits of Mother Nature.

As a seed nurse, I dedicate my life to the life of seeds while they are alive. To me, an organic non F1 hybrid or biodynamic seed is born a seed when it is formed on the plant; and it dies as a seed when we give it back to the Earth and its Spirits.

I deeply feel that when I sow a real seed, I have the great help of some Nature Spirits to bring life back to that coming plant, and Rudolf Steiner has given us many lectures on their different missions.

What kind of Nature Spirits are involved with seeds? What are their missions at each stage of the plant? Can we and how do we seek for their help to bring back plant health from a particular imbalance?

I am very happy to share this co-creation work I experience in our Inspired Gardens.

**Background:** When I started gardening 10 years ago, it was evident to me that no chemicals nor F1 hybrids would enter the garden I shared with 2 friends. I had just discovered permaculture and I felt that the spiritual dimension was missing.

I read about Nature Spirits and their different missions, I was starting to feel their presence. I had also discovered Pierre Rabhi and agroecology. We thus put a beehive in the garden, kept rain water from the cabin roof, and added a little greenhouse to start from seeds.

Three years later, I moved from Noirmoutier Island to Bordeaux, the garden was 5 times bigger. I needed more seeds. I had discovered rare colourful vegetables working as a cook in gastronomic restaurants and I started seeking these seeds from where they originated.

When I discovered R. Steiner's biodynamics, everything made sense, in respect with Nature. Born on December 2018, our new « Inspired Gardens » are designed in a spiritual co-creation with Mother Nature on 5000 sq. meters.

**Core messages and conclusions:** When you look around you, probably 90% of what you see came from one tiny little seed. A seed that stored memory, timed its growth according to Nature's cycles, pushed through the earth to create a plant and then created thousands more seeds! Architecturally governed by guardians of other worlds and empowered by the Nature spirits of our Earth, the intelligence of seeds and plants are undeniable and incredible.

In the late 50's, Dr Alla Selawry demonstrates through sensitive crystallisations on germinating beans, that when the seed develops, the more the sprout gets formative forces, the less the seed shell and the cotyledon have them in. Elementary Spirits who had been enchanted in the protecting seed shell and the meaty cotyledon are delivered when not needed anymore to be re-enchanted in the emerging sprout.

**Earth Spirits:** Gnomes represent the Cosmos world into the Earth. They are responsible for the plant to grow in the Cosmos direction. They push the plant entity from underneath way up, over the soil surface. During Fall, when plants wilt and all their material substances come apart, they can be perceived by Gnomes who see what the world, sun, air, have given to the plants. They thoroughly observe what the Universe has sent them through the plants, the ideal spiritual forms which are now entering the soil. I understand that Gnomes are responsible for the seed memory of climate and soil.

**Water Spirits:** Nymphs bring the spirit of air and water to the plant through its leaves. They are responsible for the leaves cutting and design, they take care of all the transformation process.

Air Spirits: Sylphs' bring light into the plant and feel all the ample and subtil movements of the atmosphere. They are responsible for the plant to look exactly like its ideal model. Sylphs help the plant reach its maximal growth (with the great help of Nymphs), to flower and mature, before being disenchanted to give Salamanders their time...

Fire Spirits: just like Sylphs bringing light to the plant until it flowers, Salamanders bring sun heat to the flower until fruit and seed forming. Without them, no possible reproduction. They definitely are the Seeds Shepherds in Nature. That's why each vegetable, herb or tree cannot germinate unless their seed reaches a determinate heat.

The Earth can be split in 4 different climate zones. When I import seeds from another climate zone, I should remember to balance their special need for heat, water, special soil and light. If I buy corn seeds in Mexico, to sow them in Bordeaux, I will have to enhance heat and light forces that will lack this corn otherwise. And I will seek the manifestation of Sylphs and Salamanders to bring more heat and light, bringing myself 1 or 2 silica dynamisations together with Valerian's tincture.

Biodynamic horn manure should thus be considered as an offering to Gnomes and Nymphs, whereas horn silica could be an offering to Nymphs and Sylphs; Salamanders' offering is found in Valerian flowers' tincture.

#### **Suggested readings and/or references:**

Rudolph Steiner : Occult Science, an Outline

Ernst Hagemann : Etres elementaux, fondements spirituels de la biodynamie d'apres R. Steiner  
Karsten Massei : Messages des Etres elementaires

Marko Pogacnik : A la rencontre des Etres elementaires

Satish Kumar : Pour une ecologie spirituelle

Yann Lipnick : Presences invisibles, Gardiennes de la Terre

Peter & Eileen Caddy : Findhorn Gardens

#### **OWC2020-CUL-1402 (CUL-3)**

### **SOME BASICS OF BIODYNAMIC PLANT BREEDING – A PRACTICAL AND HOLISTIC APPROACH**

Kunz Peter<sup>\*1</sup>, Monika Baumann<sup>2</sup>, Herbert Völkle<sup>2</sup>

<sup>1</sup>Fund for crop plant development, <sup>2</sup>Getreidezüchtung Peter Kunz, Feldbach, Switzerland

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Consumers (and citizens), Teachers, trainers, Students

**Keywords:** basics on organic breeding, organic breeding

**Summary:** Both requests, the holistic approach and the practicability of organic breeding leads to expanded concepts. Four of them are presented and explained: a) the farm organism as a development habitat, b) selection for adaptability, c) organic yield building and d) the ripening process.

**Background:** The most important source of new concepts in organic breeding comes from biodynamic agriculture. Even before the introductory agricultural course was held in 1924, Rudolf Steiner recommended the re-breeding of all cultivated plants to prevent loss of quality and degeneration.

**Core messages and conclusions:** Organic breeding needs holistic and practicable concepts in order to be a real improvement of conventional breeding.

- a) Organic breeding therefore is always embedded in the organism of biodynamic managed farms. This integration is a key concept of biodynamic breeding. During the whole breeding cycle, crops should be exposed to all influences of the earth and the cosmos. Thanks to this holistic approach, many other effects are fully integrated and active interactions between them may influence the evolution process (epigenetics, cosmic influences, etc.).
- b) In contrast to the tight focus in conventional breeding which is extremely reduced to molecular genetics, all these influences are desirable in order to be able to include changing environmental conditions proactively. A rigorous selection of a large diversity of young breeding generations under different and very harsh environmental conditions (dry, water stress - humid & excess water) leads to varieties with superior stability and a high potential for adaptation to weather and climatic extremes.
- c) In organic farming, not only one but three yields are required from the crop. Each plant has to produce three yields in different time and areas of its growth and they must be balanced against each other. The first yield serves to feed soil life as a soil organism through root formation, the second yield is to feed the farm organism with fodder, straw and other organic material for the animals, crop rotation and organic manure management. Just the third yield is the production of healthy fruit and food in sufficient quantity and quality. Yields 1 and 2 provide the basis for health and sustainability of yield 3. If yields 1 and 2 are neglected, the stability of other yields and yield quality will suffer. The farm as a whole will be damaged at some point, i.e. fertility and resilience will decline.
- d) Ripening is a quality building process: beyond assimilation and its associated biomass production, all processes of transformation and maturation, including controlled dieback, are important for the development of differentiated structures and shapes at all stages of plant growth. Ripening is essential for fructification and aroma expression. Several breeding goals and breeding methods directly counteract ripening. Therefore, to select varieties for high-quality food, ripening must be have priority.

#### Suggested readings and/or references:

The ripening process: <https://www.kulturflanze.ch/wp-content/uploads/2018/11/The-ripening-process-in-plants-2018-1.pdf>

Actualities see: [www.gzpk.ch](http://www.gzpk.ch) and [www.kulturflanze.ch](http://www.kulturflanze.ch)

#### Image 1:

## 3 fold yield

- Food
- Forage

- Soil nutrition



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Image 2:



## **IMPROVING THE INTEGRITY OF ORGANIC COTTON SUPPLY CHAIN THROUGH PARTICIPATORY BREEDING APPROACH: AN ALTERNATIVE TO SEED MONOPOLY**

Amritbir S. Riar\*<sup>1</sup>, Tanay Joshi<sup>1</sup>, Ramprasad Sana<sup>2</sup>, Ravindra Narayanaswamy<sup>3</sup>, Avinash Karmarkar<sup>4</sup>, Ashis Mondal<sup>5</sup>, Arun Ambatipudi<sup>6</sup>, Vilas Bhale<sup>7</sup>, SK Rao<sup>8</sup>, Bart Vollaard<sup>9</sup>, Monika Messmer<sup>1</sup>

<sup>1</sup>*Fibl, Frick, Switzerland*, <sup>2</sup>*Centre for Sustainable Agriculture, Secunderabad*, <sup>3</sup>*CottonConnect, Gurgaon*, <sup>4</sup>*Pratibha Syntex Ltd, Indore*, <sup>5</sup>*Action for Social Advancement, Bhopal*, <sup>6</sup>*Chetna Organic, Hyderabad*, <sup>7</sup>*Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola*, <sup>8</sup>*Rajmata Vijayaraje Scindia Krishi Vishwavidyalaya, Gwalior, India*, <sup>9</sup>*Organic Cotton Accelerator, Amsterdam, Netherlands*

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**Targeted audience:** Farmers, Advisors, extension services (including transition support), Trade (incl. retailers) / fair trade, Teachers, trainers, Students, Researchers, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** seed breeding collaborative, Seed network

**Summary:** Genetically modified American cotton (*Gossypium hirsutum L.*) accounts for more than 95 % of the cotton area in India. As a result, non-GM cotton seed market became completely eroded and locally adapted Desi cotton (*G. arboreum L.*, *G. herbaceum L.*) nearly disappeared. This stimulated immediate-active engagement of organic cotton growers in decentralized participatory cotton breeding, to build up locally adapted cultivars and to reintroduce the traditional, more robust Desi cotton species. The main objectives were to equip farmers with scientific skills for participatory breeding through targeted trainings and advanced ground research to complement identification of existing non-GM cotton cultivars suitable for organic farming. Also, to facilitate development of new improved cultivars for meeting the quality threshold of the global textile industry and strengthening cooperation among different stakeholders across the cotton value chain, that allows farmers to be the central actors.

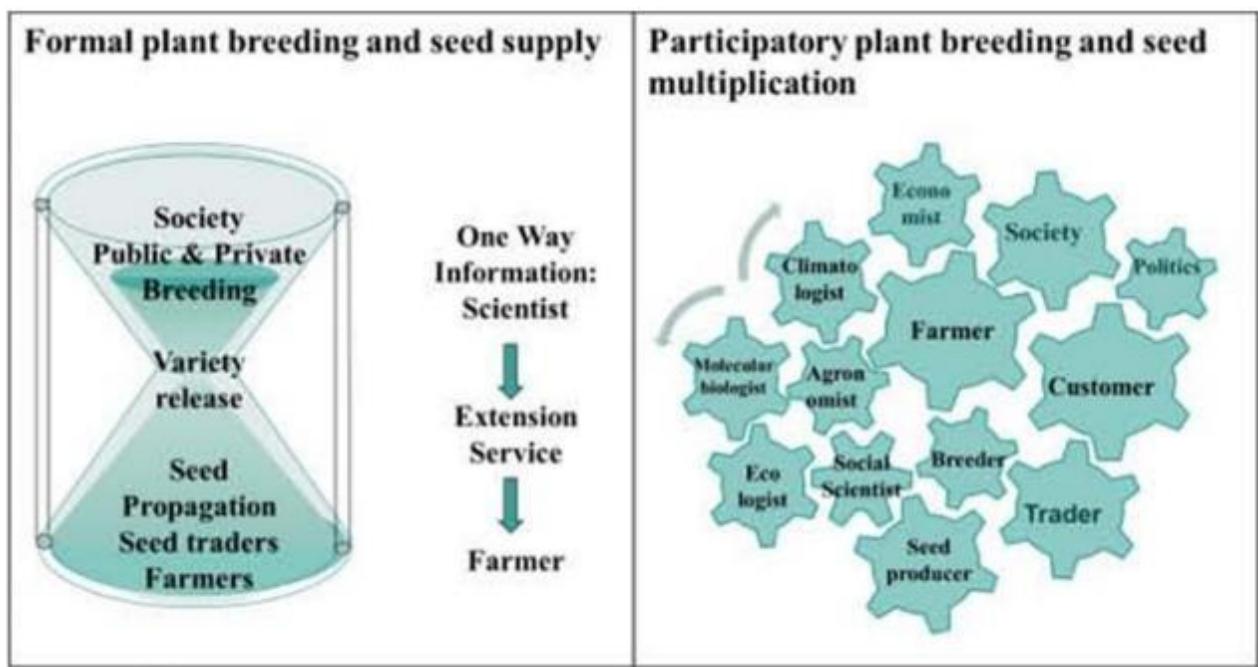
**Background:** To cover pressing need of adapted non-GM cotton seeds, a consortium of organic cotton stakeholders from different regions came together to join forces in 2017. During two stakeholder workshops, common goals and code of conduct for sharing genetic material were defined. To scale up the project, different tasks were strategically distributed amongst the partners. Organisations with strong research backstopping, implemented on-station replicated field trials on their organic farms, while other organisations took the responsibility of testing promising material in varying environments on farmers' field, using their extensive farmer networks. A local facilitator was installed to coordinate project activities to ensure its timely implementation. The project is outlined for two 4-year periods to develop potential non-GM cotton candidate cultivars including Desi cotton, which perform better on farmers' field and meet minimum fibre quality criteria desired by the textile industry. Core messages and conclusions: Main focus was to identify and evaluate non-GM lines that have the potential to meet the minimum demand-driven parameters for organic cotton. After assessment and careful selection of key stakeholders, we have established a diverse, interwoven network of partners representing organic farmers, public organization, NGOs, supply chains, industry and brands to support our work in different capacities. Our approach is capable to spur innovation and develop non-GM cultivars through participatory breeding. In future, it will protect the sector from supply-chain shocks, resulting in greater resilience and profitability for all the actors across organic cotton

value chain. In pursuit of this, nonGM cotton cultivars and breeding lines suitable for cultivation in the central cotton zone were collected from different cotton growing states. At the outset, these lines were tested for contamination with GM, and for the fibre quality. A core set of cotton genotypes that met minimum requirements were tested in replicated field trials, conducted by organic farmers organisations at four sites in Odisha and Madhya Pradesh, complemented by local cultivars. The most promising cultivars selected during the previous Green Cotton project were tested in on-farm trials at farmers field including commercial hybrids, inbred lines and Desi arboreum cultivars. In order to increase genetic diversity, and to combine high fibre quality with agronomic performance and local adaptation, several new crosses were made among the *G. hirsutum* and *G. arboreum* germplasm. Segregating populations from the previous projects were advanced from F2 to F4 generations. Apart from conducting on-farm trials, farmers were actively involved in cultivar evaluation and single plant selection of different promising cultivars sown at the on-station trials during project training, workshops, field exposure visit's. Special focus was given to maximize the involvement of female and tribal farmers in marginal growing conditions. Capacity building process was made more robust with allocation of concrete facilitation roles- 'as a facilitator', within the research team to overcome initial cultural/social obstacles. Opportunities and challenges of local capacity building in breeding and seed multiplication including socio-economic aspects were also addressed. The project Seeding the Green Future ([www.sgf-cotton.org](http://www.sgf-cotton.org)) was financially supported by the Mercator Foundation Switzerland with additional support of the textile industry represented by Organic Cotton Accelerator (OCA, [www.organiccottonaccelerator.org](http://www.organiccottonaccelerator.org)) involving additional farmers associations (Pratibha Synthex, Cottonconnect, ASA, CSA), supply chains (Pratibha Synthex, Cottonconnect) and universities (Gwalior and Akola) in India. We also aim to establish a global organic cotton seed network for improved exchange of knowledge. The project is open to involve more farmers associations and serves as model to safeguard organic cotton seed on global scale.

#### Suggested readings and/or references:

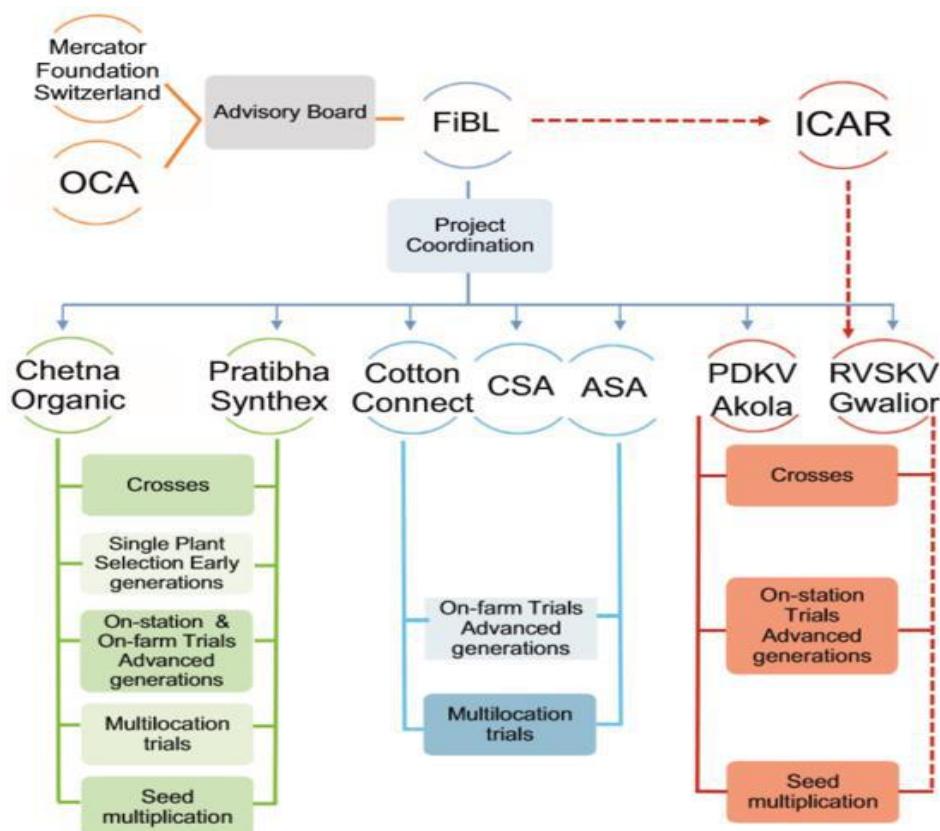
Messmer MM, Riar A, Vonzun S, Shrivastava Y, Mandloi L, Birla M, Patidar I, Sana R, Mahapatra G, Ambatipudi A, Kencharaddi HG, Patil SS (2017) Participatory non-GM cotton breeding to safeguard organic cotton production in India Proceedings of the Scientific Track from the 9th Organic World Congress, New Delhi, India, 2017. 503-506 Available at:  
[http://orgprints.org/32350/1/360a\\_OWC17%20science%20track%20proceedings%20in%20TR\\_54\\_Vol1\\_box.pdf](http://orgprints.org/32350/1/360a_OWC17%20science%20track%20proceedings%20in%20TR_54_Vol1_box.pdf)

Image 1:



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Image 2:



## **SEED SAVING AND COMMUNITY SEED LIBRARIES IN LIGHT OF CLIMATE ADAPTATION**

Karen Lee L. Hizola\*<sup>1</sup> on behalf of Global Seed Savers, Sherry Manning<sup>2</sup>, Harry Jr Paulino<sup>3</sup> and Global Seed Savers Team

<sup>1</sup>*Executive, Global Seed Savers, Baguio, Philippines,*

<sup>2</sup>*Global Seed Savers, Denver, United States,*

<sup>3</sup>*Global Seed Savers, Cebu, Philippines Targeted audience: Farmers, Advisors, extension services (including transition support), Certification bodies / Participatory guarantee systems, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives*

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**Keywords:** COMMUNITY SEED LIBRARIES, partnership, seed networks, SEED SAVING, SEEDS, seeds quality

**Summary:** Global Seed Savers is an educational and advocacy international non-profit organization supporting smallholder farmers in creating local food sovereignty and fostering a healthy environment through technical training and the establishment of community-owned and operated seed libraries. Our vision is hunger-free and healthy communities with access to sustainable, farmer-produced seeds and food. We work with indigenous and non-indigenous organic farming practitioners in several areas of the Philippines doing community building and helping these communities establish community-operated seed libraries. In a country like the Philippines, where the ancient practice of saving seeds has almost been forgotten, creating access to seeds and revitalising existing knowledge on seed saving is very vital. Seeds are one of the keystones in the equation of agriculture. If seed saving is maintained in communities and in the hands of farmers, adaptation to climactic changes will be easier.

**Background:** According to the Philippine Statistics Authority, 26% of all employed Filipinos are in the agriculture sector, making it the second largest group in the Philippines' labour force. A very small but growing portion of this is engaged in Organic Agriculture. The rural areas are littered with numerous farm supplies but these stores do not sell organic seeds. It was only in the last couple of decades or so that farmers have become dependent on farm supplies. These stores tend to sell seeds that a. cannot be saved and/or b. seeds that produce uniform-looking plants. The dependence of farmers on farm supply stores is potentially detrimental to the biodiversity of the country and limits the chances of the availability of climate-adapted seeds. Global Seed Savers has found that there is a shortage in organic seed supply all over the country and is currently working to ensure that there are community-led seed libraries in the different areas of the country.

### **Core messages and conclusions:**

- I. Seed saving helps solve food security issues. The world is facing a possible crisis because of the projected population growth. Having seeds to select from based on yield ensures that we have some way to combat food insecurity even at the very grassroots level.
- II. Seed saving helps conserve biodiversity. In a country like the Philippines where the total number of identified plant and animal species is very high, ensuring that there is diversity in the genetic pool of the crops being planted help conserve biodiversity.

III. Seed saving helps in climate adaptation. Having a community seed library and a network of seed libraries in the country gives stakeholders like farmers access to more possibilities on what to plant and when to plant crops in light of the effects of climate change.

IV. Seed saving helps us preserve cultures. Global Seed Savers works with both non-indigenous and indigenous groups and have created the fertile ground for saving endemic and heirloom seeds in several areas of the country.

V. Seed saving helps create another source of income for farmers in the context of the Philippines. Seed prices of some crop varieties are astronomically high hence, there is an opportunity of struggling farmers to create another source of income aside from crop production.

VI. Seed saving is a main ingredient in organic agriculture. Healthy seeds, good soil and a good water source are the key elements to producing nutritious plants. One of the best ways to ensure that one is planting healthy seeds is by being intimate with the source. Having people in the communities working together to produce quality seeds is a great way to become more knowledgeable about where the food comes from.

These are the keystones to the seed saving movement that Global Seed Savers is advocating and has been trying to support by technical trainings and helping to establish community-led seed libraries.

**Suggested readings and/or references:**

[www.globalseedssavers.org](http://www.globalseedssavers.org)

<https://www.youtube.com/user/engaorganicfarm>

<https://www.agriculture.com.ph/2018/06/18/this-organization-saves-philippine-seeds-so-we-dont-forget-our-heritage/>

<https://en-gb.facebook.com/cebufarmersmarket/posts/seeds-the-true-source-of-our-food-our-life-our-hope-our-freedomnow-and-for-gene/2179670835598889/>

Image 1:

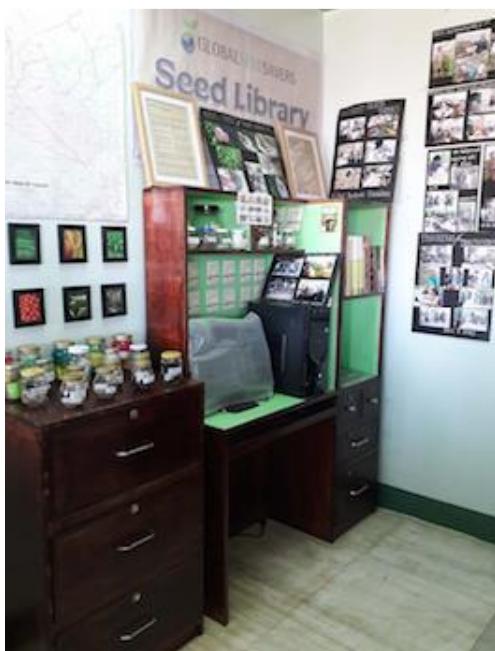


Image 2:



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## CULTURE 4 – Relationships between human beings, plants and food - 8/09/2021, 11:00

OWC2020-CUL-844 (CUL-4)

### CROP WELFARE: HOW TO MITIGATE THE ANIMAL-MACHINE FOOTPRINT ON AGRICULTURE?

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**Targeted audience:** Farmers, Food (non food) processors, Consumers (and citizens), Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** crop welfare, “open being” concept, plant animalization, plantness of the plant, plant nutrition

**Summary:** My research addresses the importance of crop welfare for the requirements of sustainable agriculture based on biological and philosophical arguments. In this paper, I will argue that crop ontology can only be addressed by positing the radical difference between plants and animals. I will first address a major gridlock for this distinction, i.e. the fact that Western science is dominated by the animal as a thought form. I will then propose that the integrative concept of “open being” is apt to capture the ontogenetic otherness of plants and to account for their anabolic mode of being. I will examine how anthropomorphic notions, although they are useful to voice our relation to plants, should be scrutinized when applied to agriculture. Finally, I will open the discussion on how OA can ascribe value to plants as *plants* and not as second-animals. A major issue is to create webs of intertwined plant-human communities that do not rely on the animal-machine paradigm.

**Background:** In the last twenty years or so, rising awareness for the standing of plants has emerged in society. Allegedly linked notions of dignity, intrinsic value, communication and intelligence suggest that plants can no longer be reduced to mere things and possess qualities that reach beyond naturalness, organicity or aliveness. However, the lack of a comprehensive approach of plant ontology, the plantness of the plant, makes it difficult to come up with a clear

picture. Two major background assumptions may be identified. One is an animistic approach of crops that tends to blur ontological boundaries between plants and animals: plants are seen as quasi-animals endowed with a kind of intentionality that deserve moral consideration inasmuch as animals. The second is a cybernetic approach of crops: plants are treated as quasi-machines that exhibit a “naturally artificial intelligence” and should be handled as natural robots.

**Core messages and conclusions:** The animalization of plants proposed by Western rationalization is a major issue for the Anthropocenic era. It is a major cause of worldwide ecological and climatic disasters because it propagates catabolic rationales in constitutively anabolic photosynthetic beings. One issue is to reveal the contradictions and paradoxes of applying to crops animal-centered notions such as nutrition, sexual reproduction and competition. As long as we lack structured arguments to address these paradoxes, the reductionist rationale used for food and agricultural norms will prevail. Another issue is to develop plant-centered notions to counter the adverse effects of the animal normative footprint. Plant is an “open being” and has no inside nor outside, thus it cannot ingest or mate or defend, or act in a proper sense. It is not topologically separate from us as we think we are from it and requires adequate descriptors of its distinctive mode of being. Anthropomorphism compromises ecological integrity and rather encourages catabolic rationales, i.e. rationales based on “take” and “consume” notions that are ontologically alien to plants. Caring for plants as *plants* generates social and in-context value that needs to be asserted as part of organic core values. This community entanglement makes sense and should be defended for the care of plants inasmuch as soil, water, technical practices, commensal biodiversity and seed stocks. I propose that new creative approaches are needed to stage practices that rely on the plantness of the plant rather than on plant animalization.

#### Suggested readings and/or references:

Pouteau, S., 2018, Plants as open beings: from aesthetics to plant-human ethics, in Kalhoff, A., Di Paola, M., Schögenhumer, M., *Plant Ethics: Concepts and applications*, London, New York, Routledge, pp. 82-97.

Pouteau, S., 2016, Des modalités d'intervention « art-science-philosophique » pour éprouver les temporalités de l'urgence environnementale, *VertigO* 16(1), pp. 2-26.

Pouteau, S., 2014, Beyond « second animals »: making sense of plant ethics, *Journal of Agricultural and Environmental Ethics* 27, pp. 1-25.

#### OWC2020-CUL-596 (CUL-4)

### PHENOMENOLOGICAL BODYMIND METHODOLOGY TO REINVENT OUR LINKS WITH LIVING BEINGS.

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**Targeted audience:** Farmers, Consumers (and citizens), Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** bodymind, nature culture, ontology

**Summary:** An ethnological work with N&P and AB market gardeners in the Cevennes allowed me to observe inspiring practices towards living beings to overcome the reifying approach on

which relies productivist agriculture. In parallel with an academic approach, these meetings allowed me to formalize a methodology intended to question the status granted to living beings and the relations with them. The process relies on the phenomenology of perception. This tool allows 1) a phenomenological (re)discovery of the living to develop a reflexive posture towards the naturalistic framework (Descola, 2005) that drives us and 2) a (re) appropriation of our body to offer the opportunity to emotional and sensory dimensions to participate in the knowledge of the world (Ingold, 2013). This methodology is intended for professionals wishing to deepen their questions about the living as well as citizens who want to connect to living beings. This is the methodology that I propose here to debate.

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**Background:** The greening of farming practices leads us to reconsider status and functions of living beings in the production systems. In addition to acquiring a positive valence in production processes (Barbier and Goulet 2013), living beings are discovered as « acting » beings, which adds ontological stakes to technical upheavals. It then becomes crucial to pay attention to what this new configuration entails and to get out of the ontology that leads us to reify living organisms.

Moreover, in a society still marked by the cartesian methodology that poses the preeminence of the soul over a body, the latter is still often both depreciated and reified. But today, it is a question of going beyond an intellectual posture *on* the world in favour of entanglements *with* the environment (Ingold 2013) by the "flesh" which "expresses a unity of the man with nature, unity of consciousness with the body » (Hess 2016 : 153).

**Core messages and conclusions:** Naturalism is based, among other, on the postulate of a separation from nature and its domination. It is authorized by a set of dualisms (body/mind, nature/culture...). Such epistemology resulted, if exaggeratedly shortened, in agri-environmental crises. Naturalistic ontology, as component of the Western culture, is deeply inscribed in each person, intellectually and physically speaking (Marzano 2017). It is then profoundly difficult to modify our world perception and, so, our practices and way of living.

Yet, it is crucial to get out of the naturalistic ontology that has allowed the development of a productive-driven agriculture. It is time too to work on the deconstruction of the "big sharing" (Latour 1999) that has structured our western society. In order to do this, I make the assumption that a phenomenological bodymind approach helps develop a psychocorporal unity with nature (Hess 2016: 146).

The phenomenology of perception and, more concretely, sophrology of Caycedian origin that I propose here, allows a rediscovery of the world as if it were the first time. It then allows reflexive position and distance from naturalistic ontology, experienced both in our intellectual constructs and in our bodily experiences. Sophrology training develops bodymind perspective, a posture where mind and body are entangled. The method also includes a reflexive approach to our representations of living beings and partnerships to develop with them in agricultural systems.

The experience of the flesh (Hess, idem) leads to a decentering of oneself allowing the discovery of an otherness. Feeling the world through one's body allows to rediscover the nonhuman otherness. It also authorizes to invent new relations with living beings based on (re)discovery of their potentials and their ways of being.

I propose to present such a methodology to debate with the organic sector from which I take inspiration. I would like to benefit from their experience and thinking about their links with the living beings. A comparison with the Goethean approach could also be fruitful.

**Suggested readings and/or references:**

- Barbier J-M, Goulet F. 2013. Moins de technique, plus de nature : pour une heuristique des pratiques d'écologisation de l'agriculture. *Natures Sciences Sociétés*. 21 (2) : 200–210.
- Descola P. 2005. *Par-delà nature et culture*. Paris : Gallimard.
- Hess G. 2016. La conscience cosmique. Esquisse pour une conception non réductrice de la relation de l'homme à la nature. In: Hess G, Bourg D, editors. *Science, conscience et environnement Penser le monde complexe*. Paris : PUF : 135–76.
- Ingold I. 2013. *Marcher avec les dragons*. Bruxelles : Zones Sensibles.
- Latour B. 1999. *Politiques de la nature – Comment faire entrer les sciences en démocratie ?* Paris : Ed. La découverte.
- Marzano M. 2017. *La philosophie du corps*. Paris : PUF.

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#### **OWC2020-CUL-1240 (CUL-4)**

### **RETURNING TO ORGANIC FARMING DEMANDS A NEW MINDSET**

Sonja Ohlsson<sup>\* 1</sup>

<sup>1</sup>Brahma Kumaris, Frederiksberg, Denmark

**Targeted audience:** Farmers, Consumers (and citizens), Teachers, trainers, Students, Philosophers, historians, NGO representatives

**Keywords:** harmony, mindset, respect, simplicity, sustainable yogic farming

**Summary:** Transition to organic farming methods and a simple way of living demands a new mindset –A relationship with nature based on respect and harmony has traditionally played a key role in helping indigenous communities to live sustainably over long periods of time. The author will describe organic yogic farming concepts (Sustainable Yogic Farming or SYA) from the practice of rural communities in India. The presentation will explore the interconnectedness of a traditional spiritual knowledge base and the broad use of adapted farming methods for the required transition towards a better world. A deep and transformative adaptation is required to both build inner resilience and cultivate a sense of peace and compassion.

**Background:** We proceed from the conviction that any shift in individual awareness is reflected in society as a whole. To bring stability, resilience and compassionate action on a global scale, we believe widespread practice of silent reflection and meditation is essential. Such an ‘inside-out’ approach, applied by large communities, can be the key to the paradigm shift that allows all stakeholders to make choices benefiting the planet and its future.

The Brahma Kumaris Environment Initiative encourages greater understanding of the role of consciousness and lifestyle in impacting environmental issues, through dialogues, partnerships, participation in UN conferences and local initiatives. In particular we highlight the importance of Peaceful Living: Promoting and living by the principles of universal peace can lead to a reduction in violent conflicts and wars, thus enabling vast resources to be redirected to creating a healthy and sustainable society.

#### **Sustainable yogic methods**

Seeds are placed in the Brahma Kumaris meditation centre where practiced meditators focus thoughts of peace, non-violence, love, strength and resilience on the seeds for up to a month before sowing. Regular meditations are conducted remotely and in the fields with specific thought practices designed to support each phase of the crop growth cycle, from empowering

seeds and seed germination, through sowing, irrigation and growth, to harvest and soil replenishment.

### Research outcomes

Scientists are undertaking studies conducted at different stages of crops to further understand the effects of Raja Yoga Meditation on crop yield, quality and costs.

**2008.** An experiment in Chipri Village in Kolhapur District in Maharashtra, India contrasted two parcels of land. Standard chemical farming was compared with yogic/ organic farming. Data collected and tested by the National Agriculture & Food Analysis & Research Institute were conducted on the Namdhari 2535 breed of Tomato.

Nutrient	Yogic	Chemical
Fat	0.11%	0.20%
Protein	1.13%	0.74%
Carb.	5.36%	4.15%
Energy	27.47 Kcal/100g	19.5 Kcal/100g
Vit C	14.9 mg/100g	6.05 mg/100g

**2010.** Agricultural scientists from S.D. Agricultural University have divided the research plot into three parcels: OFM-1 (organic farming techniques), OFM-2 (organic farming techniques + meditation), and CIM (standard chemical farming using fertilizers and pesticides).

Preliminary findings indicate that OFM-2 (organic + meditation) has the greatest soil microbial population and seeds germinate up to a week earlier. Subsequent crops reveal higher amounts of iron, energy, protein and vitamins compared to OFM-1(organic) and CIM (chemical), offering low-cost high-benefit methods for local communities.

Below are some economic figures gathered by farmers and scientists

Cost/Profit (Rs.)	Yogic	Chemical
Net Cost/ Acre	6020.00	26740.00
Gross Cost/Acre	13378.00	28147.00
Total Crop/Acre	13667 Kg	15158 Kg
Market Value/Acre	77446.00	85895.00
Profit/Acre	64068.00	57778.00

[Research Paper from Asian Agri-History Vol. 19, No. 2. 2015](#) “Yogic farming through Brahma Kumaris Raja Yoga Meditation- An ancient technique for enhancing crop performance” states:

Results suggest that see exposure to metaphysical energy or magnetic field energy of 150mT for 1 to 4 hours is better to obtain higher seed germination percentage of chickpea.

**Table 2.** Effect of different energy treatments and variable periods of exposure on germination and seedling vigor of chickpea.

Exposure period (hour)	Energy treatment <sup>1</sup>						
	Control	100 mT MS	150 mT MS	200 mT MS	250 mT MS	MPE	Mean
<b>Germination (%)</b>							
1	91.0	93.0	93.5	91.0	93.5	93.5	92.6
2	91.0	90.5	91.0	92.5	91.0	89.5	90.9
3	91.0	88.5	91.0	91.0	84.0	90.0	89.3
4	91.0	92.5	89.5	54.5	50.0	88.5	77.6
Mean	91.0	91.1	91.3	82.3	79.6	90.4	87.6
CD (5%)	Exposure period: 3.8			Energy treatment: 3.1		Interaction: 7.6	
<b>Root length (cm/seedling)</b>							
1	10.2	11.7	11.6	11.2	10.7	11.0	11.1
2	10.2	11.6	10.7	11.6	10.6	10.8	10.9
3	10.2	11.0	11.9	11.8	9.8	11.0	10.9
4	10.2	11.0	11.0	8.3	9.3	12.8	10.4
Mean	10.2	11.3	11.3	10.7	10.1	11.4	10.8
CD (5%)	Exposure period: NS <sup>2</sup>			Energy treatment: 0.7		Interaction: 1.4	
<b>Shoot length (cm/seedling)</b>							
1	2.27	3.97	3.91	4.41	3.46	3.37	3.57
2	2.27	4.28	3.78	4.32	3.58	3.22	3.58
3	2.27	3.68	4.66	4.00	3.15	3.98	3.62
4	2.27	3.83	4.49	2.81	2.91	4.63	3.32
Mean	2.27	3.94	4.21	3.89	3.28	3.80	3.56
CD (5%)	Exposure period: NS			Energy treatment: 0.42		Interaction: 0.84	
<b>Seedling vigor index</b>							
1	1138	1410	1450	1425	1325	1343	1348
2	1138	1443	1297	1480	1291	1261	1318
3	1138	1299	1513	1412	1087	1344	1299
4	1138	1379	1388	604	608	1532	1108
Mean	1138	1382	1412	1231	1078	1370	1268
CD (5%)	Exposure period: 81			Energy treatment: 99		Interaction 199	

1. MS = milli Tesla magnetic strength; MPE = Metaphysical energy created during BKRYM.

2. NS = Not significant.

The mean root length was significantly higher due to the metaphysical energy treatment compared with the magnetic field treatment and control. Exposure time did not affect the mean root length, however 2-3 hours exposure led to higher values for mean root length.

**Table 1. Effect of different energy treatments and variable period of exposure on germination and seedling vigor of wheat.**

Exposure period (hour)	Energy treatment <sup>1</sup>						Mean
	Control	100 mT MS	150 mT MS	200 mT MS	250 mT MS	MPE	
<b>Germination (%)</b>							
1	98.0	99.5	98.5	97.0	99.0	99.5	98.6
2	98.0	99.0	98.0	99.0	99.5	99.5	98.8
3	98.0	98.0	99.0	97.0	99.0	99.5	98.4
4	98.0	99.0	99.0	99.0	98.5	99.0	98.8
Mean	98.0	98.9	98.6	98.0	99.0	99.4	98.6
CD (5%)	Exposure period: NS <sup>2</sup>			Energy treatment: NS		Interaction: NS	
<b>Root length (cm/seedling)</b>							
1	15.7	16.6	16.8	16.1	17.0	18.1	16.7
2	15.7	17.4	16.8	16.7	17.0	19.1	17.1
3	15.7	17.1	16.9	17.8	16.8	18.2	17.1
4	15.7	17.3	17.0	16.3	17.0	18.1	16.9
Mean	15.7	17.1	16.9	16.7	16.9	18.4	16.9
CD (5%)	Exposure period: NS			Energy treatment: 0.5		Interaction: NS	
<b>Shoot length (cm/seedling)</b>							
1	6.34	7.16	7.56	7.23	7.07	8.42	7.30
2	6.34	7.08	7.54	7.26	7.58	9.01	7.46
3	6.34	7.34	7.16	7.28	7.38	8.35	7.31
4	6.34	7.60	7.14	7.39	7.23	8.62	7.39
Mean	6.34	7.29	7.35	7.29	7.31	8.60	7.36
CD (5%)	Exposure period: NS			Energy treatment: 0.33		Interaction: NS	
<b>Seedling vigor index</b>							
1	2161	2367	2400	2267	2379	2625	2666
2	2161	2419	2384	2376	2442	2791	2429
3	2161	2390	2378	2429	2398	2621	2396
4	2161	2456	2390	2350	2382	2649	2398
Mean	2161	2408	2386	2355	2400	2671	2997
CD (5%)	Exposure period: NS			Energy treatment: 83		Interaction: NS	

1. MS = milli Tesla magnetic strength; MPE = Metaphysical energy created during BKRYM.

2. NS = Not significant.

### Core messages and conclusions: Aligning Awareness with Action

Sustainable Yogic Agriculture is a pioneering initiative of the Rural Development Wing of the Brahma Kumaris World Spiritual University that integrates thought-based meditative practices with organic agriculture. The interrelated spiritual and physical methods are bringing clear economic and social benefits to smallholder agrarian communities in India.

It is now widely acknowledged that to sustain agricultural production, healthy environments, and viable farming communities there must be a whole-systems approach to agriculture. Traditional knowledge and organic agriculture must be integrated in ways that link ecology, culture, economics and society. Using a system-wide approach, Sustainable Yogic Agriculture

recognizes all elements of farming: humans, animals and bird, flying and crawling insects, micro-organisms, seed, vegetation and surrounding ecosystems, and the natural elements of sun, soil, air, water and space.

The meditative and organic practices of Sustainable Yogic Agriculture are bringing together more than 1000 farmers in India with scientists from India's leading agricultural universities. Results are remarkable. Early data collected through a field study in Gujarat suggest an improved seed quality and increase in crop yield.

Sustainable Yogic Agriculture has resulted in lower costs to farmers and a reduction in pressure on the environment. Other benefits have been improvements in farmers' emotional well-being and enhanced community resilience.

**Suggested readings and/or references:**

[\*\*Research Paper from Asian Agri-History Vol. 19, No. 2. 2015\*\*](#) "Yogic farming through Brahma Kumaris Raja Yoga Meditation- An ancient technique for enhancing crop performance"

[http://old.eco.brahmakumaris.org/images/News-Events/Yogic\\_Farming/Asian\\_Agri-History\\_2015\\_sm.pdf](http://old.eco.brahmakumaris.org/images/News-Events/Yogic_Farming/Asian_Agri-History_2015_sm.pdf)

In 2009, Sonja Ohlsson was instrumental in developing the Brahma Kumaris Environment Initiative in order to meet the need for a higher environmental awareness within the international BK community, and also to add the inner dimension to discussions at the UN Climate Change conferences. The BK delegation has participated in all the UN conferences on Climate Change since COP15, including Copenhagen in 2009 and the UN Conference on Sustainability Rio + 20 in Rio de Janeiro 2012. Using the theme of "The Power of Human Awareness in Safeguarding Biodiversity" they have participated in three of the team is working together with other international NGOs on individual responsibility when addressing global issues. Sonja Ohlsson continues to conduct green retreats for the BK community in Portugal, Italy and the USA and has travelled with the lecture series *Living in Harmony* and *Healthy Mind, Healthy Planet* in many countries.

**Image 1:**



## **ROLE OF FOOD ON HEALTH AND THOUGHTS**

Kranti Prakash<sup>\* 1</sup>

*<sup>1</sup>Trusty, jJaivik Kheti Abhiyan, Muzaffarpur Bihar, India*

**Targeted audience:** Farmers, Food (non food) processors, Consumers (and citizens), Teachers, trainers, Students, NGO representatives

### **Summary:**

Food has certain effects. Not only is our physical body built and maintained according to the food we eat, but our inner nature is also conditioned by it. The gross part of the food produces the energy for the physical apparatus, while the subtle part contributes to our thought energy." Chandogya Upanishad says - "Annamayam hi manah". Our mind is made from the essence of the food we eat. "Aahaarashudhau sattvashudhiih". Purify the mind by purifying the food. The entire universe is made of a combination of 3 Gunas (textures or qualities) ie. Sattva, Rajas and Tamas.

**Background:** For Mankind

### **Core messages and conclusions:**

#### **Role of Food on Health and Thoughts**

Food has certain effects. Not only is our physical body built and maintained according to the food we eat, but our inner nature is also conditioned by it. The gross part of the food produces the energy for the physical apparatus, while the subtle part contributes to our thought energy."

Chandogya Upanishad says - "Annamayam hi manah". Our mind is made from the essence of the food we eat. "Aahaarashudhau sattvashudhiih" Purify the mind by purifying the food.

The entire universe is made of a combination of 3 Gunas (textures or qualities) ie. Sattva, Rajas and Tamas. Anything we hear, smell, see, taste or touch may be classified into these.

Sattva represents calmness, peace, balance, knowledge, purity, brilliance etc. Rajas denotes agitation, passion, restlessness, ambition, greed, insecurity etc.

Tamas signifies lethargy, laziness, procrastination, Destruction, ignorance etc.

In all of us one of the three Gunas has superior strength and it is reflected in all that we do and think. Our goal and endeavor should be to evolve to the Sattvik state. Thus our association with all things sattvik will only aid and hasten this process.

Sattvic foods are foods that are abundant in Prana - the universal life-force that gives life to all sentient beings in both plant and animal kingdoms. A Sattvic diet is thus meant to include foods and eating habits that increase life, purity, strength, health, joy and cheerfulness. (Geeta Chapter 17 Verse 8).

Fruits, vegetables, dry fruits, sprouts, milk, cereals etc. are sattvik

Rajasic foods are those which are pungent, salty, spicy, very hot, burning. (Geeta Ch.17 verse 9)

Tamasik foods are stale, tasteless, putrid, rotten, refuse, impure. (Geeta Ch.17 verse 10)

Sattvic foods are those which purify the body and calm the mind

They stimulate the body and mind into action. In excess, these foods can cause hyperactivity, restlessness, anger, irritability and sleeplessness.

Tamasic food are those which dull the mind and bring about inertia, confusion and disorientation.

Cooked food that is consumed within 3-4 hours can be considered sattvic.

Food Cooked with more oil & spices is Rajasic. Stale or reheated food fall under this category.

Examples - Fresh fruits, green leafy vegetables, nuts, grains, fresh milk , certain spices

Examples – Spicy food, tea, coffee, fried food, food with lots of white sugar, maida (refined wheat flour)

Example – Non vegetarian diet, alcohol, stale food, excessive intake of fats, oil, onion, garlic.

As much as we can, we should sit and eat the food. We should avoid standing and eating.

### 7 Practices of a Mindful eater:

- a. Start with Silence & Prayer. If you can, maintain the same time of eating food.
- b. Engage all your 6 senses(seeing, hearing, tasting, smelling, touching & feeling)
- c. Use small utensils and serve moderately. Do not waste food.
- d. Savor small bites & chew thoroughly
- e. Keep away all distractions - TV, phone, computer etc.
- f. Eat a plant-based healthy diet
- g. Eat small portions and more frequently. Avoid heavy lunches & dinners. Dont skip meals. (Lord Krishna ate 8 small portions a day)
- h. End with gratitude to the Lord.

### Benefits:

#### 1. Maintains Harmony & Balance:

It is often said “We are what we eat!”

When you have a nightmare, the first question a doctor will ask is – What did you eat last night? Rich, spicy, hard to digest foods produce mental roaming and confusion, which manifest in wild dreams and thoughts.

Choosing to consume foods that are sattvik in nature help modify the mind from Tamasic or Rajasic to Sattvik state. Sattvik food helps restore and maintain harmony and balance in one's body and mind.

#### 2. Develops Discipline:

The diet can be used as a means of developing self-control and discipline. Not just the right type of food but it is important to eat the proper quantity at the right time. Consistent and dedicated attention to these aspects enforces discipline which increases mindfulness and awareness that soon permeates into every action and slowly translates into a way of life.

#### 3. Lives in Moderation:

Is a key practice in sattvic diet which implies not over-eating and no denial or fasting for long periods.

#### 4. Develops Empathy

Sattvik diet is based on the value of ahimsa (non-injury to all living creatures) and others. Over a period of time the mind will become sensitized to other creatures and without force automatically the body will not crave non-vegetarian food. You will just drop it one day.

##### 5. Aids Inner Purification

Diet has intimate connection with the mind. Mind is formed out of the subtlest portion of food.

Sage Uddalaka instructs his son Svetaketu "Food, when consumed becomes threefold: the gross particles become excrement, the middling ones flesh and the fine ones the mind. My child, when curd is churned, its fine particles which rise upwards, form butter. Thus, my child, when food is consumed, the fine particles which rise upwards form the mind. Hence verily the mind is food."

Chhandogya Upanishad says : "By the purity of food one becomes purified in his inner nature; by the purification of his inner nature he verily gets memory of the Self; and by the attainment of the memory of the Self, all ties and attachments are severed."

It takes time for the effects of dietary changes to manifest on the mind. Changing our diet may not impact our psychology overnight, but in a period of months can affect it significantly.

A beginner should be careful in changing the diet plan overnight. Food exercises tremendous influence over the mind. Instead of making sudden and drastic changes in your diet let the change be slow and gradual. The system should accommodate it without any trouble. Nature never moves by leaps.

Start by eliminating canned and preserved food from your diet completely. No aerated drinks, reduce intake of tea or coffee.

Add a fruit and salad to your daily meal, fruit in the morning and salad in the evening.

The above can be done from day one.

From Mid week remove fried snacks completely from your diet.

Maintain and follow for the rest of the week.

Reheated food, leftovers, foods with preservatives, white sugar, tea, coffee, desserts – all should be avoided.

Follow a routine daily: Eat fix proteins, carbohydrates, fats. Observe your energy levels.

If on a particular day you are having a difficult time controlling your mind, eat fruits on that day. Observe your mind.

Since last 2 decades there is continuous growth in organic farming in India. The Indian Government is providing incentives. The increase in demand of organic food among Indians is due to campaigns by organisations like Jaivik Kheti Abhiyan [campaign of organic farming]. Special effects can be seen in North East states of India. Farmers are producing organic tea, spices, fruits, milk besides cereals as per national and international standards. In Kerala and many big cities restaurants are serving organic food exclusively.

As per 31st March 2018, total area under organic certification process [registered under National programme for organic production] is 3.56 million hectares

**Suggested readings and/or references:** GITA, UPANISHADS

## CULTURE 5: Inspiration for farming tomorrow - 9/09/2021 11:00

OWC2020-CUL-1164 (CUL-5)

### LIVING FARMS – THE POTENTIALS OF BIODYNAMIC PLACES TO SUPPORT A SUSTAINABLE AGRICULTURE FUTURE

Lin Bautze<sup>\*1</sup>, Ueli Hurter<sup>1</sup>

<sup>1</sup>Section for Agriculture, Goetheanum, Dornach, Switzerland

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**Targeted audience:** Farmers, Advisors, extension services (including transition support), Consumers (and citizens), Teachers, trainers, Students, Researchers, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** BIODYNAMIC AGRICULTURE, farmer empowerment, knowledge exchange, sustainable agriculture

**Summary:** The agriculture production and food system are facing encompassing challenges. Climate change, the loss of soil quality and quantity, biodiversity loss and others question the current path of agricultural practices. Further, the question of how to live a healthy life becomes more urgent. At the same time, farmers need to react to these changes. They need to build resilience in order to secure their production and income in the near future.

Within the project "*Living Farms: Potentials of Biodynamic Places to Grow beyond Global Change*" 15-20 biodynamic farms worldwide are visited and studied. The thoughts, strategies, and options for actions of biodynamic farms in times of global change will be made visible and accessible for farmers worldwide. Through short videos, publications and events, the repertoire of possibilities for farming sites will be accessible. This access makes it possible to grow beyond the challenges of global change and help to support a sustainable agriculture future.

**Background:** The IPCC special report (2019) states that agricultural production is a source and sink for GHG emissions. At the same time, the authors highlight the need for fast adaptation measures to prepare for inevitable climate change consequences. Sustainable organic and biodynamic farming practices can prevent and reduce these consequences on global ecosystems. However, the authors emphasize that sustainable practices are not sufficiently spread to enable a change. One of the reasons is that farmers do not receive the required information and thus face the problem of lacking the knowledge and practical experiences of sustainable practices. Thus, capacity-building and education are at the centre to enable a fast and effective movement towards a sustainable agriculture future.

Within the project "*Living Farms*" the experiences, ideas and strategies of well-established biodynamic farms and farmers are visualized. The first results of the project are presented and discussed.

**Core messages and conclusions:** The project "*Living Farms*" shows that worldwide biodynamic farms were founded based on the concept of the "farm organism" and the "agricultural individuality" of Rudolf Steiner. Both concepts cover, among others, different important main aspects, such as having a variety of elements on the farm (e.g. diverse plant and animal biodiversity, as well as different branches of agricultural production. A second aspect is the adaptation to local conditions, such as the landscape, soil and climate type. Third, internal and external interrelations should be used. This include socio-economic interactions between humans, as well as ecological interactions within the farm and its surrounding landscape. Fourth, the farm should aim to establish a self-sufficiency as much as possible. This includes aspects,

such as utilizing local livestock feed resources, instead of importing soya feeds from distant countries. Last, according to Rudolf Steiner, farms should aim at producing qualitative foods that feed humans in a healthy way.

If these concepts are applied to the diverse, local contexts of a farm, a sustainable and resilient production can be established. The improvement of soil fertility and animal well-fare, innovative practices in plant breeding, the connection of value chains, lively food laboratories around a farm and further practical ideas are already realized on the farms of the project. Even when the understanding of the “farm organism” and “agricultural individuality” developed over history, each of the project farms established their own resilient agricultural practices. These can become inspirations for a future farming system that faces the global challenges, such as climate change.

#### **Suggested readings and/or references:**

[www.livingfarms.net](http://www.livingfarms.net)

<https://www.youtube.com/watch?v=XsoHtOFJENI&list=PLrolJP7mwooOoUCcBBBvgvVILiLDmsP>  
[CWF](#)

[https://www.instagram.com/section\\_for\\_agriculture/](https://www.instagram.com/section_for_agriculture/)

<https://www.facebook.com/sektion.fuer.landwirtschaft/>

#### **OWC2020-CUL-1445 (CUL-5)**

### **EDUCATION AND THE LUMAD'S DREAM OF A SUSTAINABLE FUTURE**

Fiona Marty<sup>1</sup> on behalf of Leo XL Fuentes, Leo XL Fuentes<sup>\*2</sup>

<sup>1</sup>FNAB, Paris, France, <sup>2</sup>MASIPAG, Mindanao, Philippines

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Consumers (and citizens), Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** Education, Transmission

**Summary:** “Lumads” the Indigenous People of Southern Philippines through their people’s organization along with non-government organizations (NGOs) established the Community Technical College of Southeastern Mindanao Inc. (CTCSM) a school that is committed in providing free, quality and transformative education among marginalized Filipino youth primarily but not limited to indigenous people.

The curriculum of CTCSM has three (3) interconnected pillars: Organic Agriculture, Health and Academics that promote and preserve Indigenous Knowledge.

Organic farming is integrated to the daily routine of the students, staff, and teachers. Students as young as five (5) years old, participate in farming activities.

With the glaring reality that Filipino farmers are growing older and marginalized by the prevailing agricultural system, CTCSM believes that providing transformative education with the youth, especially the indigenous people is the way to have an organic planet and secure a sustainable future

**Background:** The average age of Filipino farmers is 57 years old. Experts predict that for the next 15 years there might be a shortage of Filipino farmers. In order to find solution in this

looming crisis one must understand the reasons why despite farming being a noble profession is much marginalized in the Philippines.

During the green-revolution Filipino farmers suffered losses and indebtedness. Thus, resulting to severe landlessness: 9 out of 10 Filipino farmers do not own the land that they till. Moreover, mainstream agricultural policies favour big-agribusiness plantations, maintaining an export-oriented and import-dependent agricultural system. Agricultural inputs continue to become expensive as it is dominated by big transnational companies (TNCs & MNCs).

In order to change these unsustainable types of agriculture, Non-Government Organizations, farmers, and indigenous people established CTCSM in 2013 a school that promotes organic agriculture as it preserves indigenous knowledge and practices.

### **Core messages and conclusions: Marginalized and Ageing Farmers**

Farming despite being a noble profession remains to be the most marginalized in the Philippines. Even Filipino farmers themselves, discourage their children not to engage in farming. This resulted to the ageing farmer population of the Philippines.

Marginalization of Filipino farmers can be traced to the green-revolution where farmers became dependent on costly chemical inputs. Placing them vulnerable to loan-sharks, loosing even their farmlands.

Mainstream agricultural policies as reflected on the export-oriented and import-dependent agricultural economy of the Philippines further the marginalization of Filipino farmers- the one who produces food end up being hungry.

### **Transformative Education**

There is a great need to invest in our youth, as they are the stewards of the future. We need to encourage the youth to engage in organic agriculture through education. Thus education as a powerful tool must be relevant, transformative and sustainable.

This type of education is reflected in the curriculum of CTCSM with its three (3) interconnected pillars of learning: Organic Agriculture, Health and Academics. Organic agriculture plays an important role in providing food for the school, keeping the students healthy and maintaining the students focus and higher retention in his/her academics.

Integration of theory and practice through actual farming activities is vital to facilitate learning among the students. It creates space for students to practice what they learn and to learn from their practice.

In our common hope for an organic planet and a sustainable future, we must remember that important part of agriculture is culture and culture is about people. Thus in securing our future, we must educate people, the young and the marginalized people of this planet.

### **Suggested readings and/or references:**

CTCSM: Education for All <https://www.youtube.com/watch?v=2u0U9qdNNBQ>

Teacher Melay on Sustainable Agriculture <https://www.youtube.com/watch?v=7Z-CXyHULU4>

Department of Agriculture Supports CTCSM <http://davao.da.gov.ph/index.php/media-resources/17-news/291-da-supports-sustainable-farming-for-ip>

CTCSM Graduation <https://www.bulatlat.com/2018/04/11/lumad-school-mindanao-hold-first-senior-high-school-graduation/>

**OWC2020-FAR-1154 (CUL-5)**

## **FAIRE PROGRESSER L'ÉGALITÉ FEMMES-HOMMES DANS L'AGRICULTURE BIOLOGIQUE EN FRANCE**

Stéphanie Pageot<sup>\* 1</sup>

on behalf of FNAB and FNAB - Projet Femmes & Bio

*<sup>1</sup>La Ferme de Marais Champs, Villeneuve en Retz, France*

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**Targeted audience:** Farmers, Advisors, extension services (including transition support), Consumers (and citizens), Teachers, trainers, Students, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** Conciliation vie professionnelle et vie personnelle, Egalité, Politique, Visibilité

**Summary:** Depuis 2017, la Fédération Nationale d'Agriculture Biologique (FNAB) s'intéresse à l'égalité femmes-hommes en agriculture biologique. Depuis la réalisation d'une enquête sur la place des femmes en agriculture biologique en 2017-2018 à la mise en place d'actions concrètes, notre réseau s'engage pour faire progresser l'égalité. En tant que Secrétaire nationale Femmes & Bio, je porte ce sujet avec de nombreuses productrices mais aussi des producteurs. Nos actions s'inscrivent dans le projet global porté par la FNAB pour une alternative agricole et alimentaire respectueuse des femmes, des hommes et de l'environnement. La FNAB soutient l'idée d'une agriculture biologique qui soit plus qu'un label mais un projet pour une "société plus juste, plus harmonieuse et plus solidaire" et de "l'égalité entre les personnes".

**Background:** En 2017-2018, la FNAB a mené une enquête auprès des agricultrices installées en agriculture biologique (2 500 répondantes). Un colloque national, réunissant plus de 350 participant-e-s, a été organisé le 10 avril 2018 pour présenter les résultats des travaux. Lors de son Assemblée générale 2018, la FNAB a entériné la poursuite du travail commencé en 2017 sur la place des femmes en agriculture biologique. Elle s'est notamment fixée comme objectif d'atteindre la parité dans les instances locales, régionales et nationales du mouvement en diffusant l'étude, en créant du débat et des échanges pour trouver des solutions collectives à ces inégalités. La FNAB développe aujourd'hui d'autres actions concrètes

**Core messages and conclusions :**

### **- 2017-2018 : l'étude initiale et ses résultats**

La FNAB a réalisé en 2017-2018 une enquête auprès des agricultrices installées en agriculture biologique. 2 500 paysannes bio ont répondu, signe d'un grand intérêt pour le sujet. Jeunes, diplômées, souvent seules cheffes d'exploitation et majoritairement non issues du monde agricole, c'est le profil type des paysannes bio qui ressort des travaux. Ce travail sociologique a aussi fait ressortir une autre réalité pour les femmes travaillant à la ferme avec leur conjoint-e, celle d'un cantonnement à certaines tâches et d'un manque de temps pour l'engagement syndical agricole. Lors de l'Assemblée générale 2018 où furent présentés ces constats, la Fédération Nationale d'Agriculture Biologique (FNAB) a décidé de faire progresser l'égalité femmes-hommes en agriculture !

### **- 2018-2019 : les premières actions menées**

La FNAB poursuit donc son travail sur la place des femmes en agriculture biologique et développe ainsi plusieurs actions concrètes, avec le soutien de la Fondation RAJA – Danièle Marcovici :

La FNAB a été sollicité pour participer à différents événements et partager son expertise sur le sujet (table-ronde « Semons les graines de la transition agricole et alimentaire » avec Vandana Shiva en février, rencontre « Femmes en fermes » à Nantes en octobre...).

#### - 2020 : les perspectives

Meilleure conciliation des vies personnelle et professionnelle, ergonomie à la ferme, réforme des statuts de la FNAB pour y inclure une obligation de parité dans les instances... Les sujets sur lesquels la FNAB souhaite continuer de travailler sont nombreux, tout comme les producteurs et productrices qui souhaitent s'investir sur ce sujet !

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#### Suggested readings and/or references:

CP - Publication de l'étude : <http://www.fnab.org/espace-presse/retrouvez-ici-tous-nos-communications/1036-egalite-femmes-hommes-un-sujet-aussi-pour-le-monde-agricole>

Article de presse : [https://www.liberation.fr/debats/2018/08/31/l-egalite-femmes-hommes-une-priorite-pour-les-agricultriceseurs-bio\\_1674253](https://www.liberation.fr/debats/2018/08/31/l-egalite-femmes-hommes-une-priorite-pour-les-agricultriceseurs-bio_1674253)

Pour en savoir plus : <http://www.fnab.org/actualites/evenements/1019-quelle-est-la-place-des-femmes-dans-l-agriculture-biologique-colloque>

CP - Journée de la Femme : <http://www.fnab.org/espace-presse/retrouvez-ici-tous-nos-communications/1050-journee-des-droits-des-femmes-la-fnab-publie-un-guide-pour-inciter-les-femmes-a-s-installer-en-agriculture-bio>

Guide Devenir agricultrice bio : <https://www.produire-bio.fr/articles-pratiques/devenir-agricultrice-bio-les-cles-pour-sinstaller/>

La FNAB, prix Coup de cœur Femmes & Environnement de la Fondation RAJA :  
<https://www.fondation-raja-marcovici.com/actualites/la-fnab-et-entrepreneurs-du-monde-laureats-des-prix-coup-de-coeur-femmes-environnement.html>

Stéphanie Pageot is contributing as a farmer

Farm's location: Loire-Atlantique, Pays-de-la-Loire, France

Farm's area: 200 ha

Production: Bovin lait (70 laitières) avec transformation (70 cows for production of milk)

Nbr of persons working: 8

Is agriculture the only source of subsistence? Yes

Do you have other activities on the farm outside agriculture? No

Are you a part-time farmer? No

Part of direct marketing of the products of the farm: 50 - 75 %

## OWC2020-CUL-462 (CUL-5)

### EDUCATING ELEGANT CONSUMERS (GENERATION-Z) BACK TO ROOTS: COMMUNICATING ORGANIC AGRICULTURE

Yash J. Padhiyar<sup>\*1</sup>, Kalpesh Thakar<sup>2</sup> and Heer Organics

<sup>1</sup>Production, Heer Organics, Palanpur, <sup>2</sup>Agri. Economics, Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar, India

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Consumers (and citizens), Teachers, trainers, Students, Researchers

**Keywords:** Communicating, Education, Generation-z, organic agriculture

**Summary:** The idea behind the need of this research is to synthesize more awareness and understanding about organic farming through the facet of education and culture. Organic farming which endorses the concept that the soil, plant, animals and human beings are linked, needs to be communicated to its end-users. It is unfortunate that existing generation is inclined towards materialistic world rather than understanding own culture, traditions and roots. This is the result of those who failed in enlightening their upcoming generation about their culture and roots. There have been hardly any efforts in communicating agriculture to its end-users in our region. Thus the gap has been conceived right at this phase of modernization; keeping the youth at distance and not allowing even to make them think about the potential of organic farming. This results into framing not seen as charming profession by generation-z. A great output can be derived by the combination of education, organic agriculture and culture which we have witness in our model of educating organic farming.

**Background:** We are the only farm enterprise who has been communicating organic farming practices with consumers and farmers in our region (Banaskantha-Gujarat, India). This has ensured us about the trust building at both ends (farmers and consumers). This approach of educating our consumers about what they eat is under their knowledge and thus makes them our loyal consumers and adds value to their purchase. By the approach of educating organic agriculture to the people, has brought their interest in this domain. We have experienced a great amount of educated curious consumers with substantial increased knowledgeable agri-suppliers (farmers). We have been successfully giving the experience which was never given to the end-users in this segment where knowledge is shared for the produce they buy. We are getting around 40% more for our produce compare to those other players in market. We are not incurring any such heavy cost for doing so, as we use social media as a platform such as Face book page, Whatsapp, farm visits, meetings etc, to showcase our organic farming practices. The reason for using social media is increased number of netizens in present time and of course the cost as one of the important criteria. We have successfully witness youngsters (generation-z) interested in this field as students from various universities opt their internship with us and experience ins and outs of our model. We have been giving one day trainings to farmers (free of cost with one meal taken care of). We have been bridge between consumers and farmers by this model.

**Core messages and conclusions:** We believe our model to be successful as through education, consumers assure their will to buy our produce and farmers are willing to associate with us for economic benefit and recognition. Presently we have 14 farming families associate with us and we project in this year before coming to Rennes, France we shall cross 30 (almost double) farmers team associated with us to serve mankind. For which we shall increase the number of training and days to the farmers and share our format compare to the number we have been doing previously. We shall also increase our team for educating urban consumers to harness them to match the demand and supply ratio. What we have observed over the period of our organic farming career that in present course of time there is a lack of interest in farming from generation z's perspective and thus those educated mass are at distance from agriculture. We look forward for university tie-up for harnessing more students in organic farming and encourage them to be a part of core agriculture team in main stream and support the system. In recent years there has been a substantial growth in the number of certified farms globally, although these still represent a very small fraction of total farm numbers. Apart from third party

certification there are other methods of organic quality assurance for the market place. These can be in the form of self-declarations or participatory guarantee systems (PGS) and other methods. However these systems do not give an open transparency and experience to its end-users. The connection between growers and buyers is limited to just the exchange of produce just as any other commodity. The certification process and its charges are challenging for small farmers and in our region, land fragmentation is one of the biggest challenges which ultimately lead to less land holding per farmer. We believe the model with what we are working is going to benefit those farmers and its consumers, where education works as trust and belief. The work is carried out with utmost care and under close supervision by our team to ensure the win-win situation. I believe that this is the space where education plays a catalytic role in nurturing the urban curious consumers and educates them back to their roots while making their purchase as organic food and not a commodity. That's what our title resembles "Educating elegant consumers (Gen-z) back to roots: communicating organic agriculture".

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**Suggested readings and/or references:** I myself am a farmer, kindly refer following links to witness my efforts in educating organic agriculture to its real stake holder i.e. farmers and ultimate beneficial i.e its consumers.

<https://www.facebook.com/heerorganics/> (my facebook page)

<https://www.gstv.in/krushivishv-palnpur-farmer-success-story-gujarati-news/> (Video) Latest

<https://www.scoopearth.com/meet-yash-j-padhiyar-changing-life-farmers-startup-heer-organics/>

<http://sandeshpaper.in/edition/48499/patan/page/2>

#### **OWC2020-CUL-687 (poster/pitch CUL-5))**

### **THE ROLE OF ORGANIC PIONEERS IN INTERNATIONAL ORGANIC FOOD SECTOR TODAY – CASE STUDIES DENMARK, ITALY AND JAPAN**

Ivana Trkulja\*<sup>1</sup>, Camilla Mathiesen<sup>2</sup>, Aya Funayama<sup>3</sup>

<sup>1</sup>ERA-NET CORE Organic, <sup>2</sup>International Centre for Research in Organic Food Systems

(ICROFS), Tjele, Denmark, <sup>3</sup>Independent Researcher, Urawa, Japan

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Food (non food) processors, Trade (incl. retailers) / fair trade, Consumers (and citizens), Certification bodies / Participatory guarantee systems, Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives, Cook chiefs, restaurants and collective catering

**Keywords:** Case studies - Denmark, Italy and Japan, Organic 3.0, Organic food production and distribution, Organic pioneers, Organic principles

**Summary:** The works of organic pioneers have inspired the international organic movement until the present days. IFOAM - Organics International has provided a valuable overview regarding thinkers and practitioners that have contributed with their work towards establishing set of philosophical and technical principles that remain fundamental for the organic food and farming. The organic movement has nonetheless developed and from the initial message of pioneers in Organic 1.0, we now face emerging societal challenges under the framework of Organic 3.0 movement.

The present proposal for a short oral presentation aims at providing insights regarding the actual connection between the initial messages of organic pioneers and actors in the contemporary organic movement. We will focus our research on the 'notion of food' and related actors (producers and distributors) within three main national contexts of Denmark, Italy and Japan.

**Background:** The 'nature of life' in our research will be mainly understood through the 'notion of food' and values associated with its production and distribution. The initial inspiration for this proposal comes from an observation that the nature of organic sector, at least in Europe, involved in the production and the distribution of organic food has profoundly changed over the last years. The actors are no longer only organic farmers and processing companies pioneers from 1970s-80s. In the present, we often have conventional farmers, large companies and distributors that based on changing food habits among the consumers and growing attention towards sustainability, become interested to take part in the organic food sector.

The important part of this development, which is largely driven by the peoples' new food habits, lifestyles and environmental concerns, is that the original messages of organic pioneers and complementary messages from the organic principles, are not necessarily part of organic food sector developments and require further understanding. **Core messages and conclusions:** The present research aims at contributing to theme on 'The spiritual and philosophical roots of organic movements' and how to invite people to respect the 'nature of life' in line with the messages of organic pioneers.

The 'nature of life' in our research will be mainly understood through the 'notion of food' and values associated with its production and distribution. The focus will be on organic food producers and distributors, starting with ideas of the 'early organic pioneers' from 19-20 century, but mainly analysing organic practitioners 'pioneers' from 1970-80s and new organic actors from more recent years. The aim is to understand present organic sector and its connections with the ideas coming from early organic pioneers, organic practitioners 'pioneers' from 1970-80s and organic principles adopted in 2005.

The conclusions are drawn while focusing on four different temporalities: (1) 1970s transition from Organic 1.0 towards Organic 2.0 through codification of standards and creation of mandatory regulatory system, (2) post-2005 developments based on the adoption of organic principles, (3) post-2015 transition from Organic 2.0 to 3.0 as an ambition to mainstream the organic sector in response to the larger societal challenges, and (4) 2020 prospects to further integrate originating ideas and organic principles in the organic sector (i.e. new legislation framework EU Organic Regulation 2021).

The attention is on three main national contexts as case studies: Denmark, Italy and Japan. For European case studies, regarding early organic pioneers, we will make a connection with the thought of Rudolf Steiner (1861-1925) and for Japanese case study we will seek connection with the thought of Masanobu Fukuoka (1914-2008). This also means that we will adopt broader understanding of organic farming, involving biodynamic and natural farming methods. We will conduct qualitative research and follow ethnographic research methods (i.e. organise interviews (talks) with representatives from the organic sector in their daily environment). We plan to trace specific national context where for instance in Denmark organic and biodynamic movements are two separate entities, while in Italy they co-exist under the joint national umbrella.

Besides three main case studies Denmark, Italy and Japan, there are two additional case studies that could possibly result from the research. One case study is related to cross-cutting themes that could encompass all the case studies as for example 'ethics' (i.e. emerging food habits and lifestyles among consumers). And second case study is related to the national context of Russia

and reference to thinker Alexander Chayanov (1888-1937) who as agrarian economist has inspired actors in the Russian organic sector even prior to having a national organic legislation.

Based on preliminary research presented here, the team will still need to conduct main part of the research through the interviews (talks) with key actors from the organic sector and from there determine the conclusions about the connection with ideas from early organic pioneers, organic practitioners 'pioneers' from 1970-80s and organic principles adopted in 2005. The aim nonetheless, is to open a discussion about the fundamental ideas and values of organic food and farming, coming from the thinkers and the organic principles, and understand their relevance in the changing landscape of the organic food production and distribution.

**Suggested readings and/or references:** The International Federation of Organic Agriculture Movements (IFOAM - Organics International) - Organic Pioneers

<https://www.ifoam.bio/en/pioneers-0>

Rahmann, G. et al. (2016) 'Organic Agriculture 3.0 is innovation with research', Organic Agriculture,

[https://www.researchgate.net/publication/311393914\\_Organic\\_Agriculture\\_3.0\\_is\\_innovation\\_with\\_research](https://www.researchgate.net/publication/311393914_Organic_Agriculture_3.0_is_innovation_with_research)

Steiner, R. (1916) 'The Philosophy of Freedom: A Modern Philosophy of Life

Developed by Scientific Methods', H.Collison (ed.), original unedited edition

Council Regulation (EC) No. 834/ 2007 OF 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No.2092/91 (On organic principles)

<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007R0834&rid=6>

#### OWC2020-LEA-1276 (poster/pitch CUL-5)

### THESE [ORGANIC] ROOTS REMAIN - TAKING THE MOVEMENT FROM AGRICULTURE TO FOOD SYSTEMS - IS SOMETHING LOST IN TRANSLATION? (WORKING TITLE!)

Carola Strassner<sup>1</sup>, Alexander Beck<sup>\*2</sup>

<sup>1</sup>Food - Nutrition - Facilities, FH Münster University of Applied Sciences, Münster, <sup>2</sup>AOeL - Association of Organic Food Processors, Bad Brückenau, Germany

**Targeted audience:** Farmers, Food (non food) processors, Trade (incl. retailers) / fair trade, Consumers (and citizens), Teachers, trainers, Students, Philosophers, historians, NGO representatives, Cook chiefs, restaurants and collective catering

**Keywords:** change, future development, organic movement

**Summary:** (Alex) Reflections on the organic movement and the future

(Carola) reflections from teaching organic food and farming

**Background:** The organic movements has roots that go back more than 100 years; it has guiding principles for agriculture and decades of experience and development to a global movement.

**Core messages and conclusions:** The world today, especially food systems, are very different to those at the time of the founding observations, ideas and development of principles that started the organic movement more than one hundred years ago. Foodstuffs and meals were very much simpler, as was food processing and distribution; systems were far more localised. We want to re-visit the origins and roots against the background of today's realities. These include far-

travelling raw materials and semi-finished product streams as well as growing shares of highly processed foods on our plates. Within our workshop we want participants to reflect on these developments and engage with the present "fruits" of the organic movement as well as consider the path into the near future - what can be nurtured and what, perhaps, needs some pruning? We want to co-develop concepts in answer to current trajectories. We structure the workshop by starting with two short impulses, bringing observations and kick-starter points into the room, including varied perspectives. We then let participants share and exchange their own responses to the issues raised by the impulses and the seed ideas sown. After a few brief exchanges with a few different participants in a speed-dating-style of exchange, we follow up with three rounds of a world cafe to deepen the discussions and exchanges. The three rounds are designed to go deeper and build on the points in focus. The workshop aims to create room and process whereby concept developmental work can take place amongst organic actors. (working text, subject to refinement)

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## CULTURE 6: From diversity to products values - 10/09/2021, 11:00

OWC2020-SUP-1159 (CUL-6)

### ENHANCING GENETIC DIVERSITY IN VARIOUS COUNTRIES BY BREEDING FOR ORGANIC AGRICULTURE

Franziska Löschenberger<sup>\* 1</sup>

<sup>1</sup>Wheat breeding, Saatzucht Donau GmbH&CoKG, Probstdorf, Austria

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Food (non food) processors, Trade (incl. retailers) / fair trade, Consumers (and citizens), Certification bodies / Participatory guarantee systems, Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives, Cook chiefs, restaurants and collective catering

**Keywords:** BAKING QUALITY, breeding, BUNT RESISTANCE, DISEASE RESISTANCE, GRAIN PROTEIN DEVIATION, Winter wheat

**Summary:** Official Organic VCU test (Value for Cultivation and Use) started in Austria in the year 2002. As a consequence, Saatzucht Donau (SZD) developed and implemented the concept of BFOA "Breeding For Organic Agriculture". Since then, SZD is breeding winter wheat varieties specifically adapted to organic farming. This development helped to increase the number of released varieties thus enlarging genetic variability available to the farmers. Our breeding goals span from weed suppression and competitiveness to disease resistance and quality. Our program focusus mainly on high protein content and nutritional quality with special emphasis on "Grain Protein Deviation". In collaboration with BOKU University and the EU-funded projects SOLIBAM and COBRA, SZD released two bunt resistant winter wheat varieties. Diversity at all levels helps to stabilize farmers income and continuous supply of organic cereals.

**Background:** Apart from weed suppression ability (image 1), our program focuses mainly on high protein content and nutritional quality with special emphasis on "Grain Protein Deviation", which mainly means high protein content without much detrimental effect on yield. Throughout the breeding process we perform diverse quality analysis, starting from Protein content and SDS - Sedimentation (image 2) to dough rheological analysis and baking tests.

In collaboration with BOKU University and the EU-funded projects SOLIBAM and later on in the framework of the CORE ORGANIC project COBRA, SZD recently released two bunt resistant

winter wheat varieties that also show excellent baking quality: Tillexus and Tillstop. Both contain the Bt10 gene from North American Variety Weston, selection was enabled first by molecular markers and resistance was second verified in the field at BOKU and finally in organic official VCU tests.

**Core messages and conclusions:** Official Organic VCU test (Value for Cultivation and Use) started in Austria in the year 2002. As a consequence, Saatzucht Donau (SZD) developed and implemented the concept of BFOA “Breeding For Organic Agriculture”. Since then, SZD is breeding winter wheat varieties specifically adapted to organic farming. This development helped to increase the number of released varieties thus enlarging genetic variability available to the farmers.

While total winter wheat seed sales dropped between 2008 and 2018 in Austria, organic cereal seed sales substantially increased in the same period: almost 3-fold in winter wheat, 4-fold in winter barley and almost 5-fold in spelt wheat. 19% of all winter cereal seed sold in the year 2018 in Austria was certified organic seed.

In the year 2019, in total 87 winter wheat varieties are listed in Austria, among them seven “conservation varieties”. Cost for the release of a conservation variety amounts to less than 5% of the cost of the release of a thoroughly DUS- and VCU - tested variety. Twelve winter wheat varieties (14%) out of 83 varieties in the “Austrian Descriptive Variety List” were released after “exclusive organic VCU test”. Several varieties which were released after conventional VCU test subsequently were tested in the official organic VCU test in addition. Seed of suitable varieties is multiplied on organic fields and sold as organic seed for organic farmers.

Seed growing farmers and their association have a direct influence on variety choice and multiplication decision, they are in close contact or directly related to commodity marketing and subsequent partners of the value chain.

Due to the European Catalogue, it is possible to market seed of wheat varieties that are specifically suitable for organic farming in several European countries without costly additional testing. Anyhow, it is highly advisable to test any wheat variety for more than one year in the target region and under the specific conditions where it should be grown.

A wheat variety for organic farming must not have any major disadvantage, therefore it has to be tested thoroughly in order to ensure a safe result for all partners in the value chain.

The more breeding companies are involved in breeding varieties specifically adapted to organic farming, the broader will be the genetic basis and variability that organic farmers, traders, millers, bakers and consumers can use. Saatzucht Donau wants to contribute to genetic diversity available for organic farming by breeding specifically adapted varieties and by their release after organic VCU test in several countries.

Diversity at all levels helps to stabilize farmers income and continuous supply of organic cereals.

#### Suggested readings and/or references:

[https://bsl.baes.gv.at/fileadmin/BSL/pdfVersion/BSL\\_2019\\_Gesamt.pdf](https://bsl.baes.gv.at/fileadmin/BSL/pdfVersion/BSL_2019_Gesamt.pdf)

[www.satzucht-donau.at](http://www.satzucht-donau.at)

[www.saatbau.at](http://www.saatbau.at)

[www.probstdorfer.at](http://www.probstdorfer.at)

Löschner F, Fleck A, Grausgruber G, Hetzendorfer H, Hof G, Lafferty J, Marn M, Neumayer A, Pfaffinger G, Birschitzky J (2008) Breeding for organic agriculture – the example of winter wheat in Austria. Euphytica 163. 469-480.

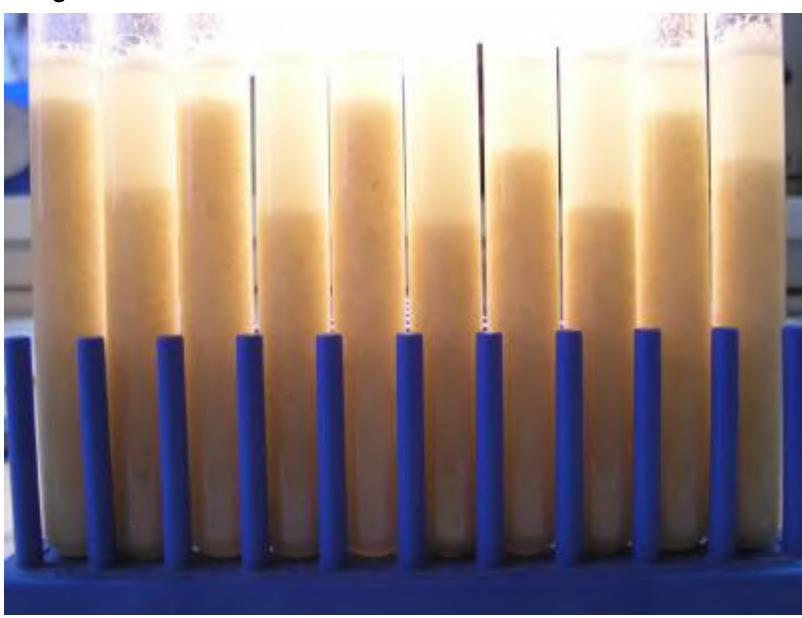
Rakszegi M, Miko P, Löschenberger F, Hiltbrunner, Aebi R, Knapp S, Tremmel-Bede K, Megyeri M, Kovacs G, Molnar-Lang M, Vida G, Lang L, Bedö Z (2016) Comparison of quality parameters of wheat varieties with different breeding origin under organic and low-input conventional conditions. Journal of Cereal Science 69: 297-305

Image 1:



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Image 2:



## **AGRO - ECONOMY AND COMMONS - A CONCEPT FOR VIABLE AGRICULTURAL STRUCTURES**

Peter Kunz<sup>\*1</sup>, Martin von Mackensen<sup>2</sup>, Monika Baumann<sup>3</sup>, Herbert Völkle<sup>3</sup>

<sup>1</sup>*Fund for crop plant development, Feldbach, Switzerland*, <sup>2</sup>*Landbauschule Dotenfelder Hof, Bad Vilbel, Germany*, <sup>3</sup>*Getreidezüchtung Peter Kunz, Feldbach, Switzerland*

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Teachers, trainers, Students, Policy makers (including institutions, local authorities and territories)

**Keywords:** Accounting, Commons, Economy, non profit, True cost accounting

**Summary:** Agriculture uses and consumes common goods: land, water, air, landscape, biodiversity. However, sustainable agriculture and organic farming in particular is able of produce, maintain and to increase the value and the diversity of these common goods. Due to a close focus on the micro-economy of the farm, it is obvious to externalise the costs for the commons as far as possible. So, microeconomic profit impacts the economy of the commons. With transfer payments, the public sector tries to finance several biodiversity and ecosystem services with taxpayers' money. However, this creates heavy dependencies on politics and weakens entrepreneurship of farmers.

In this paper, a concept will be proposed that allows a restructuration of an agricultural enterprise to manage both conditions, the current market-economic framework and the long-term sustainable common goods.

**Background:** Elaboration of new, viable and sustainable structures for business enterprise (BE) and commons economy (CE) are needed. There are various proposals to solve this accounting problem. One is to extend the balance sheet of an agro-enterprise with the inclusion of common goods such as soil fertility and emissions management, in order to make the loading of these goods effective in the accounting. The main difficulty of this procedure consists on one hand, to record and evaluate correctly such long-term effects for a serious annual financial statement, and on the other hand, in being able to finance the long-term investments for commons with current liquidity and/or with ordinary lending. For this reason, we suggest a separation of the enterprise into a (short term) business enterprise (BE) part and a (long term) commons economy enterprise (CEE) part.

This step allows to outsource the commons to their own entity in a non-profit foundation or similar. The business enterprise (BE) sector only retains in their balance current operations, machinery inventory and stocks. In the commons sector, land, soil fertility and emission economy as well as all long-term investments, i.e. investments for than 10 years, are included: land improvement, building infrastructure, irrigation infrastructure, long-term living inventory, permanent crops such as orchards, olive trees, vines, etc. A livestock of cows or sheep is both, a commons and an economic good, therefore it could be divided for example into 50 BE / 50 CE.

The BE is obliged to a sustainable use of the commons property and to pay lease and rent for those commons. In this way true cost accounting and true prices can be realized.

Long term investments of the commons economy enterprise (CEE) can be financed by various sources: private investors and donors, public funds, etc., to improve their infrastructure to save

water and/or landscaping to reduce erosion for example. Funding can be in the form of gift money or long term investments by companies from the value chain, for example, contributions to commons instead of externalisation of commons costs (true cost accounting).

The boards of a business enterprises (BE) and a commons economy enterprise (CEE) may even be identical in terms of personnel. Because it is clear that both enterprises have the same goal, only in two different time lines. This allows the management of the entire operation to be in one hand.

The relationship between BE and CEE and between CEE and external partners are regulated by contracts. An independent legal area could emerge which might even be subject to quasi-public supervision by associated consumers.

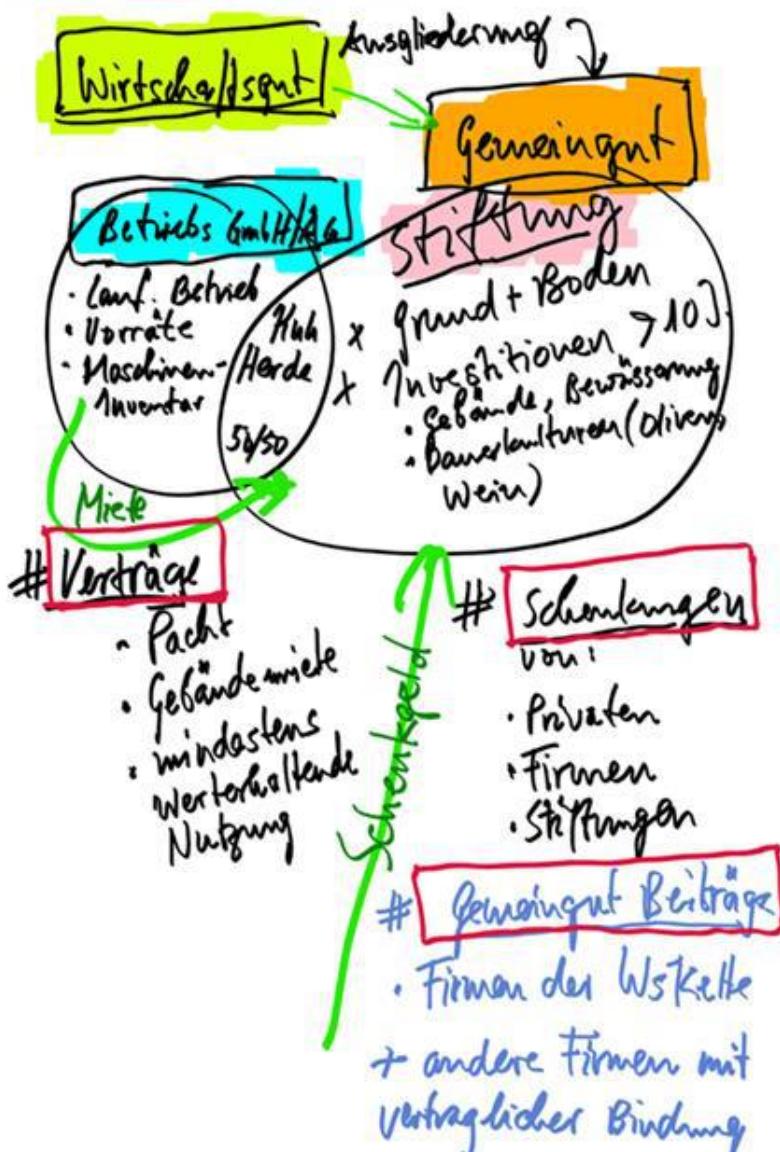
**Core messages and conclusions:** We present a concept of an enterprise a restructuration in such a way that it can meet both, the current market-economic framework conditions and the long-term and sustainable of common goods managed by agriculture.

**Suggested readings & references:** <https://www.kulturflanze.ch/wp-content/uploads/2018/11/Abstract-Seed-as-a-common-property-1.pdf> (Abstract)

[https://www.sektion-landwirtschaft.org/fileadmin/SLW/Literatur/Saatgutstudie/seeds\\_as\\_a\\_commons.pdf](https://www.sektion-landwirtschaft.org/fileadmin/SLW/Literatur/Saatgutstudie/seeds_as_a_commons.pdf) (Full Text)

Image 1:

## Trennung von Wirtschafts- und Gemeingutern



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OWC2020-SUP-1192 (CUL-6)

## RESOURCE USE EFFICIENCY OF WHEAT FOR MARGINAL AND SMALL FARMERS IN PUNJAB, INDIA

Anooj Bhadu<sup>\* 1</sup>

<sup>1</sup>Economics, Centre for Research in Rural and Industrial Development, Chandigarh, India, Sector 14, Chandigarh, India

**Targeted audience:** Farmers, Policy makers (including institutions, local authorities and territories)

**Keywords:** cost-benefit analysis, organic farming practice, organic wheat, Punjab

**Summary:** The present investigation was undertaken in order to analyze resource use efficiency of wheat grown by small and marginal organic and inorganic farmers in Punjab, India. Major share was covered by Wheat in the rabi season in the studied area (55.74 % under organic farming and 73.16 % under inorganic farming). Four districts with maximum organic producers were selected for the study and a total of 200 farmers spread over 40 villages were interviewed to study socio, economic and ecological status of farmers, cost-benefit analysis of organic vis-a-vis inorganic wheat and constraints faced by the organic farmers.

**Background:** Punjab, also called as Granary of India, is one of the most fertile regions in the country. State contributes major share in central pool with 17.19% of wheat, 11.33% of rice etc. Despite the obvious success, currently agricultural sector of the state is encircled with crisis.

During Green revolution, Punjab managed to produce enough food to save the surging millions in the country. However it has brought dispossession and destruction in the long run. Farmers are under debt and a crisis is seen among farming community. Agriculture has become unsustainable and non-profitable affair. Farmers are committing suicides, over-exploitation of ground water leading to its depletion, deficiency of micronutrient in soil, soil salinity, soil hardening and majorly deterioration of animal and human health are some of the toxic consequence of green revolution. Farmers are looking for other farming alternative ex. Organic farming as it incurs lesser cost.

**Core messages and conclusions:** Operational cost for organic wheat was Rs. 24292.04 per/hec as compared to Rs. 30160.17 for inorganic farming. But yield for organic showed drastic reduction at 31.03 quintal per hec whereas inorganic farmers yielded 51.45 quintal per hectare. Organic farmers were well compensated by the price, Rs. 3400/Q for organic and Rs. 1709.54/q for inorganic wheat. Budgeting technique was used where coefficient of multiple determination ( $R^2$ ) explained 98% of the variance of gross profit by independent variables namely casual labour, attached labour, family labour, machinery, seed, seed treatment, farm manure, bio-fertilizer, depreciation, marketing and rental value. A wider varietal distribution has been observed for organic than inorganic wheat cultivation.

Cost-benefit analysis shows organic farmers are much more benefited than inorganic farmers in the region yet reduction in yield and unavailability of labour poses a serious perceived constraint for inorganic farmers. Whereas marketing and inadequate research support by government is a major constraint for organic farmers.

#### Suggested readings and/or references:

Singh, R. K., J. S. Bohra, T. Nath, Y. Singh and K. Singh. 2011. Integrated assessment of diversification of rice-wheat cropping system in Indo-Gangetic plain. Archives of Agronomy and Soil Science. 57(5): 489-506.

Ramesh, P., Singh, Mohan and Rao, A.S. (2005) *Organic farming: Its relevance to the Indian context*. Science, 88:561-68.

Thakur, D. S. and Sharma, K. D. (2005) *Organic farming for sustainable agriculture and meeting the challenges of food security in 21st century: An economic analysis*. Indian Journal of Agricultural Economics, 60: 205-19.

### **Resource Use Efficiency of Wheat for Marginal and Small Farmers in Punjab, India**

The present investigation was undertaken in order to analyze resource use efficiency of wheat grown by small and marginal organic and inorganic farmers in Punjab, India. Major share was covered by Wheat in the rabi season in the studied area (55.74 % under organic farming and 73.16 % under inorganic farming). Four districts with maximum organic producers were selected for the study and a total of 200 farmers spread over 40 villages were interviewed to study socio, economic and ecological status of farmers, cost-benefit analysis of organic vis-a-vis inorganic wheat and constraints faced by the organic farmers.

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Cost-benefit analysis shows organic farmers are much more benefited than inorganic farmers in the region yet reduction in yield and unavailability of labour poses a serious perceived constraint for inorganic farmers; whereas marketing and inadequate research support by government is a major constraint for organic farmers.

### **OWC2020-CUL-512 (CUL-6)**

## **THE CROCUS CURRENCY PROJECT: LET'S IMPLEMENT A GLOBAL COMPLEMENTARY CURRENCY INDEXED TO LIVING ORGANIC MATTER IN RESILIENT AGROSYSTEMS.<sup>[1]</sup>**

Hélène Nivoix<sup>\* 1</sup>

<sup>1</sup>Permaculture, Independent Researcher, BESANCON, France

**Targeted audience:** Farmers, Consumers (and citizens), Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** agroecology, agroforestry, community seed banks, food security, crop genetic diversity, organic agriculture, developing countries, complementary currency, Permaculture

### **Summary:**

Thanks to a global and ecological complementary currency (CC) named Crocus, industrial agriculture will be replaced gradually by regenerative agriculture worldwide.

To this end, the International Monetary Fund (IMF) will set up the Life Monetary Fund (LMF) to issue the Crocus, with its volume indexed to the quantity of living organic matter grown under a Micro-farm Cluster (MFC) label.

An MFC is a group of small, multi-purpose agricultural units applying the principles of agroecology, agroforestry, and permaculture. Organized as a cooperative, it allows farmers to share their know-how and supply people with fresh produce through short distribution channels.

Crocuses can only be exchanged by farmers and farm workers, and only for the local complementary currency attached to the MFC's locality.

With this ingenious tool, millions of micro-farms could be set up, making it possible to take on considerable challenges: cooling the planet, saving biodiversity and major terrestrial balances, and feeding populations and giving them jobs, hope, and peace.

### **Background:**

Our species is facing a wall of reality. There is an urgent need to combine ecology and economics; the survival of our civilizations depends on it.

Fortunately, we know how to recreate a close collaboration with the power of natural processes. Through regenerative agricultural practices, abundant vegetation and thick soils generate multiple benefits and shall help humanity thrive again, provided they are implemented by a wide collaborative movement transcending all borders.

The global Crocus Currency Project is the common tool we need for all humans to mobilize quickly at the largest possible scale.

### **Core messages:**

There is currently a tremendous emergence of movements aiming at reconciliation with nature: organic farming, agroecology, agroforestry, and permaculture in particular. The LMF-Crocus solution is a perfect fit with this dynamic and comes at the right time; this is why it is urgent to make it known to as many scientists, NGOs, and influential persons as possible—to the global small-scale farmers' movement, of course, the major cross-border movements (trade unionists, feminists, the First Peoples, peace movements, etc.), and also intellectuals and artists worldwide. This surge could even be backed by the major spiritualities across the planet. The Youth For Climate movement, for its part, seems in danger of running out of steam fairly quickly if, in parallel with its protests, it does not propose original and innovative solutions to shake up the established order in a constructive manner.

All these partners should easily own the Crocus solution and encourage a group of flagship countries to put it to a vote in the United Nations General Assembly, which would solemnly request the International Monetary Fund (IMF) to set up a division called the Life Monetary Fund (LMF) to issue the Crocus currency, with its volume indexed to the amount of living organic matter grown globally under a “Micro-farm Cluster” (MFC) label.

Each country volunteering to participate in the LMF program will encourage the creation of thousands of MFCs and in return receive Crocuses from the Fund, as a proportion of the amount of living biomass generated by the MFCs within its borders.

An MFC is a group of small, multifunctional agricultural units applying the principles of regenerative agriculture. It may be formed either by several farmers; or a group of unemployed persons with a collective project, land would be made available to them by a local authority under a 99-year long-term lease; or by one or more private investors wishing to encourage the conversion of farmland that has been impoverished by intensive monoculture, they would benefit from a favorable tax regime by supporting the establishment of one or more micro-farm clusters provided that these latter hire regular salaried employees with trade-union rights (and not use self-employed workers).

Farmers and agricultural workers in each MFC are organized as a cooperative. It is this structure that receives its share of Crocuses from the government based on the amount of living organic matter that it has grown (figures that are certified annually by the scientific community). It distributes the received Crocuses to each of its members who are the individuals contributing directly to increasing the mass of living matter.

Crocuses can only be exchanged by these, and only for the local complementary currency attached to the MFC's locality.

The CC collective is authorized to include in its accounting the Crocuses it has received, considered as units of the collateral account to which the CC is attached. As a last resort, Crocuses are repayable from the IMF in the relevant national currency.

This scheme is a project of large-scale natural geo-engineering through the power of photosynthesis. It will generate a virtuous circle because the growth of living matter makes the land indefinitely fertile instead of depleting it; this means abundance for communities worldwide:

- by providing additional income in Crocuses to anyone involved in augmenting living organic matter under an LMF-delivered MFC label. This will involve a very large number of small-scale farmers and farm workers, as the agriculture practiced on these micro-farms is expected to develop very rapidly throughout the world, leading to a true revitalization of the rural areas;
- by producing the immediate effect of relieving urban congestion thanks to the creation of a considerable number of jobs outside cities;
- by leading to the establishment of clusters of urban micro-farms wherever possible, thus contributing to the food autonomy of cities and to cooling their climate conditions through the ensuing microclimates.

The crocus currency:

- is traceable from one end of the chain to the other, which rules out corruption;
- is not an energy chasm like the bitcoin cryptocurrency;
- is more an incentive than an actual currency; the "currency" designation should however be used because it will make it more desirable;
- allows nature to buy money instead of being bought by money, in other words: ecological vitality, not the commodification of nature, is what generates money here;
- is therefore a means of giving nature added value without destroying it;
- is spontaneously inflationary, which means perpetual growth;
- will refresh the Earth, slow the pace of the economy, bring about more feminine values like care, sharing, and cooperation;
- will allow us to reach a good part of the SDGs and will lead to highly resilient societies.

### **Conclusion:**

The Crocus proposal is a systemic solution that has the advantage of being simple, easy to implement, and, above all, quick. It carries a true dynamics, that of the vital processes at work everywhere, which we must stop weakening because they are our lifeline.

Thanks to this clever tool, we will:

- capture atmospheric carbon through the power of photosynthesis. Negative emissions through nature-based solutions are a tool we can't do without if we want to slow down the climate drift;
- preserve and, above all, encourage the blooming of the greatest possible biological diversity within the ecosystems and agro-ecosystems that support us;
- retain fresh water, which will avoid continued desertification and salinization on planet Earth;
- feed people, and give them jobs and hope in a shared world peace so future generations will be proud of us.

Let's get started right away!

### **Suggested readings and/or references:**

- <https://www.climatecolab.org/contests/2017/exploring-synergistic-solutions-for-sustainable-development/c/proposal/1334292>

https://www.climatecolab.org/contests/2019/reshapingdevelopmentpathwaysinLDCs/c/proposal/1334648

- <https://bio4climate.org/resources/compendium/>
- <http://www.globalcoolingear th.org/wp-content/uploads/2017/09/Regenerate-Earth-Paper-Walter-Jehne.pdf>

- Natural Climate Solutions "Averting Climate Breakdown by Restoring Ecosystems A call to action George Monbiot" <https://www.naturalclimate.solutions/full-rationale>
- Lal R (2014), Global Potential of Soil Carbon Sequestration to Mitigate the Greenhouse Effect, Critical Reviews in Plant Sciences, Volume 22, 2003
- <http://www.globalcoolingearth.org/wp-content/uploads/2017/10/Didi-regional-cooling-Oct-2017-.pdf>

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## **OWC2020-CUL-1361 (CUL-6)**

### **A MOOT IN A MOOC ON ORGANIC AGRICULTURE: THE ISSUE OF 'PRICE OF ORGANICS'**

Stéphane Bellon<sup>1</sup>, Thomas Nesme<sup>\* 2</sup>

<sup>1</sup>INRA, Avignon, <sup>2</sup>Bordeaux Sciences Agro, Bordeaux, France

**Targeted audience:** Advisors, extension services (including transition support), Consumers (and citizens), Teachers, trainers, Students

**Keywords:** MOOC, teaching

**Summary:** The issue of a “fair” organic price is still prone to debates. We addressed it in the frame of a francophone MOOC (massive open on-line course) broadly opened to international participants. As facilitators and authors, we hereby present our approach and the feedback we received from participants who fully completed the exercise. The issue of organic price was decomposed in three dimensions: just, justice and justification. A few supporting documents were made available progressively along six sequences to guide participants in their exploration and presentation. As a result, we received 38 written presentations during the two first sessions of this MOOC (in 2018 & 2019). As a whole, the answers contribute to shifting from food to value chains and possible valuation settings.

**Background:** A pioneer MOOC on organic agriculture (OA) was launched in 2018, and renewed in 2019, by a group of French agricultural scientists. As explained by Marliac et al (OWC 2020), we have proposed controversial issues to be addressed by the MOOC participants. One of them concerned the price of organic. We assumed that the diversity of the participants in this MOOC was key to explore broadly this question. We developed a framework and provided participants with documents to support their reflection. Two facilitators were available to reply the questions asked by the participants, to provide initial thoughts to the debate and to contribute the online forum gathering all the participants. Here we present the outputs of this work based on the presentations of about forty participants who provided a report on this controversial issue (moot) in 2018 and 2019.

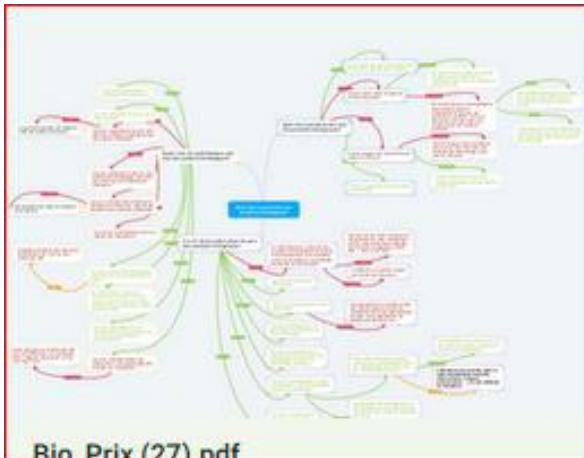
**Core messages and conclusions:** The issue of price of organic was divided into three dimensions: just, justice and justification. As for the *Just* (fair or right in English) we recommended participants to think about what is the real price of organics: How does this price vary according to the products and other products or marketing channels considered? How just is the cause? And for *Justice*: do the prices of organic products reflect the costs (market and non-market) of their production, processing and marketing? Symmetrically, do the prices of conventional products reflect all the costs associated with their production? To whom and to what work the price does justice? As for *Justifications*: what are the factors that explain these prices? In which segments of the marketing channels is a price differential developed for organics?

Both the organisation and the number of items in participants' mappings vary, but they can be clustered into three main categories. First, classical elements appear such as higher costs of inputs and lower production levels, entailing higher prices for consumers; here the main arguments given by participants refer mainly to the concept of food chain and distribution of added value. Conversely, when the proposed triad with three dimensions (just, justice, justification) is applied, more original elements appear, namely in terms of contextualisation and compensation of production; here the price of organics includes more than a product.

A third approach is in between the previous ones; it is both comprehensive and deterministic, while explaining causes and consequences of organic prices. Accordingly, the representations used by participants range from complex mappings to more linear or literary patterns (see figures).

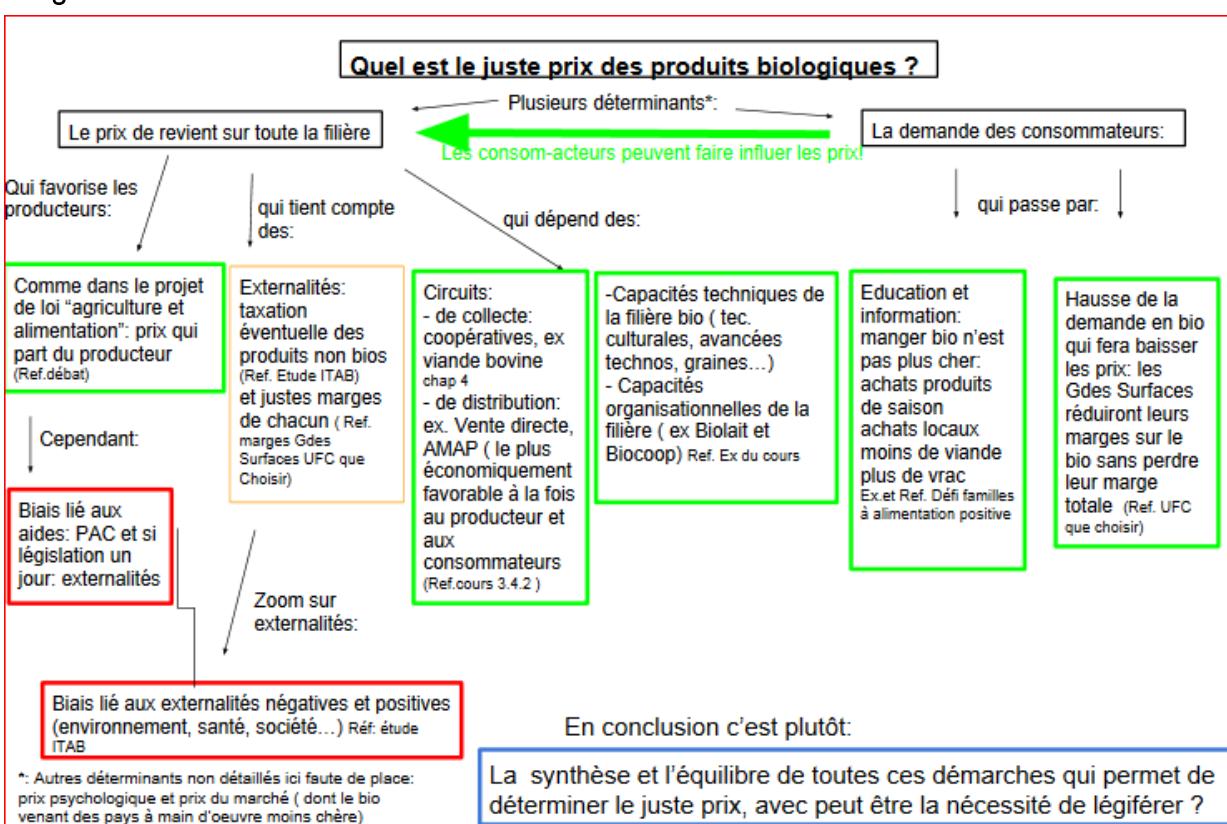
In scientific literature, this issue is often framed within food chains, reporting price differentials between products, regions or countries. It is also mainly oriented towards consumers, through their willingness to pay a premium price. Arguments are less often presented on the side of other operators in value chains, and in particular for producers. Indeed, value chains enable considering a wide range of actors (from farm to fork) and their connections, albeit sometimes asymmetrically (uni directional more than interactive) and focussing on price more than values. Many participants emphasized the role of public policies and inter-branch organisations, as well as the hidden costs of externalities. This is consistent with the « Fair play- Fair pay » approach suggested by IFOAM Europe in the vision 2030 (<https://read.ifoam-eu.org/publication/ifoam-eu-annual-report-2018/improve-inspire-deliver-2/> ).

Image 1:



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Image 2:



Figures: Feedbacks from participants, representing their answer to a controversial issue addressed within the MOOC.

#### OWC2020-CUL-1102 (Pitch/poster CUL-6)

### PUT ORGANIC FOOD EDUCATION INTO COMMUNITY SUPPORTED AGRICULTURE (CSA) FARMS PRACTICE IN CHINA

Yan Shi

*Executive Director of Board, Shared Harvest (Beijing) Agriculture Development Limited Company, Beijing, China*

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Food (non food) processors, Trade (incl. retailers) / fair trade, Consumers (and citizens), Certification bodies / Participatory guarantee systems, Teachers, trainers, Students, Researchers, Policy makers (including institutions, local authorities and territories), NGO representatives, Cook chiefs, restaurants and collective catering

**Keywords:** Family Farming activities, 'New Foodie' Workshop, 'One Square Meter' Agriculture Program at Primary Schools, Rooftop Permaculture Garden, Summer&Winter Camps, Young Farmers' Training

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**Summary:** Live on the land and you will know its beauty. Work on the land and you will respect all forms of life. Think deeply on the land you shall become closer to the truth. The farm is naturally close to nature, and to the human race. On the farmland, we feel the four seasons of nature rotating and the cycle of all living things reincarnating. We can understand the beauty of living things using and producing together. On the farmland, there are birds, vegetables, fruit trees, insects and microorganisms, all of which we harmoniously interact with. When we take care of nature, we as humans also take care of ourselves. On the farmland, by cleverly taking advantage of the material and energy in nature, the earth can endow us with rich and nutritious food. Knowing where the real problem is can help us to think of innovative solutions.

**Background:** Agriculture is closely interrelated to the human diet. Agriculture is also the portal through which we can change the world through changing ourselves. Agriculture is not only a means to produce farm products, but is also an important part of our food culture education. More importantly, agriculture is a way to interact with nature. In order for "Eat in season, eat local" to become a dietary ideology, there must be a localized movement. This movement must be established on a globalized scale. When dealing with topics such as food surplus and food shortages, the influence of our diet on agricultural production structure, and the relationship between agriculture, finance and politics, we must tackle these problems with a globalized thought process. Only through thus globalized approach can we start to see that "Change starts with us" is not just a meaningless slogan.

The connections between CSA and nature education are showed often in our daily work-based practice.

For example, we have been working on promoting 'Edible Roof Garden' or 'Square Foot Gardening' program among some primary schools, middle schools, International high schools, agricultural universities in Beijing for 7 years, and our farm has become their outside teaching base regularly.

We organize a couple of sessions of summer/winter camps and food education workshops/study tours seasonally for different age groups and CSA member-approaching families every year.

The importance of food-agriculture education program promotion among these children, teenagers and young people is encouraging them to enjoy a better quality and sustainable lifestyle.

We teach them about Food-Agriculture Education in class twice a week with increasing cooperation with schools based on the same philosophy, which we have developed a curriculum of it with experts in this field for letting them know more about natural ecosystem of a CSA farm, as CSA model advocates and practices in an organic and healthier way. The students have been taught on how to grow their own vegetables in a proper way, what connections of plants

and soils/ body health and microorganism are, what the values of protecting our earth and environment are, etc.

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**Core messages and conclusions:** CSA (Community Supported Agriculture) often referred to as “Social Ecological Agriculture” movement especially in China, originated in Japan and some European countries in the 1970s, and is now being developed in various regions of the world.

The core of CSA is reconnecting people with land, rebuilding harmonious relationship with agricultural production. On CSA farms, producers take advantage of the natural ecological circulation system, raising poultry and growing seasonal vegetables and fruits without using fertilizers, pesticides, herbicides and growth hormones. Consumers, as members, prepaid half a year or a year's farm share at the start of production season. Creating “Shared Risk, Shared Harvest” solidarity economy model to improve agricultural ecology and address food safety issues.

CSA model advocates organic production and healthy lifestyle. It gathers consumers and farmers into local communities which generates the local economy, makes ecological environment and people's relationship sustainable.

Farmers follow the principle of friendly land care, from which consumers can get the freshest and healthiest food, conducive to the realization of urban-rural interaction and social equity.

CSA focuses on the ecology and short chain of the whole process from farm to table. By reducing the transfer of intermediate links, it can enable farmers to obtain fair trade rights, increase their income, improve their living conditions, mobilize the enthusiasm of organic-food producers, eventually form a virtuous cycle.

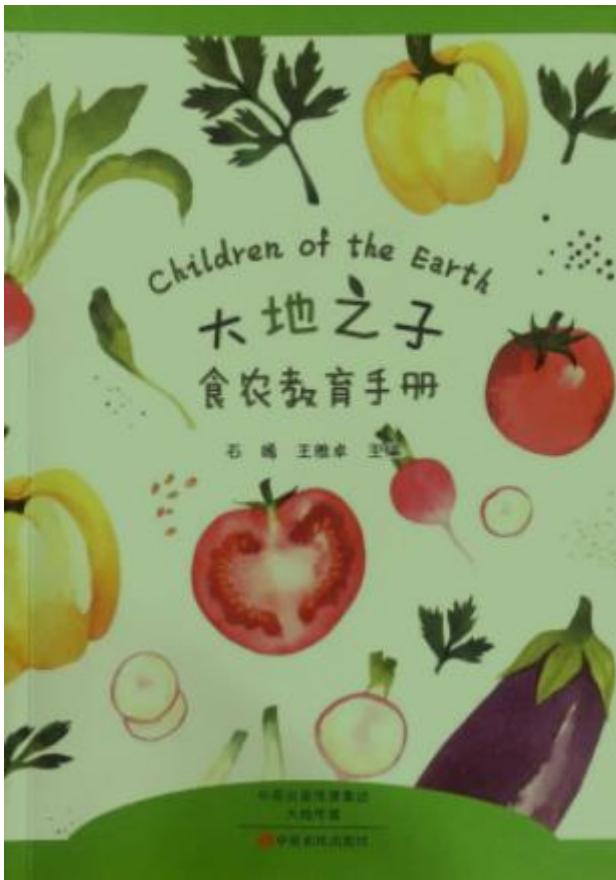
We focus on promoting community supported agriculture model and encourage young people to return to the countryside to practice organic agriculture.

By making food education in agriculture an important entry point, we hope to spread the “eat locally, eat in season” ideology to more families and collaborate with more schools and campus to add food education to their curriculum.

**Suggested readings and/or references:**

<http://www.fxshcsa.com>

**Image 1:**



'Children of the Earth: Food and Agriculture Education Handbook' written by Dr Shi Yan, Ms Wang Yazhuo

Image 2:



'Summer Camp of 2019 at Shared Harvest Farm'

## EDUCATION 1: At school, 8/09/2021, 9:00

OWC2020-CUL-364 (EDU-1)

### ORGANIC FARMING AT SCHOOL

Florent GUHL<sup>\*1</sup>, Anne BASSET<sup>2</sup>

<sup>1</sup>director, <sup>2</sup>Agence BIO, MONTREUIL, France

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**Targeted audience:** Policy makers (including institutions, local authorities and territories)

**Keywords:** awareness, children, kit, school

**Summary:** Agence BIO, tasked with communicating on organic farming, has been developing tools intended for use by teachers and institutions to raise awareness of, and provide information on organic agriculture and its products for a young audience.

The teaching kit, intended for teachers and pupils in school years 5 to 7 (ages 9-12), is based on Sustainable Development science and education programmes, in line with the learning fundamentals defined by the French Ministry of National Education. It aims to provide an introduction of a way of growing crops, farming livestock and processing food that takes account of the environment, animal welfare and biodiversity. Alongside this kit, Agence BIO is the organizer of the “Junior Organic Reporters” competition. It also distributes a school catering activity kit.

Excellent feedback from teachers has bolstered Agence BIO’s plans to develop teaching resources. Versions for pre-school and year 1 and years 8 to 10 (ages 12 to 15) are under consideration.

**Background:** Since 2004, French school study programmes, especially those in the life and earth sciences and history/geography, have taken into account environmental education with a focus on sustainable development. Against the backdrop of the United Nations’ Agenda 2030 Sustainable Development Goals, a new phase for a roll-out in environmental education was launched in September 2019.

Agence BIO, pursuing its core communication tasks on organic farming, is developing resources for teachers and pupils to raise children’s level of awareness and information on organic farming and its products from the very earliest ages.

Distributed free of charge on request, the teaching kit is intended for pupils in years 5 to 7 (4<sup>th</sup> to 6<sup>th</sup> grades – ages 9 to 12) and their teachers with the aim of introducing them to a way of growing crops, farming livestock and processing food that takes into account the environment, animal welfare and biodiversity.

**Core messages and conclusions:** The teaching kit has been designed and authored by a team of teachers in collaboration with the French Ministry of Agriculture and Food, organic farming professionals and the Canopé network (home to the national centre of excellence for education on sustainable development working to a remit defined by the Directorate-General for Schools, DGESCO, at the Ministry of National Education) in order to guarantee compatibility between its content and the learning fundamentals defined in the teaching programmes of France’s Ministry of National Education.

It comprises a 16-page accompanying guide for use by the teacher, 7 pages of activities on topics relating to organic farms, organic livestock farming, production of organic products and seasonality, in addition to three posters (organic farms, organic products and seasonality).

The “Junior Organic Reporters” competition, which has been running for eight years, is the final component in this approach to awareness-raising. The competition is intended for groups of pupils in years 3 to 6 (2<sup>nd</sup> to 5<sup>th</sup> grades – ages 7 to 11), supervised by a teacher or teaching assistant, the aim being to work on a journalistic report on organic farming, thus promoting awareness of the benefits of organic. It sets out to raise the awareness of pupils to food that is protective of the environment and encourages them to explore organic farming while at the same time calling upon their skills in written and oral expression and the plastic arts, alongside experimentation with journalism in print or video forms.

To conclude, the final component of these awareness-raising resources for school use is a canteen activity kit. This includes fun/educational leaflets for children, a poster, a decorative streamer, a shelf wobbler and an organic chart for school catering staff, the aim being to start or to step up programmes for the inclusion of organic products on school menus.

The satisfaction questionnaires are highly positive on the use of this resource and over 95% of users would recommend it to colleagues.

Almost 90% of respondents also point out that the kit can be supplemented by additional awareness-raising events such as visits to farms, organic meals, group activities, etc.

Over 25,000 kits were distributed between 2009 and 2017, plus 3,100 copies in 2019.

Encouraged by these good results, Agence BIO now plans to develop new resources for use in the pre-school context and for pupils in initial secondary education. In addition, it is working with the Canopé network in connection with the forum on resources for sustainable development education jointly organized by France’s Ministries of National Education and the Ecological and Inclusive Transition. Agence BIO has also been approached to provide support to national education inspectors responsible for high school reform in years 12 and 13 (11<sup>th</sup> and 12<sup>th</sup> grades – ages 16 to 18) in order to develop skills in document research and scientific analysis on a “Feeding the World” theme.

#### **Suggested readings and/or references:**

some videos <https://www.youtube.com/watch?v=rs3dk248hhI>

to download the kit : <https://www.agencebio.org/outils/?public=enseignant-animateur#main>

The "Junior Organic Reporter" : <https://www.agencebio.org/2019/09/18/les-petits-reporters-du-bio/>

<https://www.agencebio.org/profil/enseignant-ou-animateur/actions-et-ressources-a-destination-du-monde-educatif/>

## **OWC2020-CUL-1482 (EDU-1)**

### **ECO-LAB' ENVIRONNEMENT**

Natacha Sire<sup>1</sup> Christophe Minnaar<sup>2</sup>

<sup>1</sup>Association, Avignon, <sup>2</sup> Consultant, Vaucluse, France

**Targeted audience:** Advisors, extension services (including transition support), Trade (incl. retailers) / fair trade, Consumers (and citizens), Certification bodies / Participatory guarantee systems, Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** CSR, Education, environment, local development, school

**Summary:** The "ECO-Lab' Environnement" association wants to facilitate the link between schools, environmental education associations and companies interested in participating in local and environmental development. We have developed a tool called the "resource guide" on the Vaucluse. Its purpose is to promote, to give visibility to associations and to help teachers in soliciting these partners. We had the chance to meet an organic food company which was in the process of Corporate Social Responsibility and, as part of its « Bio Entreprise Durable » Synabio's Label, had the opportunity to finance local development. We have worked together on a partnership allowing us to:

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- capitalize on "corporate sponsorship" to finance environmental education actions in schools,
- support this company in achieving its Corporate Social Responsibility objectives in terms of training and awareness-raising for its employees and local anchoring.

**Background:** With "ECO-Lab' Environnement", we started from the observation that our children had not been given many proposals for environmental education at school. Some teachers were poorly informed about the educational and environmental awareness structures in their territory. At the same time and paradoxically, environmental education associations (specialists in this field) found themselves in financial difficulty because of their associative model. They depend on subsidies; subsidies are decreasing and actors in this field have difficulty maintaining all their actions towards schools. In addition, schools have limited means for financing the interventions of associations.

**Core messages and conclusions:** Today, the company is becoming aware of its environmental impact and is committed to Sustainable Development processes. Because of Corporate Social Responsibility, we have a framework that values good social, environmental and economic practices. Now, it is possible to link economic success and sustainable development, environmental commitment and support for local initiatives. With the "ECO-Lab' Environment" interface, we implement with the companies involved in their territory, the new missions of them. We participate in the virtuous orientations of organizations that wish to have an impact on their environmental context. The topics concerned are wide-ranging: organic agriculture, biodiversity, water and air quality, pollution, renewable energies, eco-actions, climate change, food, health, waste, recycling, etc. These topics concern and impact the production of agri-food companies and require consideration to educate citizens in nature protection and responsible purchasing. Today, we hope that other territories, based on this same model, will be able to set up partnerships with local environmental education networks. We need our actions to be supported by new partners, to create links between our associative world and the business world. We have much to contribute to each other. Together we can act to engage our society in the transition to a sustainable planet. Schools are a powerful tool for transforming societies, organic companies have values and the ability to implement this transformation through commitments to support the main actors in environmental education and sustainable development.

**OWC2020-CUL-913 (EDU-1)**

# ADDRESSING MALNUTRITION THROUGH SCHOOL NUTRITION PROGRAMME IN MOUNTAIN AGRO ECOSYSTEM: A CASE FROM MUGU, NEPAL

Chetana Malla Shahi\*<sup>1</sup>

<sup>1</sup>Rural Service Provider of Nutrition in Mountain Agro - ecosystems (NMA) project/Helvetas Nepal, Women Upliftment and Awareness Centre (WUAC)-Mugu, Nepal, Mugu Nepal, Nepal

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**Targeted audience:** Farmers, Advisors, extension services (including transition support), Food (non food) processors, Trade (incl. retailers) / fair trade, Consumers (and citizens), Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** School Nutrition Garden, Nutrition Sensitive Agriculture, Education, Mugu Nepal

**Summary:** For extension and adoption of knowledge and skills about nutrition and nutrition sensitive agriculture, school is an important and one of the most appropriate platforms. Theoretical and practical knowledge and skills that imparted to students had been reflected in their household level and ultimately in community level in large. It had been supported in evidence-based policy advocacy to incorporate nutrition sensitive agriculture (NSA) related curricula at local level, in particular and ultimately in national level. Campaigning for the better health and nutrition of children community a micro project has been implementing about school nutrition since 2016 in Mugu. With the initiative of NMA project we have been able to formulate local curriculum on NSA for the students and it's being taught in the schools. Its replication also at household level with initiated to diversify their agricultural production and consumption in their daily diet and improve their food habit.

**Background:** Most of the children are suffering from malnutrition in the rural community by consuming the junk food and inorganic agro-commodity. The increasing number of children suffering from malnutrition had seen critical especially in the rural community of Mugu district. In context of promotion of nutrition specific interventions, nutrition promotion through schools greatly supports in changing their behavior and communication of people on NSA. The major problem identified were lack of knowledge about the nutrition and agriculture. Lack of open discussion about the nutrition education with family. Lack of curriculum about and nutrition education in the school level and lack of technology and knowledge about seasonal and offseason cultivation etc. The community people of Chhayanath Municipality of Mugu cultivated of tobacco rather fruits and vegetables. Non consumption of dairy products due to superstition and cultural taboos are the problem faced by the rural community.

**Core messages and conclusions:** The practical education on nutrition garden has been highly effective that 13 schools have been implementing the curriculum and Municipality has declared NSA as optional subject for all the 44 schools within the Chhayanatha Rara Municipality. The school nutrition program has been complementing with School Meal Program of Government of Nepal hence there is huge anticipation from local government and spill-over effect among the adjoining municipalities.

This micro project had been emphasized on three aspects: a) give theoretical and practical knowledge, information and skill on NSA to the students, b) facilitate replication of this knowledge and practice at household level, and c) develop course on nutrition sensitive agriculture and incorporate it into local curricula. Some steps have been taken to make sustainable nutrition garden like one home one nutrition garden, in household level organic production, school nutrition education, conservation of local indigenous varieties, awareness

programme etc. With this respect, students were being regularly coached on NSA. Based on theoretical knowledge, they demonstrate it in school. Nursery establishment of seasonal and off-season vegetable crops and its cultivation, tomato production under poly-house, fruit orchard, drip irrigation had some of the major agricultural technologies that practiced and demonstrated by students. Information and knowledge on NSA also imparted through different types of educational contests. To encourage the students, agricultural products produced by themselves has provided as an award. The schools also arranged exposure visit for students in other schools, farmers' field, and agriculture resource centre. This event has supported in disseminating and exchanging knowledge and skill among students and teachers.

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To facilitate replication of knowledge and skill about NSA in household level, guardian of the students was supported different agricultural inputs and technical advice in collaboration with other stakeholders. The guardians have been established homestead garden, adopted water harvesting technologies. Agricultural products produced by the students and guardians are also demonstrated in different events to disseminate its nutritional value. Student's agricultural products are also consumed in school food programme to discourage junk food. Regarding mainstreaming NSA in local curricula, the school resource persons and inspectors have prepared and taught through their respective resource centers.

**Suggested readings and/or references:**

<https://www.organicwithoutboundaries.bio/2019/02/06/nutrition-sensitive-agriculture/maan.ifoam.bio>

Image 1:



Image 2:



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OWC2020-FAR-1068 (Pitch/poster EDU-1)

## NUTRITION FRIENDLY MODEL COMMUNITY CHILD CARE CENTER ESTABLISHMENT AND OPERATION: A CASE FROM DUNGESHWOR, DAILEKH DISTRICT, NEPAL

Soma K. Napit<sup>\*1</sup>

<sup>1</sup>*National Manager, Nutrition in Mountain Agro – ecosystems (NMA), Helvetas Swiss Intercooperation Nepal, Lalitpur, Nepal*

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Food (non food) processors, Trade (incl. retailers) / fair trade, Consumers (and citizens), Certification bodies / Participatory guarantee systems, Teachers, trainers, Students, Researchers, Policy makers (including institutions, local authorities and territories), NGO representatives, Cook chiefs, restaurants and collective catering; **Contributing as** an advisor.

**Keywords:** Nutrition, Child care centre, Nutrition Sensitive Agriculture, Diversified food, Nepal

**Summary:** In Nepal, most of the women are responsible to perform reproductive activities. In many rural areas, this represents a huge burden. Added to agricultural activities, there is little or no time for anything else, such as involving in public activities and conducting an activity to earn money and maintain their own health and food system. With this context, Helvetas Nepal implementing Scaling Up Nutrition Sensitive Agricultural Interventions through a project to improve the livelihoods of women, children under five years old and small holders' farmers in Nepal. Project emphasis to consume more diverse diets containing sufficient, safe and nutritious food. To improve the nutrition status of the children between the age of 1-3 years project being facilitated to established nutrition-friendly model community child care center and supported to improve nutrition status of newly borne children, mothers and adolescent girls and boys an about 500 households in Dailekh district.

**Background:** Food, agriculture, nutrition and rural development are at the heart of the Sustainable Development Goals (SDGs) however nutrition continues to be a central health, economic and development challenge. Nepal also faces malnutrition problem where more than one third children under age of five suffer from stunting that has serious and irreversible consequences. Poor, women, children and marginalized communities have been victimized by malnutrition due to the lack of nutritious food. Such bad impacts have straight relation with local productions and access of these communities over them. Inline with this mostly women are primary responsible to take care of children and elderly and agricultural activities. When the children are left alone in their home, they can't get good food on time. Rather if they could be cared in the centre, they get nutritious foods too. The concept of child care centre has expected to reduce women work burden and improve the health of children and their families.

**Core messages and conclusions:** Despite considerable social change in recent years, Nepalese society remains hierarchical, with women, experiencing systematic discrimination. Religious and socio – cultural beliefs, value and norms, mean women generally have limited access to or control over political, economic and public life. Due to women's engagement in reproductive activities they were limit their role to engage in other economic and political sphere. In this regard, in the rural communities there are many families who must leave their children at home while they are in work. Even pregnant, lactating mothers and mothers of children between the age 1-3 years have work daily to earn their lives. As a result, nutrition status of both mothers and children deteriorates, and children become stunted, wasted and underweight as well as anemic. To reduce such problem NMA project has been implementing a Scaling Up Nutrition Sensitive Agriculture Interventions (SUNSAIs), with established two Child Care Centres at Dailekh. The children come from a variety of background primarily from poor family. The Child Care Centres provide a safe and loving environment for the children who benefit from a basic fundamental education, nutritious food and healthcare. This SUNSAI has been established coordination with local government; identified solutions have included a children's creche funded by a local municipality, labor – saving agricultural tools and small business initiatives. Beside these enhance public relations to raise nutrition awareness and motivate people to consume more diverse and sustainable diets. SUNSAI playing a role in caring these children at centre and involve their mothers in productive work and manage expenses of care centre from those families as well. Children guardian also via 'guardian alphabet' supported in production and consumption of diversified foods along with enhancing awareness level.

To facilitate replication of knowledge and skill about Nutrition Sensitive Agriculture, guardian of the children was supported different agricultural inputs and technical advice in collaboration with local stakeholders. The guardians have been established homestead garden, adopted water harvesting technologies and poultry and cattle management. Guardian also supported child care centre to carry their fresh production like green vegetables, other seasonal vegetables etc. To operation the centre recently local government allocated 5000\$ for this fiscal year 2018/19. These child care centres are highly effective and ownership taken by municipality to upscale this programme in other area also. This programme also motivated national stakeholders to engage in nutrition sensitive agriculture policy setting based on evidence and learning of SUNSAI.

#### Suggested readings and/or references:

<https://maan.infoam.bio/display/NEP/3.2+SUNSAI+Theme+II%3A+Child+care+centre+and+nutrition>

<https://www.helvetas.org/en/switzerland/what-we-do/how-we-work/our-projects/asia/nepal/nepal-gesi>

Project doc. Nutrition in Mountain Agro - ecosystems (NMA) project

Image 1:



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Image 2:



## **A LUNCH HAS CHANGED TAIWAN: FROM ORGANIC SCHOOL LUNCH TO FOOD AND AGRICULTURE EDUCATION**

Jun-Jie Zeng<sup>1</sup>,

Representative of New Taipei City Government<sup>\*2</sup>

<sup>1</sup>*Agriculture*, <sup>2</sup>*Local Government , New Taipei City, Taiwan*

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**Targeted audience:** Farmers, Food (non food) processors, Researchers, Policy makers (including institutions, local authorities and territories)

**Keywords:** contractual farming, local authorities, organic agriculture, organic school lunch

**Summary:** New Taipei City Government has launched the “Organic School Lunch” policy for primary and secondary schools since 2012, allowing schoolchildren to eat organic vegetables once a week, and the other four days to eat traceable vegetables. The increased demand for organic vegetables not only led the trend of organic farming in Taiwan, but also gave rise to the re-cultivation of unused farmland and the change from conventional to organic farming. Since the policy took effect, the production of organic agricultural products in Taiwan has increased by 15 times. It may be said that “a lunch has changed Taiwan”. Up to now, a total of 653 schools, public child care services and kindergartens have participated, and 360,000 schoolchildren have benefited. The volume of organic vegetables consumed per week amounts to about 39 metric tons.

**Background:** New Taipei City is surrounded by sea and has varied terrain. It is a large city with a population of 4 million. The agricultural land area is 25,203.83 hectares, and the population engaged in agriculture is 108,886. Due to the food safety issues in the past, organic agriculture has become one of the most important policies of New Taipei City. Through the increasing consuming ability of urban population, the Agriculture Department created marketing channels at first, driving supply with demand, and encouraging farmers to invest in organic agriculture.

**Core messages and conclusions:** New Taipei City Government cooperates with 10 counties across Taiwan, and under contract with 190 farmers and eight suppliers. The total contract area is 430 hectares. At the same time, New Taipei City Government helped the New Taipei City Fruit and Vegetable Marketing Company and privately owned businesses to set up two full-scale organic food cutting plants to independently process organic ingredients, emphasizing that "the whole process is organic and the whole plant is organic", and each production line can process 700 kilograms of organic vegetables per hour.

The “Organic School Lunch” policy has driven the growth of organic agriculture in Taiwan and brought considerable income to organic farmers. A 1.6 hectare farm which can bring an organic farmer an average annual income of about \$150,000, of which 36% comes from New Taipei City; farm with an area of 0.8 hectares still can bring an average annual income of nearly \$60,000.

This policy has also ensured the food safety of campus. Schoolchildren eat organic vegetables once a week, and on the other four days they have traceable vegetables. In addition to organic vegetables, organic rice was also introduced into school lunch in 2019. On the other hand, New Taipei City Government gradually added the number of self-sustaining kitchens in campus to provide the freshest vegetables and to reduce transportation costs. Among the 653 primary and secondary schools, 94 schools have self-supporting kitchens, and it is expected that another 11

self-supporting kitchens will be built before 2022. Besides the improvement in hardware, the school has also developed a new curriculum to teach children to know the local, seasonal ingredients, and to cultivate children's recognition of land and organic agriculture.

Nowadays, with the trend “Organic 3.0”, PGS has been implemented to promote the “Eco-friendly Farming Project” in New Taipei city, so that more and more citizens can participate in organic agriculture. The area of eco-friendly agricultural land has reached 191.5 hectares this year. In the future, New Taipei City Government will continue to enhance organic literacy and promote organic lifestyle from both school education and social education.

**Suggested readings and/or references:**

Wu, R. P., Wang, L. S. and Yang, Y. Y. (Eds.) (2018). A LUNCH HAS CHANGED TAIWAN. New Taipei City, Greenland CO., LTD.

New Taipei City Government. (2019). ADMINISTRATIVE ACHIEVEMENT. Retrieved October 21, 2019, <https://wedit.ntpc.gov.tw/New/index.html#> .





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## EDUCATION 2: Transition to organic/agroecological practices 8/09/2021, 15:30

OWC2020-CUL-354 (EDU-2)

### IDENTIFY AND CAPITALIZE ON ORGANIC FARMING INFORMATION: THE FRENCH RESOURCE CENTER SPECIALIZING IN ORGANIC FARMING AS AN INSPIRATION SOURCE FOR OTHER COUNTRIES

Sophie Valleix<sup>\* 1</sup>

<sup>1</sup>ABioDoc, VetAgro Sup, LEMPDES, France

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Consumers (and citizens), Teachers, trainers, Students, Researchers, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** dissemination, documentation, information storage, organic farming, resources centre

**Summary:** ABioDoc is the organic farming resource centre, a VetAgro Sup's department and commissioned by the Ministry of Agriculture. Its missions are the documentary watch, processing and dissemination of information relating to organic farming. ABioDoc works in consultation with stakeholders interested in organic agriculture to improve the management of knowledge related to this sector.

ABioDoc's tools and services include:

- The Biobase documentary database containing more than 37,000 references, freely accessible;
- A current monthly bibliographical review, Biopresse, with information on all aspects of organic and sustainable agriculture;
- A weekly, free News Feed resulting from the aggregation of automatically sorted flows from the press;
- Specialized newsletters on a particular production, sector or theme;

- A question-and-answer service to order personalized bibliographic lists, documents photocopies, loans of books...;
- On-site reception, with access to the entire documentary collection.

**Background:** A lot of information is produced in connection with organic farming. Each actor involved in organic farming strives to keep up to date with the latest news or techniques and to keep the most important information. However, when the amount of data increases, it becomes difficult to find your way around without well-organized storage. This is why it is important to have, at the scale of a territory, an organized storage space, common to all and available to everyone. Moreover, while research publications are well indexed, this is not the case for grey literature, articles in technical journals, technical sheets, farmers' testimonies, etc. These documents are also often published in the national language, better understood by people on the ground. It is also important to propose this capitalization of knowledge in the language or in the form understood by as many actors as possible in the territory.

**Core messages and conclusions:** Access to organic farming knowledge is essential to remove the obstacles to the development of this mode of production and to disseminate its techniques, which are generally more respectful of the environment and human health. Farmers and technicians must be informed of ways to remove technical barriers and improve production (seed production, crop associations, better adapted varieties, etc.), teachers must have figures and testimonies, distributors must know market trends, etc. However, this knowledge must be easily accessible, which means adapting to your local context (Internet access, language, form of media, etc.). Through the tools and developments of ABioDoc, in consultation with organic partners, the objective is to give participants of the congress ideas on what could be implemented in their territory.

For example, ABioDoc creates new tools to adapt to the needs and demands of these partners:

- New thematic newsletters,
- Creation of virtual shelves that are based on predefined documentary queries and allow Internet users to easily find what they are looking for in the Biobase documentary database,
- Creation of a collaborative monitoring tool where each actor can submit a document, accompanied by a summary and distribution rights if they have them,
- Completion of complex bibliographic compilations,

- Implementation of training in the use of the Biobase to help those who are not familiar with the documentary databases,

- Collaboration with other documentation centres as well as with other documentary databases such as Organic eprints,

- Etc.

**Suggested readings and/or references:** ABioDoc's website: <http://www.abiodoc.com/>

ABioDoc's Biobase: <https://abiodoc.docressources.fr/>

Partners' website talking about ABioDoc:

<http://www.fnab.org/se-former-sinformer/contacts-utiles/76-abiodoc-centre-national-de-ressources-en-agriculture-biologique>

[http://www.itab.asso.fr/publications/local\\_index.php](http://www.itab.asso.fr/publications/local_index.php)

[https://www6.inra.fr/comite\\_agriculture\\_biologique/Ou-trouver-une-info](https://www6.inra.fr/comite_agriculture_biologique/Ou-trouver-une-info)

<http://cdr.labioenlimousin.info/?p=431>

<https://www.cetab.org/biobase>

<https://bioreferences.bioetclic.org/autres-ressources/>

## WHICH PEDAGOGICAL APPROACH AT MASTER LEVEL TO ENABLE FUTURE STAKEHOLDERS OF ANIMAL FOOD CHAIN TO ACT FOR ORGANIC TRANSITION?

Justine Faure<sup>\* 1</sup>, Maire-Emmanuelle Blanchard<sup>1</sup>, Flament Jocelyne<sup>1</sup>, Anne-Lise Jacquot<sup>1</sup>, Maryline Kouba<sup>1</sup>, Yannick Le Cozler<sup>1</sup>, Clara Lombard<sup>1</sup>, Vanessa Lollivier<sup>1</sup>, Pierre-Guy Marnet<sup>1</sup>, Perrine Roussel<sup>1</sup>, Lucile Montagne<sup>1</sup>

<sup>1</sup>Agrocampus Ouest, Rennes, France

**Targeted audience:** Teachers, trainers, Students, Researchers, Policy makers (including institutions, local authorities and territories)

**Keywords:** livestock farming, organic transition, pedagogical activities, student skills

**Summary:** As a teaching team in animal science at AGROCAMPUS OUEST, awareness of the need to support master's students knowledge and know-how in a diversity of livestock farming systems and food chains is essential. In our collective pedagogical approach, we ensure that the principles of organic farming are implemented throughout the cursus. Students develop their theoretical and practical knowledge of organic specifications through meetings with stakeholders in organic animal production chain, and in depth during individual and collective projects associated with national and European partners. Thus principles of organic farming are integrated into a wide range of complementary activities at AGROCAMPUS OUEST. By a learning by doing approach, we promote skills needed to manage the complexity of organic systems. Applications and adaptation of knowledge enhances student's upcoming professional integration for the organic transition.

**Background:** Transition from conventional to organic farming system implies to develop skills at each step of the food chain, from technical to management positions. To fulfil the increasing demand on new skills for students, education needs to adapt rapidly. About 40 students get their master degree in animal science and production each year at Agrocampus Ouest. They are aware of on-going social and environmental concerns, for a sustainable planet. Organic farming includes ethical, environmental values, and depends on specific regulatory constraints. It also requires to better understand the complexity of biological systems (animal, vegetal), and the interaction between systems. All these components make organic livestock farming system a key case study for transition of all systems toward more sustainability.

Our aim is to illustrate and discuss some pedagogical approaches used in Master cursus dealing with animal sciences at Agrocampus Ouest by and/or on organic farming.

**Core messages and conclusions:** Beside to scientific and technical knowledge, essential skills to support transitions are ability to analyze the complexity of life and adoption of multi-actor approaches, adaptability and innovation. Master program in Agrocampus Ouest deals with the main animal species (pigs, poultry, large and small ruminants) in a diversity of production systems and food chains. It includes basics on animal welfare and health, use of antibiotic, feed and energy autonomy, reduction of environmental impacts. But important aspects such as trade-off between production and services, social and human acceptability, biodiversity, agroecological principles, added-value and marketing strategies for the product are also considered. Organic specification of farming systems and principles of sustainable development are always actively included in our program. Implications of stakeholders in courses, exchanges

on know-how within farms, discussions with experts and/or visits facilitate the integration of knowledge from systemic and interdisciplinary approaches at the animal, farm, food chain and territories levels. These interactions are possible thanks to the importance of livestock production in Brittany and the close presence of stakeholders. As an example, students meet and conduct interviews with actors (farmers, processors, governance...) to understand strengths and weaknesses of the French pork meat chain to cope with the foreseen increase of organic production and products.

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We also developed problem-based learning activities included in national or European projects. As an example, a group of 6 students is implied in the H2020-816172 program PPilow for Poultry and Pig Low Input and Organic production systems' Welfare Pilow. They make an inventory of animal welfare practices in organic and low input outdoor pig production systems in collaboration with INRA scientists and European partners. Such learning by doing approach gives opportunities for appropriation of challenges facing to animal production and products, for testing creative and participatory methods. This also allows student to develop network in organic food chain and enhance their upcoming professional integration.

In conclusion, our pedagogical approach integrates the organic model throughout the three years of master cursus in a diversity of individual or collective learning activities. The young graduates have skills for integrating the principles of organic production to implement the transition in all farming systems and food chains.

#### **OWC2020-CUL-879 (EDU-2)**

### **UNDERSTANDING THE ENDOGENOUS AND EXOGENOUS AGRICULTURAL PRACTICES AND THE LEVEL OF CONFORMITY OF PRACTICES WITH ORGANIC STANDARDS: NEED FOR TRAINING**

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<sup>1</sup>*Agricultural Extension and Rural Development, University of Ibadan, Ibadan*, <sup>2</sup>*Agricultural Economics and Extension, Nnamdi Azikiwe University, Awka, Nigeria*

**Targeted audience:** Farmers, Advisors, extension services (including transition support)

**Keywords:** awareness, organic standards, training, exogenous, endogenous practices, farmers.

**Summary:** The degree to which farmers' agricultural practices in conform to the Organic Agriculture Standards (OAS) is yet to be extensively ascertained. This study determined the correlation between the use of endogenous and exogenous agricultural practices and the level of conformity with organic standards and the need for enhanced training. A five-stage sampling procedure was used to randomly select Benue and Niger, Anambra, Ebonyi, Ekiti and Oyo states from the selected zones as a case study. Farmers were proportionately selected from the communities to give 310 respondents. Conformity with organic agriculture standard was low for both crop and livestock farmers. There is need for more straining of farmers on organic principle, standards and certification of farmers and professionals. Concerted effort must be made by all stakeholders in food choices and through agricultural value chain to facilitate the spread of organic agriculture standard and enforce conformity for sustainable food system.

**Background:** Some of the imported agro-inputs (exogenous) have generated a lot of concerns due to the misuse, and low conformity with safety standards. Organic agriculture seems to offers a wide range of food security, economic, environmental and social benefits, builds on and keeps

alive farmers' rich heritage of traditional knowledge and traditional agricultural varieties. Studies on indigenous practices presented it as synonymous with organic agriculture practices, with less consideration on its conformity with OAS (Olanrewaju, Meludu, Yekinni and Adeoluwa 2019). There is growing interest and demand for organic products in the world, and there is limited record on conformity of these agricultural practices based on OAS in developing countries (Olanrewaju, Meludu, Yekinni, and Adeoluwa 2019). Thus, the need to explore and document safe agricultural practices, which are in conformity with the OAS in African and Nigeria in particular due to practices of most farmers in developing countries.

**Core messages and conclusions:** The use of indigenous materials is still very high in organic system. The use of wood ash indigenous practice was higher in South west zone (34.7) than North Central (28.3) and South east (20.7), respectively. The use of neem extract was also higher in South west zone as well as multiple cropping than the other zones. This corroborates with the report of Eze and Echezona (2012) and Meludu and Adesina (2014) that majority of the farmers in African and Asia use some indigenous practices like neem extracts, wild tobacco, wood ash, and chilli to control and repel pest. Crop rotation and poultry manure ranked highest as the most used endogenous practices for soil fertility management. A situation faced by some farmers in Africa, Omari, Bellingrath-Kimura, Addo, Oikawa and Fujii (2018) who due to low access to agrochemicals, use indigenous inputs as supplement. The livestock farmers identified used of endogenous as most frequently practiced across the zones as follows; neem extract, scent leave extract and ground pawpaw seeds. This agrees with the findings of Eze *et al.* (2012) that African farmers use plant extracts for manage livestock ailments. Result suggests that Carbendazim (0.67), Mancozeb (0.47) and Metalaxyl (0.29) were the major fungicides used by respondents in the study area. Monocrotophos and DDVP have been classified as highly hazardous, Paraquat, Glyphosate, Chloryrifos and lindane as moderately hazardous while Fluazifop-P butyl as obsolete (NAFDAC 2016; WHO, 2009). The finding could also be attributed as noted by Mokwunye, Babalola, Ndagi, Idrisu, Mokwunye, and Asogwa (2012) and National Social Safety Nets Coordinating Office (NASSCO, 2016) that poor monitoring of farmers and agro inputs by regulatory bodies underscores the danger inherent in the misuse of agrochemical, due to low knowledge on its hazardous effects (WHO, 2009). There was significant relationship ( $r=0.114$ ,  $p=0.044$ ) between the respondents' endogenous agricultural practices and compliance with OAS. The implication is that some of the practices of the respondents could be leveraged upon for conversion to organic agriculture practices, through awareness, training and effective engagement of extension service providers. There was no significant correlation ( $r=0.025$ ,  $p=0.663$ ) between the respondents use of exogenous agricultural practices and compliance with standard organic standard. Although, there was significant difference ( $F=6.23$ ,  $p=0.002$ ) in conformity with organic agriculture standards across the zones. This variance could be traced to the level of organic agriculture awareness and promotions in the different zones. The practice of low external inputs does not by any means considered the agricultural practices of farmers as conforming to OAS. Concerted effort should be made by all stakeholders in agricultural value chain to facilitate utilization of and conformity OAS for transitioning towards organic and sustainable food systems and maximize the economic opportunities at local, regional and intercontinental markets and food security.

#### Suggested readings and/or references:

Eze S.C and B. C Echezona 2012. Agricultural pest control programmes, food security and safety, African Journal of Food, Agriculture, Nutrition and Development. Vol. 12 No. 5. 55-61

Food and Agriculture Organization (FAO) 2018. Small family farms country factsheet.  
<http://www.fao.org/3/i9930en/i9930en.pdf>. 1-2.

Meludu, N. T and Adesina J.B, 2014. Bridging the Gap between Old and New Technology: Consideration of Indigenous Knowledge in Maize Pest Management Practices in Nigeria. *Building Organic Bridges Vol. 3. Proceedings of the ISOFAR Scientific Conference at the Organic World Congress* 851-857

Olanrewaju, P. O., Meludu, N. T., Yekinni, O. T. and Adeoluwa, O. O. (2019): Assessment of Traditional Agricultural Practices in Nigeria for Possible Conversion to Organic Agriculture Production System. *African Journal of Organic Agriculture and Ecology (AJOAE)* Volume 1, pp 31-38, 275-281.

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## **OWC2020-CUL-1221 (EDU-2)**

### **CONVERSION IN EDUCATION TOWARDS AN AGROECOLOGICAL APPROACH**

Paola Migliorini\* <sup>1</sup>, Charlotte Prelorentzos<sup>1</sup>, Natalia Rastorgueva<sup>1</sup>, Geir Hofgaard Lieblein<sup>2</sup>

<sup>1</sup>University of Gastronomic Science, BRA, Italy, <sup>2</sup>Department of Plant Sciences, Faculty of Biosciences Norwegian University of Life Sciences, Ås, Norway

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Consumers (and citizens), Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** experiential learning, higher education, Participatory approach,

**Summary:** Conversion in farming requires conversion in education – from a conventional input-output mode to an organic, circular mode. We need to go through this conversion in organic education as well, and not just merely have an input substitution approach (shifting literature on fertilization from mineral to organic fertilizer, etc.) Several European Universities already have implemented conversion in education. Due to different backgrounds (country context, educational approach, etc.), University of Gastronomic Science will present the experience at Bachelor and Master level for Innovative methods of teaching/learning for organic agriculture within the NEXTFOOD educational approach.

**Background:** Contemporary higher education is considered as tool for dissemination of organic practices and initiatives as well as for increasing awareness of the young consumers. However, in order to be efficient, the education needs new approaches, such as experiential learning. University of Gastronomic Sciences, partner of the NEXTFOOD project, implements the new education model based on case action research to develop relevant and effective education and training programmes.

Core messages and conclusions: Crucial transition to more sustainable and competitive agrifood and forestry systems development by designing and implementing education and training systems to prepare budding or already practicing professionals with competencies to push the agroecological shift in our rapidly changing society.

How practice-oriented research can be improved in order to achieve better collaboration between universities and society, to make more innovative agrifood and forestry systems, and to develop progressive agrifood community ready to tackle complex sustainability challenges of the 21st century.

The overall aim of NEXTFOOD is an Innovative European science and education roadmap for sustainable agriculture along the value chain from research via fabrication into application. To reach the aim of NEXTFOOD, six objectives need to be met reflected in its six scientific corresponding work packages. The project includes a specific part of the design, construction, utilization, exploitation and dissemination of the platform and the knowledge created in the project.

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#### Suggested readings and/or references:

<https://www.nextfood-project.eu>

Migliorini, P., & Lieblein, G. (2016). Facilitating Transformation and Competence Development in Sustainable Agriculture University Education: An Experiential and Action Oriented Approach. *Sustainability*, 8(12), 1243.

Kahl J, Strassner C, Migliorini P (2018). INTRODUCTION. In: (Ed): Carola Strassner, A SUSTAINABLE FOOD SYSTEMS GUIDE. p. 6-8, CC BY-NC-SA 4.0

[http://susplus.eu/wpcontent/uploads/2019/02/SUSPLUS\\_O2\\_Booklet.pdf](http://susplus.eu/wpcontent/uploads/2019/02/SUSPLUS_O2_Booklet.pdf)

#### OWC2020-CUL-1356 (Pitch/poster-EDU-2))

### COMMUNITY-BASED RESPONSIBLE TRAVEL LINKS WITH ORGANIC FARMERS INITIATIVES IN CRETE, GREECE

Nikki Rose<sup>\*1</sup>

<sup>1</sup>Founder and Director, Crete's Culinary Sanctuaries Educational Network, Heraklion, Crete, Greece

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Food (non food) processors, Trade (incl. retailers) / fair trade, Consumers (and citizens), Teachers, trainers, Students, Researchers, Policy makers (including institutions, local authorities and territories), Cook chiefs, restaurants and collective catering

**Keywords:** educational travel, agritourism, responsible travel, nutrition, Mediterranean Diet, Green Jobs, cultural heritage preservation, environmental protection, Crete, Greece

**Summary:** The benefits of Community-Based Responsible Travel are discussed as a way for communities to help preserve their distinctive cultural and natural heritage. Since 1997, CCS founder, Nikki Rose, has supported the efforts of more than 50 small businesses and individuals working on action programs to preserve Crete's heritage. Rose formed a network of organic farmers, artisan producers, chefs, lodge owners, archaeologists, historians, nature conservationists and many other residents to collaborate on a range of dynamic educational programs. By rekindling resident and visitor interest in culture and nature, Responsible Travel can simultaneously help sustain communities, encourage expansion of green jobs and organic agriculture, and create extraordinary experiential learning opportunities.

**Background:** Crete is blessed with a fascinating history spanning more than four thousand years, natural beauty and an abundance of healthy food choices, both wild and cultivated. There is much to discover and enjoy. There is also much to protect. Beyond the seaside resorts and imposing limestone cliffs are people working hard to sustain heritage and preferred way of life - sustainable organic farmers, artisan bread bakers, beekeepers, chefs, ecologists, and many others. They are maintaining what most of us have lost touch with – a connection between their

community and nature. Their knowledge of sustainable living practices is beneficial to the global community. Many people around the world are striving to “return to the land,” while many people in rural Crete have never left the land. But modern society beckons and rural communities are often abandoned or developed. CCS seminar attendees have a rare opportunity to discover the heart of Crete and knowledge that can enrich their lives.

**Core messages and conclusions:** CCS tailors small-group seminars in harmony with the seasons, cultural and environmental impacts to serve a dual purpose – to support local preservation work and share those benefits with visitors. We link organic farmers with other members of the community and tourists through our educational programs; staying in locally-owned lodges in villages; providing free training and referral services; global promotion of their projects; sharing seminar revenues (in contrast with standard tourism practices).

The premise of the Mediterranean Diet originated in Crete after World War II. The basic findings were that some people in Crete lived long, healthy lives because of what they ate (and did not eat) during those very hard times. There was no laboratory food, chemical agriculture or mass tourism yet. The only option was organic fresh and local food.

Crete’s Culinary Sanctuaries (CCS) introduces visitors to residents like Yiorgos, who maintains his small family farm much like his ancestors, using sustainable organic methods. He refuses to buy food from outside sources and even collects salt from a rocky beach nearby. “The chicken I eat must first dine at my house,” he says.

CCS offers our seminar attendees the opportunity to experience our culture beyond generic tourist resorts. Before we eat bread, we meet farmers to see how grains are cultivated. Before we sample olive oil, we meet the farmers at their groves and factories. Before we sample Crete’s vast array of traditional vegetable dishes, we meet organic farmers, heirloom seed savers, botanists and chefs to discover Crete’s rich biodiversity. Many wild plants are used in cooking and natural medicine, which we discover during hikes in the countryside and cooking demonstrations.

Tourism and agriculture are primary industries in Crete. The majority of tourism planners support generic services, such as large beach resorts and imported continental food. Both industries compete for increasingly scarce natural resources. CCS emphasizes the benefits of educational travel via the window of traditional food ways. As agriculture is an integral part of Crete’s culture, our programs center on the work of organic farmers and interrelated preservation work to serve several purposes at once.

Many travelers benefit from community-based preservation work. CCS acts as a gateway for communities to expand or create their own programs. We invite residents from varied backgrounds to participate in our programs. By collaborating with communities, initiatives stretch beyond one region. Communities maintain their way of life as they choose, rather than altering it to suit an outsider’s vision of foreign travel. Careful consideration, strong alliances and outreach are required to sustain these programs for generations to come.

**Suggested readings and/or references:** [www.cookingincrete.com](http://www.cookingincrete.com) (includes links to YouTube Channel)

National Geographic Center for Sustainable Destinations, Articles by Nikki Rose.

The Routledge Handbook of Sustainable Food and Gastronomy

Cambridge Scholars, Meeting the Challenges of Climate Change to Tourism

CCS in United Nations World Tourism Organization, International Year for Sustainable Tourism

CCS in United Nations Convention on Biological Diversity

Food Tank, Interview with CCS Founder Nikki Rose. [FoodTank.com](http://FoodTank.com)

Archaeological Institute of America, Interview with CCS Founder Nikki Rose.

CCS in Tourism Concern Ethical Travel Guide

Lonely Planet, Crete

The Jungle Affect

The New Agritourism

Crete: The Roots of the Mediterranean Diet (Author, Nikki Rose)

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### **OWC2020-CUL-1211 (Pitch/poster, EDU-2)**

## **MAKING LIFESTYLE CHANGES THAT LAST FOR THE FUTURE OF ORGANIC FARMING AND THE PLANET**

Golo Joachim Pilz<sup>\*1</sup>

<sup>1</sup>Brahma Kumaris, Frankfurt, Germany

**Targeted audience:** Farmers, Consumers (and citizens), Teachers, trainers, Students, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** heightened awareness, inner transformation, interconnectedness, lifestyle change, meditation, paradigm shift

**Summary:** An effective response to climate change and loss of biodiversity depends on overcoming inner and outer barriers and returning to a natural relationship of harmony with nature and farming. The author will examine how to initiate the needed behavioural changes to shift towards organic farming and a holistic economic model. He will point out that a change in awareness and habits will help to build the momentum needed to overcome the current predicament.

**Background:** The current threat to our environment must be met by human collaboration on an unprecedented scale, both in the inner dimension of consciousness and in the outer dimension of action. However, if we respond solely through coordinated action, we lose an historic opportunity: A challenge of this epochal scale needs to be faced by developing an inner coordination and a sense of interconnectedness. International agreements alone will not be enough. The Brahma Kumaris Environment Initiative have set up a number of ongoing initiatives that work by aligning awareness with action. These include yogic farming – Sustainable Yogic Agriculture - whereby farmers harness the power of meditation, with organic farming techniques. This has brought real social, economic and environmental change to their communities. Such subtle alignment of thought and awareness, expressed as mindful action, is deeply practical, grounded in the universal principles that are constantly at work in all of nature.

### **Core messages and conclusions:**

It is now widely acknowledged that to sustain agricultural production, healthy environment and viable farming communities, there must be a 'systems' approach to agriculture. Sustainable agriculture must incorporate traditional knowledge and organic agriculture that links ecology, culture, economics and society. Sustainable Yogic Agriculture does this by utilizing a systems-wide approach, recognizing all elements of farming: humans, animals and birds, flying and crawling insects, micro-organisms, seed, vegetation and surrounding ecosystems, and the natural elements of sun, soil, air, water and space.

Local and indigenous communities are being motivated to return to traditional forms of agriculture, whilst adapting these methods to their environment and social circumstances. Environmental collapse will not be halted and biodiversity not protected unless we address the deeper problems of humanity that rest at the level of attitude and associated behavior. The goal of Yogic farming is to create more resilient farmers and societies, whilst supporting sustainable agrarian practices and strengthening vulnerable communities.

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At the core of Brahma Kumaris' work is the understanding of the connection between our consciousness, thoughts and actions, and their impact on the world. It has been seen that long-lasting change in any social or environmental system starts with a profound shift in the minds and hearts of people. The current environmental crisis is therefore a clear call to transform our awareness and lifestyle.

In particular we highlight the importance of a **Sustainable Lifestyle**: Adopting a non-materialistic lifestyle and increasing the use of clean energy saves the planet's resources and brings greater well-being to the society. **Meditation**: Spending time in silent reflection or meditation helps us to connect with nature and our deeper values and find the strength to live by them, enabling us to be more mindful of the impact of our choices. Recognizing the uniqueness, wonder and beauty of my own nature, enables me to treat all living beings with consideration and care.

**Diet:** Vegetarian/Vegan food, cooked with love, nourishes our whole being and brings inner clarity. It contributes to the health and future of the planet by reducing our carbon footprint.

Believing in non-violence and a sustainable future, I naturally choose to eat locally-sourced, organic fruit and vegetables whenever possible.

**Peaceful Living:** Promoting and living by the principles of universal peace can lead to less violent conflicts and wars, thus enabling vast resources to be redirected to creating a healthy and sustainable society.

#### **Suggested readings and/or references:**

Yogic agriculture reaping awards in India, by Dr Tamsin Ramsey

<https://old.eco.brahmakumaris.org/images/yogic%20agriculture/Yogic%20farming%20reaping%20awards%20in%20India-Rio20.pdf>

System Approach to Agriculture, by Dr Tamsin Ramsey

<https://old.eco.brahmakumaris.org/images/yogic%20agriculture/LEISA-India-DEC-2012.pdf>

Joachim Golo Pilz: International Speaking Engagements

2010 Mexico COP16: Inner dimensions of climate change.

2010 Mauritius Green Earth Campaign: Confluence of two living systems.

2011 South Africa - COP17: Use of renewable energy for a better future in India.

2012 Rio +20, Brazil: Resilience and adaption.

2012 Qatar COP18: Protecting our atmosphere.

2013 Poland COP19: Global justice, equity and sustainability.

2014 Peru COP20: Ethics at the heart of climate change.

2015 France COP21: The role of ethics and human awareness in climate change solutions.

2016 Kenya UNEA 2: Exploring the role of faith-based communities.

2016 Morocco COP22: Innovative, clean technology and the new mindset.

2017 Germany COP23: Visionary leadership for transition to a sustainable future.

2018 Egypt COP14 on Biodiversity: Care and compassion for safeguarding biodiversity.

2018 Poland COP24: Making lifestyle changes that lasts.

2019 Kenya UN Environment Assembly 4: Speaker via video lifestyle changes based on values and ethics.

**Image 1:**



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**OWC2020-CUL-1388 (Pitch/poster, EDU-2)**

## **MODEL OF SOCIAL APPROPRIATION OF KNOWLEDGE TO PROMOTE ECOLOGICAL FARMING SYSTEMS**

Jaime F. Cruz<sup>\* 1</sup>, Gustavo Ruiz<sup>2</sup> and Colciencias and Asogansucré

<sup>1</sup>Veterinary Faculty, Antonio Nariño University, Bogotá, <sup>2</sup>Veterinary Faculty, Antonio Nariño University, Popayán, Colombia

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Teachers, trainers, Students, Researchers, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** education, institutional integration, traditional knowledge

**Summary:** Through a knowledge dialogue and training processes, a solution to an environmental and productive problem generated by illicit crops and poor agricultural practices implemented in a community affected by multiple social problems in an Andean province south of Colombia. The identification of the problem and the desire to develop the productive and environmental project arises from the producers, who receive the support of the academic community of Antonio Nariño University and the financing of the state to support them. The project is successful thanks to the social appropriation of knowledge and they manage to generate agroforestry systems in 50 farms in the municipality and mitigate the effects of environmental damage generated in recent decades.

**Background:** Sucre is a municipality located in southern Colombia, with a complex social problem generated by illicit crops and illegal armed groups that acted in its territory. The illicit crops generated severe deforestation processes with consequences on the environment and with effects on the availability of the water resource and the biodiversity of the region. The education and the work with the farmers built a solution using the tree as the main element. Thus, through the development of agroforestry systems, the construction of 2 biological

corridors and strategic reforestation around river, the community decided to change their reality and its environment.

**Core messages and conclusions:** The farmers of the municipality of Sucre carried out the implementation of agroforestry systems. These have as advantages in its implementation the increase in the carbon deposits of the soil, the increase in the efficiency of the recycling of excreta reducing the losses of nitrogen into the atmosphere, and the decrease in methane emissions due to greater rumen efficiency. This positively impacts the environment and is an effective measure as climate change mitigators. 38,940 trees were planted for SSP and 25,500 more trees in 2 biological corridors and reforestation processes in streams and strategic areas of the microbasin. In the training and community work activities, the community's commitment to the project was denoted. The technical support of the University group facilitated the construction and appropriation of the solution. It is estimated that 2 years after sowing, notable results of the SSPs can be seen. Livestock farmers must make reseeding to replace the mortality of trees that can amount to 25% during that period. With respect to social appropriation and sustainability, the dialogue of knowledge between community and group, social mapping, and the account of experiences were generated as methodologies. The community participated in different activities: Recognition workshops in the region using social mapping and silvo-pastoral systems and a course on organic farming. The children and youth of the community participated in the processes through literary and environmental activities. A graphic record of the development of the project was made. The community evaluated the social, environmental and productive impact the project had, and has been concerned that producers in neighbouring municipalities carry out projects like them. The community seeks financial support to advance a second phase of the project related to the transformation and commercialization of its products.

**Suggested readings and/or references:**

Video: Recuperando el agua y la vida. Available in: <https://youtu.be/t8wTMeNFJ9Y>

Web site: Recuperando el agua y la vida a través del silvopastoreo. Available in:  
<http://www.ideasparaelscambio.gov.co/reto/modelo-para-la-recuperaci%C3%B3n-ambiental-de-la-microcuencia-del-r%C3%ADo-mazamorras-partir-de-la>

JAIMÉ FABIAN CRUZ, JORGE ENRIQUE ALMANSA, MILENA URIBE, GERMAN LEON,  
Elementos para una ganadería ecológica en el municipio de Sucre (Cauca). Colciencias. UAN.  
2017. ISBN 978-958-8687-74-2



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## **BUILDING BRIDGES BETWEEN ORGANIC AND INTEGRATED PEST MANAGEMENT**

Brian Baker<sup>\* 1</sup>

*<sup>1</sup>Crop and Soil Science, Oregon State University, Corvallis, United States*

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**Targeted audience:** Farmers, Advisors, extension services (including transition support), Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories); **contributing as** an advisor

**Keywords:** Biological Control, Integrated Pest Management, Organic Farming Systems

**Summary:** Resilient and sustainable approaches are needed to minimize crop yield losses resulting from pest activity and reduce impacts of pest management on human health and the environment. Organic agriculture and Integrated Pest Management (IPM) both implement biological approaches, albeit in different contexts. Barriers to greater adoption of biological control include many of the same barriers to adopting IPM techniques or transitioning to organic. Improved understanding of the mutual benefits of organic and IPM, shared goals and priorities, and opportunities to accelerate adoption of biological approaches can potentially overcome these barriers. Increased education and extension on proven biological control options; full cost and benefit accounting for biologically-based alternatives; and policies to encourage biological control and reduce reliance on chemical controls can benefit both the organic and IPM communities through collaboration on common interests and goals.

**Background:** Both Integrated Pest Management (IPM) and organic agriculture offer approaches that reduce reliance on pesticides. Biological control is an ecologically sound opportunity in both organic and conventional farming systems and is a key element of IPM, a decision-making process and suite of science-based tactics used in both systems.

Organic and IPM overlap, but the two are not congruent. In much of the world, “organic” is a legally protected word that has a set of standards based on practices that use biologically based approaches to fertility and pest management for crop production. IPM has multiple definitions including “a decision-based process involving coordinated use of multiple tactics for optimizing the control of all classes of pests (insects, pathogens, weeds, vertebrates) in an ecologically and economically sound manner”. Many successful organic farmers practiced IPM and biological control before transitioning as well. Therefore, organic agriculture and IPM have much in common.

**Core messages and conclusions:** IPM and organic are compatible approaches to agricultural production that both rely upon biological control as one tool for producers to use. Both reduce pesticide use, risks and adverse impacts. Collaboration among those who work with the two sets of practices can make progress towards the adoption of solutions to production challenges that would include biological control.

Collaboration between organic and IPM communities can help advance biological control and address common priorities and goals. Organic and IPM both utilize a systems approach to crop protection, using inputs as a complementary, rather than primary, tactic for pest management. Without support for effective and economically viable alternatives to conventional pesticides and herbicides, the balance between this systems approach and input-based models will continue to challenge organic and IPM producers.

- a. Increased public and private support for long-term interdisciplinary research that are relevant to both organic and IPM systems;
- b. Expansion of outreach and collaboration between IPM and organic proponents, with compensation to farmers who provide ecosystem services such as augmentative releases of natural enemies and provision of natural habitat for natural enemies;
- c. Elimination of subsidies and supports that reward unsustainable practices that encourage inefficient applications of pesticides and other farm chemicals; and
- d. Enhanced incentives to develop, formulate, market and sell more options for biological pest control that can be used by both organic and IPM producers.

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Producers and researchers need to overcome their historic reluctance to work together outside of their respective approaches. Whatever differences remain, all stand to benefit from working together for a sustainable and regenerative food system.

**Suggested readings and/or references:** Baker, B.P., Green, T.A, and Loker, A. J. Loker. 2020. Biological control and integrated pest management in organic and conventional systems, *Biological Control* 140. <https://doi.org/10.1016/j.biocontrol.2019.104095>.

## EDUCATION 3: Development of sensibility - 8/09/2021, 15:30

OWC2020-CUL-1305 (EDU-3)

### NEW METHODS OF PERCEIVING AND ASSESSING THE QUALITY OF FOOD

Christine Sutter\* 1

1Adventa-Initiative, Herrischried, Germany

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Food (non food) processors, Consumers (and citizens), Certification bodies / Participatory guarantee systems, Teachers, trainers, Students, Researchers, Cook chiefs, restaurants and collective catering

**Keywords:** consumers ability, food quality, life agent, new approach, perceptual skills

**Summary:** New methods have been developed that enable people to experience clear differences in quality of food through training in perceptual skills. By examining food using an increased mental concentration and directed attention, most people nowadays can clearly perceive and describe the difference between a strengthening and a less supportive or even weakening food. In a blind test, people usually clearly choose a food that comes from organic or biodynamic cultivation, or at least from healthy soils and seeds on the basis of their inner experience.

So people can nowadays be taught to become more aware of the quality of the food they eat or produce and can consciously experience it. This new awareness can lead them to spontaneously choose higher quality, mostly organic or biodynamic food and to take more responsibility for their environment.

**Background:** The quality of food is determined by people - both producers and consumers - via the presence of potentially health-promoting ingredients, by their taste, their aesthetics or their stability, for fruit and vegetables. In addition, organic or biodynamic cultivation should ensure the absence of toxicologically relevant pesticides and the maintenance of healthy soils, to which people attach increasing importance. Finally, the social level with fair trade chains is important.

But what constitutes the property of a food to be an agent of life, is that it nourishes, strengthens and builds up organisms. This quality is more difficult to explore. The nutrient quality of foods is usually investigated and differentiated in complex analyses and can only be carried out for some foods. There are hardly any other methods that have this ability.

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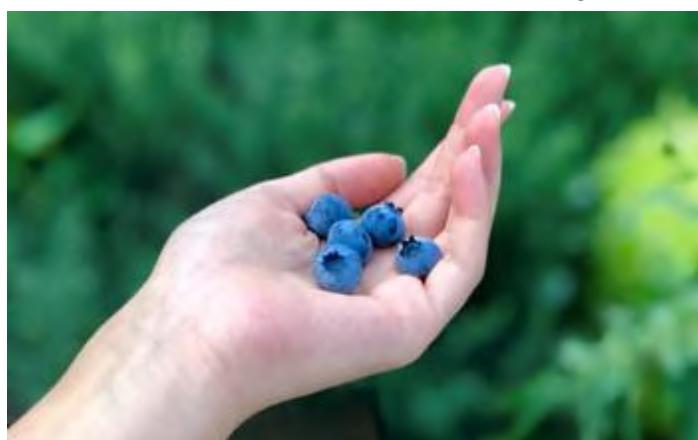
#### Core messages and conclusions:

In recent years, however, methods have been developed that enable people to experience clear differences in quality through training in perceptual skills. The research of life forces, for example, is a method that has been developed 1998 by Dorian Schmidt, researcher at the "Institut fuer biologisch-dynamische Forschung" in Darmstadt, Germany. It is described in his book "Life forces- Formative forces", 2013. It needs the development and use of organs of perception that extend beyond the ordinary senses, undertaken in a rigorously scientific mode, that is, in a conscious realm of critical reflection and thinking. In-depth scrutiny of the specific nature of critical thinking, in fact, is precisely what cultivates necessary progress in this domain. Thus we can broaden our perceptual capacities to encompass a hitherto generally unknown or unperceived level of living formative forces. So by examining food using an increased mental concentration and directed attention, most people nowadays can clearly perceive and describe the difference between a strengthening and a less supportive or even weakening food. In a blind test, people usually clearly choose, on the basis of their inner experience, a food that comes from organic or biodynamic cultivation, or at least from healthy soils and seeds.

This perception of quality can be described, reproduced and objectified. Dr. Uwe Geier has published initial studies that employ a similar though more psychological approach<sup>1</sup>.

#### Suggested readings and/or references:

Geier U, Hermann I, Mittag K, Buchecker K. First steps in the development of a psychological test on the effects of food on mental well-being. *J Sci Food Agric.* (2012); 92 (14):2753–6



## **APPROACHING LANDSCAPE THROUGH GOETHEAN PHENOMENOLOGY IN THE CONTEXT OF BIODYNAMIC FARMING TRAINING**

Jean-Michel Florin<sup>\*</sup> <sup>1</sup>

<sup>1</sup>*Education, MABD, colmar, France*

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**Targeted audience:** Farmers, Advisors, extension services (including transition support), Certification bodies / Participatory guarantee systems, Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** Biodynamic farming, landscape design, Phenomenology, training, transdisciplinary

**Summary:** In order to approach biodynamic farming, we have developed a landscape course that aims to allow future farmers to form conscious pictures of a given landscape and its transformations in space and time and leads to a living picture of the landscape's specific characteristics. This requires a holistic approach that doesn't involve only the head, but also the heart (the feelings) and the hands (the will). Such an approach will change the way farmers interact with landscape so that their activities will no longer be destructive (killing weeds, killing parasites) but creative in a healthy way.

Further, this approach helps farmers to carry out individual and progressive landscape management on the farm, which is seen as a « living organism ».

This paper is built in three parts:

1. The need of a training in landscape management in farming trainings
2. Goethean phenomenology applied to landscape
3. Pedagogical application in a professional farming training.

**Background:** For a long time, farmers were intimately linked, through their daily activity, to nature and to the life processes in the environment. Since the last century, farming practices have become less and less linked to the soil for different reasons: increasing mechanization, theoretical farming training, change of way of life. Today, it is mostly criterions that do not belong to the agriculture sphere (economy, politics, fashion, etc.) that shape and influence the farmer's decisions regarding production and agriculture management. This leads to an increasing damage of rural landscapes upon which it is not necessary to range over: damage of many landscape elements such as hedges, line of trees, biodiversity, traditional constructions as well as "small patrimony". How can we allow farmers to discover their daily landscape, the place where all their activity take place, and create intimate and conscious links with it so that landscape can be in the background of all practical decision making?

**Core messages and conclusions: A training in landscape management in the context of farming education?**

For organic and biodynamic farming that aim to collaborate actively with nature, a diversified landscape, reflecting environmental conditions and history, is the basis of farming practices.

Management of a rural landscape cannot only be based on quantitative data or formal esthetic criterions. To observe the landscape as a living unity, we use the phenomenological approach of landscape to complement the technical and "analytical" study of the farm, by adding a study of

the “qualities” of the landscape. It is a “global” approach based on sensitive observations that tend to apprehend the specific character of landscape.

### **Goal of a training in landscape and “farm organism”**

The main goal of a global approach of landscape is to form conscious representations of the landscape and its transformation in space and time. These representations should then form a “living picture” of Genius loci of the place. One should be able to present and share this picture with other people.

In practice, this means that this approach does not aim to produce fixed rules of landscape care and management. On the contrary, it is more about defining the specific nature of the place and to help the farmer to know the specific character of the landscape in the most conscious way. Considering the farm as a living unit enables the farmer to evolve toward a global management. The ideal situation would be when the farmer makes every decision concerning landscape with the whole picture of his landscape in mind. By doing so, his farm will gradually become a farm organism with a diversified inner unity and even goes toward an “individualization”.

### **Steps in the training:**

- To realize the nature and the importance of landscape
- Learn to use a step by step methodology based on phenomenological active perception that allow the student to “meet” and to create a personal relationship with a given landscape
- To discover the global character, the genius of the place (Genius loci)
- Understand the consequences of the farmer decisions’ on landscape, and envision the answers that a farmer can bring in order to better manage the landscape.

This course about landscape and the farm as an organism is 5 days long mostly outside. So step by step the students build a relationship with the place. At the end, the students give an “artistic” performance out of their observations and work. This is often a very special moment with original ideas and performances where the farmers and the neighbours are invited.

### **Conclusions**

Farmers play a very important role in the future development of landscape. But their “education” on this topic is very poor.

The goal of such a training method is to intensify their relationship to nature and create a fundamental respect for the integrity of nature.

This requires a holistic approach that doesn’t involve only the head, but also the heart (the feelings) and the hands (the will).

### **Suggested readings and/or references:**

Bockemühl, Jochen (ed.) (1992). *Awakening to landscape*. Dornach.

Hurter Ueli (ed.) La biodynamie, une agriculture pour l’avenir. Actes sud 2019.

Javelle Aurélie (ed.) Les relations homme-nature dans la transition agroécologique. L’Harmattan. 2016

Pedroli, B. & J.D. Van Mansvelt (2006): *Landscape and awareness-raising, training and education*. In: Landscape and sustainable development: challenges of the European Landscape Convention. Council of Europe Publishing, Strasbourg, pp. 119-140.

Pedroli, Bas (ed.) (2000). *Landscape – Our Home*. Stuttgart: Freies Geistesleben.

Steiner R. (1924) Agricultural course

Van Mansvelt, J.D. & B. Pedroli (2005): *The role of training and education of landscape architects, in view of the links between landscape and agriculture*. Proceedings of the Seminar "The role of training in the implementation of the policy of sustainable spatial development in Europe". 15 March 2005, Strasbourg, Council of Europe, pp. 60-67.

### **OWC2020-CUL-1168 (EDU-3)**

## **COMBINING PERSONAL AND SPIRITUAL DEVELOPMENT WITH A PRACTICAL APPROACH TO TRANSFORM AGENTS OF CHANGE IN BIODYNAMIC AGRICULTURE**

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**Targeted audience:** Farmers, Advisors, extension services (including transition support), Teachers, trainers, Students, NGO representatives

**Keywords:** BIODYNAMIC AGRICULTURE, Capacity Development, Innovative methods, Spiritual science

**Summary:** The Diplomate on Biodynamic Agriculture is an initiative of ABD PERU in alliance and with the support of Demeter International and the Section of Agriculture of the Goetheanum. Inspired on the experience of the Academy of IFOAM Organics International (Organic Leadership Course – OLC) and the Latin-American experience of more than 30 years of biodynamic agriculture courses in several modalities; ABD Peru launches through its Academy, the Diplomate on Biodynamic Agriculture.

The Diplomate, was successfully organized with a Latin American call and implemented in 11 months, consisting in 3 face-to-face phases, 10 webinars, coaching for a boots-in-the-ground development plan that should be already implemented by the graduation date.

The Diplomate succeed in empowering agents of change to implement biodynamic initiatives, making visible and tangible their individual talents to serve their own communities and territories beyond their own private or particular biodynamic projects and interests.

**Background:** In Latin American many biodynamic courses were launched, and even more organic and agroecological trainings has been and still are offered to a wide range of organic stakeholders. The difference with this Diplomate is that two qualities were considered to design the content and the pedagogical tools.

From one side, the technical and subtle aspects of biodynamic agriculture and the practical tools of organic and agroecological methods, but also the spiritual aspects and the principles of Waldorf Education.

With the increasing number of biodynamic projects in Latin America, the need to offer an opportunity to be holistically educated and trained in biodynamics, with its spiritual dimension and not only as a other technique, was a need that this initiative is covering.

It is a self-funding and self-sustained initiative, bringing autonomy and sustainability to be replicated wherever a strong and experienced human resource exist to lead the impulse.

**Core messages and conclusions:**

- 28 participants from 7 different countries (Dominican Republic, Mexico, Ecuador, Colombia, Peru, Brazil, Chile) empowered and gained an holistic understanding with practical tools to design and implement biodynamic initiatives.
- The different pedagogic methods and tools applied allowed an inclusive method to understand, reflect and act regarding the content of the curriculum (syllabus). The technical contents such as agroecological/organic/biodynamic complements with anthroposophic methods based on Waldorf Education. e.g. Eurythmy, Music, Hand-made activities, Drawing, Singing. By this way, the diversity of the learning process is considered for all individuals who are themselves diverse, academically speaking but also culturally speaking.
- If the educational process would have a technical agroecological approach as it has been for decades, the individuals would have the tools but would lack the appropriate sensitivity to act. If the process would be holistic sensitive, the individuals would have the sensitivity but would lack the right concrete and practical tools. The challenge of the Diplomate was to unite both trends or approaches in a single one achieving good results.
- Besides the development of individual skills for biodynamic agriculture, an important result of the process is that an action network is strengthened where all participants regard each other as a family member to cooperate and support regardless if they compete in the international market with the same or similar products.

#### Suggested readings and/or references:

Rene Piamonte, is an agronomist, MSc Horticulture, PhD Social Sciences, and is Demeter advisor for more than 20 projects in Latin America for a wide range of biodynamic products such as banana, coffee, sugar, viticulture, ginger, turmeric, aromatic herbs, etc. He is a promoter and founder of all biodynamic associations in Latin America.

<https://www.demeter.net/sites/default/files/bdadvisory-01-19.pdf>

Patricia Flores, is a forester, MSc Resource Management, and currently is the Latin American representative and coordinator for IFOAM Organics International in Latin America. She is leader trainer of the Academy of IFOAM Organics International.

ABD PERU is the national association of biodynamic agriculture, member of IBDA, International Biodynamic Association, and IFOAM Organics International.



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OWC2020-CUL-1199 (EDU-3)

## NOETIC AGROECOLOGY: DEVELOPING FARMER INTUITION AND ECOFLUENCY FOR MORE HOLISTIC DECISION MAKING AND RESILIENT AGROECOSYSTEMS

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<sup>1</sup>Centre for Complex Systems in Transition, Stellenbosch University, Stellenbosch, South Africa,

<sup>2</sup>Department of Conservation Ecology and Entomology, Stellenbosch University, <sup>3</sup>Centre for Agroecology, Water and Resilience, Coventry University, Coventry, United Kingdom,

<sup>4</sup>Organisation for Noetic Ecology, Plettenberg Bay, South Africa

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Food (non food) processors, Trade (incl. retailers) / fair trade, Consumers (and citizens), Certification bodies / Participatory guarantee systems, Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives, Cooks, chefs, restaurants and collective catering

**Keywords:** decision making, intuition, ecofluency, tacit knowledge, paradigm shift, agroecosystem resilience

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### **Summary:**

It is perhaps not surprising that many expert farmers prefer to rely on more tacit (internal, intangible) ways of knowing to inform their practical management decisions, than on the computer-based decision support tools designed through mainstream research. These tacit ways of knowing are more commonly used by farmers than is acknowledged or discussed, and often lead to decisions resulting in significant qualitative and quantitative benefits, with positive environmental outcomes. Moreover, they have helped inspire some farmers to make more customized, holistic decisions, such as converting to organic and other regenerative practices.

Two such capacities that offer not only more knowledge, but deeper and more direct knowing, are intuition (knowing from within) and ecofluency (intuitive, embodied communication with nature). They can be cultivated by each farmer, each person, using existing research-based methods and through experiential learning. This introduces noetic agroecology.

### **Background:**

To date, agricultural research to support farmer decision-making has typically taken a logical, rational approach, focused on producing explicit (external, tangible, codified) knowledge. This has yielded formal, computer-based tools that aim to model agroecosystems and decision theory, and support practical management decision-making.

However, while such tools are useful, recent studies (e.g. Nuthall and Old, 2018) show that farmers do not adopt them as expected. Some expert farmers with more productive, efficient and healthy farming systems prefer to rely more on other, tacit (internal, intangible) ways of knowing than are generally recognised or discussed. These studies and ongoing research reveal that farmers in numerous countries use diverse ways of knowing to inform, accelerate and customize many of their decisions, that are often more holistic in nature, with significant qualitative and quantitative benefits. This deserves more attention from anybody involved in food growing.

### **Core messages and conclusions:**

Agroecology acknowledges that a fundamental paradigm shift is required for more significant changes in regenerative agriculture research and practice. But before we can decide how the new paradigm should look, we need to broaden the current paradigm's underlying epistemology (grounds for knowledge). How might such a change be put into practice?

One answer lies in exploring and including more diverse, tacit ways of knowing.

Existing and ongoing research reveals that many farmers, especially in indigenous, subsistence and small-scale systems, use different ways of knowing in practical management decision making, such as intuition, or "knowing from within".

The mechanism of intuition is not known, but the consensus in psychology and business management is that it is accurate, immediate and an inevitable part of all decisions, complementing analytic/ logical decision-making processes by providing information beyond what is available through analysis.

Similar to intuition, some farmers use ecofluency, which is the ability to “fluidly and accurately converse with more-than-human nature using the expanded spectrum of human sensory awareness”, or intuitive communication (von Diest, 2019).

The benefits gained by farmers using these abilities suggests that they deserve more attention from researchers and farmers, and practical examples will be shared in the presentation. Access to information through ‘direct knowing’ imbues farmers with agency and autonomy - different ways of knowing lead to different knowledge, and potentially novel solutions for adapting to conditions brought about by climate change, like drought. This may be particularly important for farmers who do not have access to computer-based tools.

Ongoing research shows that such abilities can be developed through existing research-based methods and through experiential learning practices, some of which will be shared in the congress workshop “Including different ways of knowing in agroecology research and practice”.

Intuition and ecofluency are explored in noetic ecology. This is a nascent field of learning born from the realization that conventional ecological science often employs approaches that inhibit the development of a wider range of tools, perspectives and felt understandings for engaging with the natural world (Zylstra et al., 2018).

It encourages embodied experience in developing a sense of ‘direct knowing’ that is meaningful to the practitioner, be they researcher, educator or farmer. It also invites personal development of the practitioner as a necessary parallel learning process.

Overlaying noetic ecology with agroecology - noetic agroecology - may help to drive the necessary paradigm shift and transform modern agriculture towards more efficient, customised practices and, ultimately, resilient farming systems. Not only does it allow access to greater knowledge, but it calls for a transformation of agriculturists in the search for deeper knowing and connection to life in all its forms.

#### **Suggested readings and/or references:**

Nuthall, P.L., and K.M. Old. 2018. Intuition, the farmers’ primary decision process. A review and analysis. *Journal of Rural Studies* 58: 28-38.

Von Diest, S.G. 2019. Could biodynamics help bridge the gap in developing farmer intuition? *Open Agriculture* 4: 391-399.

Wright, J., H. Kieft, and S.G. von Diest, 2017. Quantum-Based Agriculture: the Final Frontier? Innovative research for organic 3.0 - Volume 1: Proceedings of the scientific track at the Organic World Congress 2017, November 9-11 in Delhi, India.

Zylstra, M.J., K.J. Esler, A.T. Knight, and L.L.L. Lesley. 2018. Integrating multiple perspectives on the human-nature relationship: A reply to Fletcher 2016. *Journal of Environmental Education* 50: 1-10.

## EDUCATION 4: Training by ICT - 9/09/2021, 15:30

OWC2020-CUL-268 (EDU-4)

### CAPITALIZING, ORGANIZING AND SHARING KNOWLEDGE IN ORGANIC AGRICULTURE, FROM LOCAL TO INTERNATIONAL: A FRENCH EXAMPLE

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<sup>1</sup>ABioDoc, VetAgro Sup, <sup>2</sup>Pôle Agriculture biologique Massif central, LEMPDES, <sup>3</sup>Institut technique de l'agriculture biologique, Paris, <sup>4</sup>Atelier Paysan, Renage, France, <sup>5</sup>ICROFT, Tjele, Denmark

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**Targeted audience:** Farmers, Advisors, extension services (including transition support), Food (non food) processors, Consumers (and citizens), Teachers, trainers, Students, Researchers, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** dissemination, documentary database, knowledge capitalization, knowledge management, organic farming, partnership

**Summary:** ABioDoc, the French organic farming resource centre, is working with several partners to improve knowledge management in organic farming. The challenge is to identify and collect explicit knowledge related to organic agriculture, to classify and store it in an organized way, and to ensure the effective dissemination of this knowledge. Several actions have been undertaken: creation of a collaborative watch tool, virtual shelves on the organic documentary database Biobase, courses in the use of the Biobase and of the collaborative watch tool... Likewise, several partnership have been set up: with the French Technical Institute of Organic Agriculture and the Organic farming Massif Central center, with a self-constructed agricultural equipment cooperative in France, with Organic eprints, the European database specialized in organic farming, with a Quebecker center, with Senegalese organizations...

**Background:** Several stakeholders produce knowledge of interest to organic agriculture, but to be usable by many, it must be stored in an organized way and disseminated in the best possible way. This role is carried out by the documentary resource centres in particular. Thus, in France, there is ABioDoc, the French centre for documentary resources in organic farming, commissioned by the French Ministry of Agriculture and VetAgro Sup's department (VetAgro Sup is a higher school for teaching and research in agronomy and veterinary sciences). ABioDoc manages the only French-language documentary database specialized in organic agriculture and publishes several dissemination tools. Many other structures produce and disseminate information on organic farming in France and abroad. Collaborations between these different structures are necessary to improve knowledge management in organic agriculture.

**Core messages and conclusions:** Main messages:

- Importance of storing organic farming knowledge in an organized way;
- Example of digital tools and concrete partnerships to improve knowledge management in organic agriculture;
- An example of partnerships established with the French organic farming resource centre to inspire other language areas.

Precision on the tools created

In consultation with the Technical Institute of Organic Agriculture and the Organic farming Massif Central center, ABioDoc created a collaborative watch tool. With them, it has also created virtual shelves, which provide the results of several permanent documentary queries on the documentary database Biobase, on specific topics. These shelves allow establishing links on partner sites to increase the possibilities of access to resources for users. ABioDoc has also set up a partnership with the Atelier Paysan cooperative, which specialises in the creation of self-constructed agricultural equipment by farmers' groups, in order to ensure the capitalisation of the documents created by these groups and to increase their dissemination. Internationally, ABioDoc worked for five years with a Quebec organization, CETAB+, and try todays to establish collaborations with Senegalese partners, particularly those who manage or will manage resource centres on organic and ecological agriculture. ABioDoc has also organised, for its partners and for organic stakeholders, some training in the use of the Biobase and of the collaborative watch tool. Finally, it tests gateways with other documentary databases, such as the European Organic Eprints database.

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**Suggested readings and/or references:** Collaborative watch tool:

<http://www.abiodoc.com/espace-de-collecte>

Virtual shelves on animal husbandry:

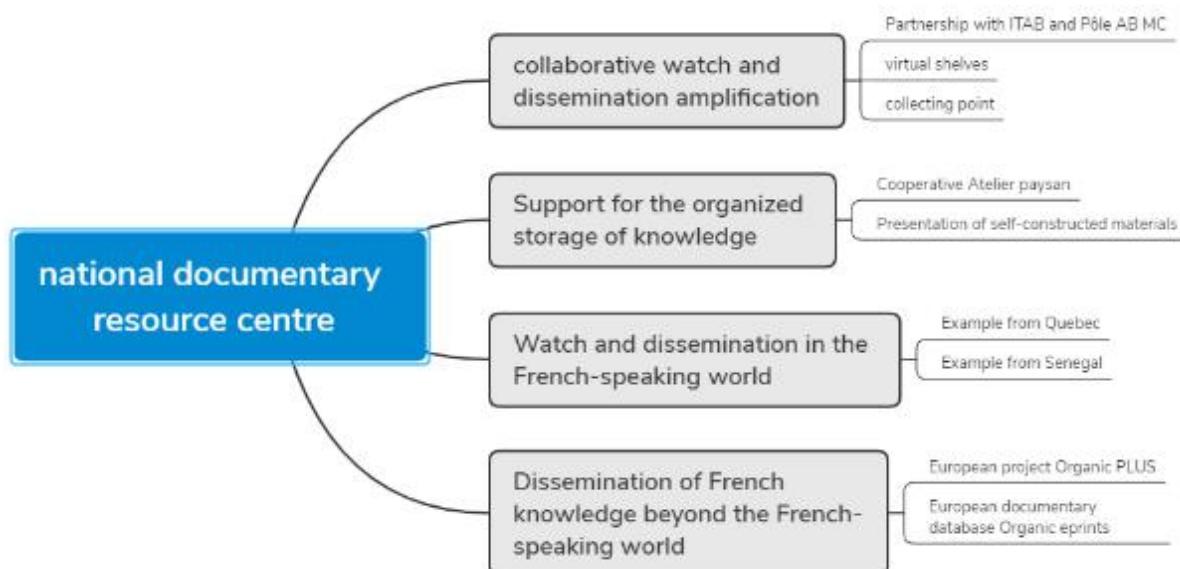
[https://abiodoc.docressources.fr/index.php?lvl=cmspage&pageid=4&id\\_eta gere=33](https://abiodoc.docressources.fr/index.php?lvl=cmspage&pageid=4&id_eta gere=33)

Partnership with Atelier Paysan: <http://www.abiodoc.com/espace-presse/partenariat-abiodoc-atelierpaysan>

Partnership with Senegal:

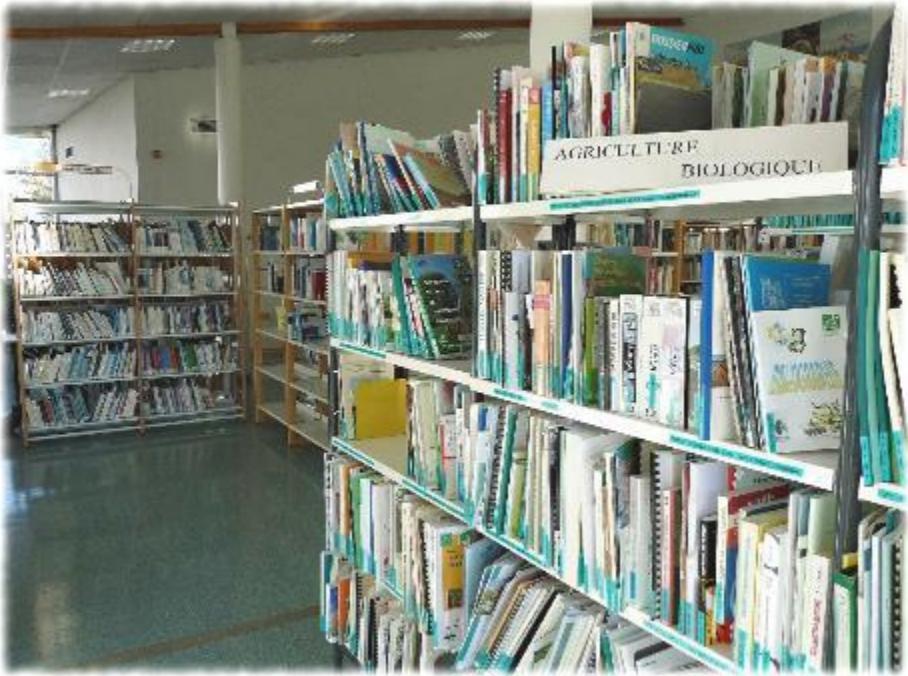
[http://www.abiodoc.com/sites/default/files/2019\\_mission\\_de\\_vetagro\\_sup\\_aupres\\_des\\_acteurs\\_bio\\_du\\_senegal\\_comm\\_press.pdf](http://www.abiodoc.com/sites/default/files/2019_mission_de_vetagro_sup_aupres_des_acteurs_bio_du_senegal_comm_press.pdf)

**Image 1:**



ABioDoc's partnership (source: Sophie Valleix)

**Image 2 :**



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ABioDoc's reading hall (source: ABioDoc)

**OWC2020-CUL-337 (EDU-4)**

## **THE LEAN PROJECT: AN ONLINE EDUCATIONAL AND TRAINING PROGRAMME IN ORGANIC AGRICULTURE FOR YOUNG EUROPEAN NEW FARMERS**

Amélie Colle<sup>1</sup>, Marie-Anne PAULIN<sup>\* 1</sup> on behalf of LEAN

<sup>1</sup>87 quai des quayries, Vertigo Lab, BORDEAUX, France

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Consumers (and citizens), Teachers, trainers, Students

**Keywords:** Case studies, Entrepreneurial Farming, Erasmus+, LEAN Farming, Organic Agriculture, Training

**Summary:** At an European scale, we are facing both a **decrease** of farming activity with old farmers and an **increase** of organic food consumption. On the other side, **youths with no agricultural background** want to settle in farming. They present a high potential to impulse a sustainable farming model: organic, entrepreneurial and inclusive. This combination of factors leads to the **LEAN project** supported by the **European Commission** through the **ERASMUS+** channel.

The aims of the project are both to provide high **quality learning modules with experience sharing** and **relevant tools** on organic agriculture for new farmers. The project is designed through the Lean Farming approach that aims to continuously improve work and maximise the added value to the farm.

Once the learning material is produced, the project will set up multiplier events to reach rural stakeholders. Having the chance to take part at the OWC is a great opportunity to share our production and get feedbacks to improve it.

**Background:** While the European agriculture is facing an ageing population with transmission issues, a new generation of farmers is rising: young people with no agricultural certification and

who are not from farming background. Those new farmers are seeking to develop a more sustainable agriculture while properly earning their lives. Thus, not only do they need technical agricultural knowledge but also economic and entrepreneurial skills.

The existing training structures propose either too long and expansive training course or too theoretical but free learning material. They also lack organic practices specificities, which mostly interest our target group. The LEAN project was designed to respond to this issue.

LEAN stands for Learning on Entrepreneurship & Agriculture for New farmers and is supported by the European Commission. The project runs from 2018 to 2020 and is managed by six European rural development actors spread in five countries (France, Germany, Poland, Italy and Lithuania).

**Core messages and conclusions:** To propose a global and inclusive educational material, the first phase of the project consisted in better knowing our target group needs and constraints. Farmers, facilitators and other stakeholders were questioned. They all validated the needs of **technical and entrepreneurial knowledge** with agricultural **network development, online availability** material and with **experience sharing**.

To respond to the demand, two main Intellectual Outputs are developed, tested and multiplied:

1. A **training programme** on agronomic and entrepreneurial skills for new farmers. The training system approach is based on the educational method called 'flipped classroom training' during which learners use the training resources on their own before engaging discussion with the facilitator. In total, **10 modules** will be available: 2 introductory ones (basic organic knowledge and practical farming design introduction), 5 technical ones (viticulture, orchard, market gardening, meadow, beekeeping), 3 entrepreneurial ones (Lean farming, Business plan, communication & marketing). Tests are also part of the programme and allow the learner to auto evaluate himself and his understanding of the modules.

2. In-depth **case studies** on agroecological and organic entrepreneurial farmers. In total, 15 case studies spread within the 5 countries analyse the farm, its **development paths**, its **business model**, the farmers' **innovative practices**, his key **success factors and tips** for the learner that he can implement for his business project idea. They will be available through a text and a presentation video.

Through the combination of online training material and case studies, the training programme offers a complete and enriching training for new farmers. The pedagogical material is **freely accessible** on an online platform where interactions between learners, facilitators, mentors and other stakeholders are encouraged. To ease the dissemination of the project to the target group, modules and case studies will be available in English, French, German, Polish, Italian and Lithuanian.

A testing phase is also planned in 2020 towards our target group to get feedbacks and improve the content and design of the modules. To be ready for next July, the training programme with the in-depth case studies will be disseminated through 2020 summer thanks to multiplier events such as the Organic World Congress.

**Suggested readings and/or references:** The modules and case studies will be freely available online through the Lean Website (<http://leanproject.eu/>) beginning in July 2020. Meanwhile, the project has a Twitter Account ([https://twitter.com/LEANproject\\_eu](https://twitter.com/LEANproject_eu)) and Facebook Page (<https://www.facebook.com/leanprojectaccount>) to follow the news and the project running.

So far, two newsletters are available on the Lean Website and include our project follow-up and achievements. A leaflet is also available in all the project languages.

**Image 1:**

**PROJECT PARTNERS**

**PROJECT INFORMATION**

Project n° 2018-1-FR01-KA202-047929  
September 2018 – September 2020  
Action Type: Strategic Partnership for vocational education and training  
@LEANproject [Facebook](https://www.facebook.com/LEANproject) [Twitter](https://www.twitter.com/LEANproject) [www.leanproject.eu](http://www.leanproject.eu)  
Contact: amelie.colle@vertigolab.eu

The LEAN project arises from the need to tackle the issue of establishment of new entrant farmers especially in organic farming

**Erasmus+**

The project has been funded with support from the European Commission. This publication reflects the views only of the author(s) and the Commission cannot be held responsible for any use which may be made of the information contained therein.

**LEAN**  
LEARNING ON ENTREPRENEURSHIP & AGRICULTURE FOR NEW FARMERS

An OER training program on organic and sustainable farming !

[www.leanproject.eu](http://www.leanproject.eu)

Erasmus+

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Image 2:



#### OWC2020-CUL-782 (EDU-4)

### PUBLIC AWARENESS OF ORGANIC AGRICULTURE: CREATION OF THE 1ST MOOC ON ORGANIC FARMING IN EUROPE

Gaëlle Marliac<sup>\*1</sup>, Stephane Bellon<sup>2</sup>, Thomas Nesme<sup>3</sup>, Josephine Peigne<sup>4</sup>, Geneviève David<sup>5</sup>, Jean-Phillipe Deguine<sup>6</sup>, Natacha Sautereau<sup>7</sup>, Eve Balard<sup>1</sup>

<sup>1</sup>VetAgro Sup, Lempdes, <sup>2</sup>inra, Avignon, <sup>3</sup>Bordeaux Sciences Agro, Bordeaux, <sup>4</sup>ISARA, Lyon,

<sup>5</sup>AgroParisTech, Paris, <sup>6</sup>Cirad, Saint-Denis, <sup>7</sup>ITAB, Avignon, France

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Consumers (and citizens), Teachers, trainers, Students, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** Diversity of Organic agriculture and paths, Online formation, Organic agriculture and territory, Organic agriculture principles, Organic agriculture production

**Summary:** Given the many sources of information available on organic agriculture (OA), it is difficult for the public to build an opinion. The first, francophone MOOC on organic farming and food (MOOC BIO) was built to provide updated information on the development status and challenges of OA and to allow as many people as possible to build an objective and informed

opinion on OA. For 8 weeks, a broad range of themes (regulation, stakeholders, history, production techniques, marketing systems and territorial development) were addressed. Almost 20,000 students have participated to the MOOC, with large international coverage, illustrating the great interest paid to OA. In addition, the organization of events around the MOOC has broadened the target audience. Through a partnership with OA stakeholders in Senegal we even reached an international dimension. For wider dissemination, translation into others languages is a perspective.

**Background:** The development and media coverage of organic farming has resulted in the wide dissemination of information on organic farming and food. Anyone can learn about organic farming by browsing the wide internet. However, the diversity in nature and quality related to this information and also controversies between researchers (See for instance the debate after the publication In Nature Searchinger et al., 2018) may lead to some confusion and misinformation for the general public. Organic farming stakeholders, citizens and consumers need to form a critical opinion on some of the issues raised by the OA: what is the right price for organic products? Are organic products better for human and environmental health? In the digital age, the MOOC BIO (Massive Open Online Course on OA) aims to support this public in building informed opinion on organic agriculture. To our knowledge, this is the first MOOC dedicated to organic agriculture, started in 2018.

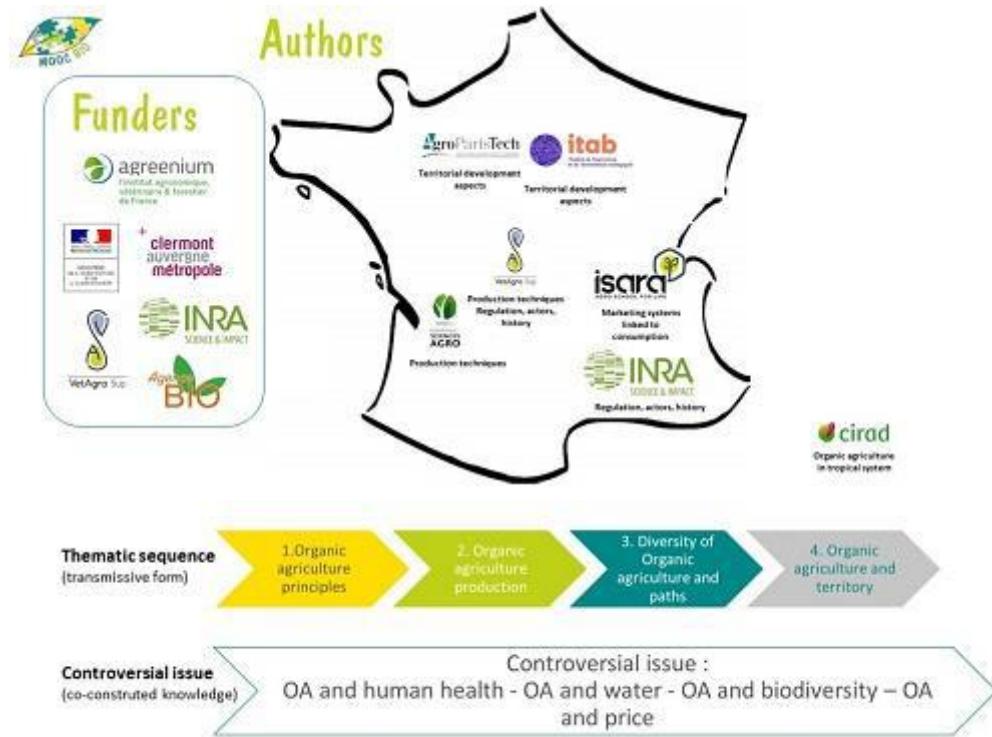
**Core messages and conclusions:** The main messages are:

- Two MOOC sessions have already unfolded in 2018 and 2019, and attracted almost 20,000 participants coming from more than 100 countries. This underlines the interest that OA represents for learners, citizens, consumers and organic farming actors.
- The MOOC addresses seven dimensions of organic agriculture, namely: regulation, stakeholders, history, production techniques, marketing systems linked to consumption and territorial development. The deepening of controversial cross-cutting issues (OA and biodiversity; OA and prices; OA and human health; OA and water), based on selected resources and promoting exchanges between registered participants (thanks to forums and collective synthesis work) enriched the participants' positioning. The learners were also led to develop a reflexive approach on the evolution of their representations of OA, between the beginning and the end of the MOOC training.
- The cross-disciplinary of this MOOC was made possible thanks to the diversity of the authors' fields of expertise (Figure1). It has led to the creation of a network around organic farming in higher education in France
- The construction of an informed opinion on learners' organic farming was built thanks to the original structure of the MOOC: a more transmitted part (although punctuated by varied activities) and another part where knowledge is co-constructed by the participants (Figure 2).
- This online training also includes meetings in France (between MOOC participants and organic farming actors) via surveys that participants carried out or via events organized by MOOC authors.
- The dissemination of the knowledge developed in the MOOC has also reached a wider audience through events organised by the MOOC's designers: Interventions with high school students ("Fête de la science" event), the resources produced have also been used in face-to-face training for future agricultural engineers in France.
- International collaborations (with actors of agroecology in Senegal and with the CIRAD) enable us to propose resources outside the European context.

-A further perspective is to translate this MOOC into several languages (English and Spanish) for the next sessions in order to increase its international visibility

#### Suggested readings and/or references:

<https://www.fun-mooc.fr/courses/course-v1:vetagrosup+132001+session02/about>



#### OWC2020-FAR-787 (pitch/poster, EDU-4)

### THE ROLE OF ORGANIC PIONEERS IN INTERNATIONAL ORGANIC FOOD SECTOR TODAY – CASE STUDIES DENMARK, ITALY AND JAPAN

Ivana Trkulja<sup>\*1</sup>, Camilla Mathiesen<sup>2</sup>, Aya Funayama<sup>3</sup>

<sup>1</sup>ERA-NET CORE Organic, <sup>2</sup>International Centre for Research in Organic Food Systems (ICROFS), Tjele, Denmark, <sup>3</sup>Independent Researcher, Urawa, Japan

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Food (non food) processors, Trade (incl. retailers) / fair trade, Consumers (and citizens), Certification bodies / Participatory guarantee systems, Teachers, trainers, Students, Researchers, Philosophers, historians, Policy makers (including institutions, local authorities and territories), NGO representatives, Cook chiefs, restaurants and collective catering

**Keywords:** Case studies - Denmark, Italy and Japan, Organic 3.0, Organic food production and distribution, Organic pioneers, Organic principles

**Summary:** The works of organic pioneers have inspired the international organic movement until the present days. IFOAM - Organics International has provided a valuable overview regarding thinkers and practitioners that have contributed with their work towards establishing set of philosophical and technical principles that remain fundamental for the organic food and farming. The organic movement has nonetheless developed and from the initial message of pioneers in

Organic 1.0, we now face emerging societal challenges under the framework of Organic 3.0 movement.

The present proposal for a short oral presentation aims at providing insights regarding the actual connection between the initial messages of organic pioneers and actors in the contemporary organic movement. We will focus our research on the 'notion of food' and related actors (producers and distributors) within three main national contexts of Denmark, Italy and Japan.

**Background:** The 'nature of life' in our research will be mainly understood through the 'notion of food' and values associated with its production and distribution. The initial inspiration for this proposal comes from an observation that the nature of organic sector, at least in Europe, involved in the production and the distribution of organic food has profoundly changed over the last years. The actors are no longer only organic farmers and processing companies pioneers from 1970s-80s. In the present, we often have conventional farmers, large companies and distributors that based on changing food habits among the consumers and growing attention towards sustainability, become interested to take part in the organic food sector.

The important part of this development, which is largely driven by the peoples' new food habits, lifestyles and environmental concerns, is that the original messages of organic pioneers and complementary messages from the organic principles, are not necessarily part of organic food sector developments and require further understanding. **Core messages and conclusions:** The present research aims at contributing to theme on 'The spiritual and philosophical roots of organic movements' and how to invite people to respect the 'nature of life' in line with the messages of organic pioneers.

The 'nature of life' in our research will be mainly understood through the 'notion of food' and values associated with its production and distribution. The focus will be on organic food producers and distributors, starting with ideas of the 'early organic pioneers' from 19-20 century, but mainly analysing organic practitioners 'pioneers' from 1970-80s and new organic actors from more recent years. The aim is to understand present organic sector and its connections with the ideas coming from early organic pioneers, organic practitioners 'pioneers' from 1970-80s and organic principles adopted in 2005.

The conclusions are drawn while focusing on four different temporalities: (1) 1970s transition from Organic 1.0 towards Organic 2.0 through codification of standards and creation of mandatory regulatory system, (2) post-2005 developments based on the adoption of organic principles, (3) post-2015 transition from Organic 2.0 to 3.0 as an ambition to mainstream the organic sector in response to the larger societal challenges, and (4) 2020 prospects to further integrate originating ideas and organic principles in the organic sector (i.e. new legislation framework EU Organic Regulation 2021).

The attention is on three main national contexts as case studies: Denmark, Italy and Japan. For European case studies, regarding early organic pioneers, we will make a connection with the thought of Rudolf Steiner (1861-1925) and for Japanese case study we will seek connection with the thought of Masanobu Fukuoka (1914-2008). This also means that we will adopt broader understanding of organic farming, involving biodynamic and natural farming methods. We will conduct qualitative research and follow ethnographic research methods (i.e. organise interviews (talks) with representatives from the organic sector in their daily environment). We plan to trace specific national context where for instance in Denmark organic and biodynamic movements are two separate entities, while in Italy they co-exist under the joint national umbrella.

Besides three main case studies Denmark, Italy and Japan, there are two additional case studies that could possibly result from the research. One case study is related to cross-cutting themes that could encompass all the case studies as for example 'ethics' (i.e. emerging food habits and

lifestyles among consumers). And second case study is related to the national context of Russia and reference to thinker Alexander Chayanov (1888-1937) who as agrarian economist has inspired actors in the Russian organic sector even prior to having a national organic legislation. Based on preliminary research presented here, the team will still need to conduct main part of the research through the interviews (talks) with key actors from the organic sector and from there determine the conclusions about the connection with ideas from early organic pioneers, organic practitioners 'pioneers' from 1970-80s and organic principles adopted in 2005. The aim nonetheless, is to open a discussion about the fundamental ideas and values of organic food and farming, coming from the thinkers and the organic principles, and understand their relevance in the changing landscape of the organic food production and distribution.

**Suggested readings and/or references:** The International Federation of Organic Agriculture Movements (IFOAM - Organics International) - Organic Pioneers

<https://www.ifoam.bio/en/pioneers-0>

Rahmann, G. et al. (2016) 'Organic Agriculture 3.0 is innovation with research', Organic Agriculture,

[https://www.researchgate.net/publication/311393914\\_Organic\\_Agriculture\\_3.0\\_is\\_innovation\\_with\\_research](https://www.researchgate.net/publication/311393914_Organic_Agriculture_3.0_is_innovation_with_research) Steiner, R. (1916) 'The Philosophy of Freedom: A Modern Philosophy of Life Developed by Scientific Methods', H.Collison (ed.), original unedited edition

Council Regulation (EC) No. 834/ 2007 OF 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No.2092/91 (On organic principles)

<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007R0834&rid=6>

#### **OWC2020-CUL-387 (pitch/poster, EDU-4)**

### **EARTHBOUND, A DIGITAL JOURNAL DOCUMENTING THE “NEW FOOD” CULTURE**

Donna Nebenzahl\* <sup>1</sup>

<sup>1</sup>*Journalism, Concordia University, Montreal, Canada*

**Keywords:** artisanal production, farm activism, food security, international "new food" movement, organics, sustainability

#### **Summary:**

The digital journal Earthbound was created to document the increasing evidence that our food culture is changing, focusing on the growing organic and urban food movements, sustainability practices and concern about environmental degradation. We are facing food security dangers due to climate change and a growing realization of the ramifications to health and the environment because of industrial food production. However slowly, changes are taking place in the way we eat and produce food which can be seen in organic and permaculture farming, the relationship between chefs and farmers, growing food security awareness and community supported agriculture, as well as the thriving urban agriculture movement in communities around the world.

In an online format, using photography, writing and eventually podcasting and video, Earthbound explores and documents the work of an international community whose attention to the organic, urban and artisanal landscapes is changing the way we view our relationship with food and this earth in which it is grown. Research and stories cover organic and permaculture farming, seed saving, urban agriculture, artisanal production, food education. We focus on Montreal and its environs, and our links to the wider food movement in Canada and around the world.

Earthbound examines how, where and why we are rejecting the industrial agriculture model, resulting in the fastest growing food segment today — organics. We investigate farm communities, city activism, food culture, the vegetarian model, artisanal enterprises, new players, new ideas. The project reflects the growing interest of many citizens, young and old, who work on small farms or in artisanal communities, who flock to farmers' markets or form groups to grow food in sidewalk planters, who create organic pop-up restaurants and want to be educated in permaculture, seed saving and urban farming. It investigates the innovations and challenges to our food security faced by producers including small farmers, orchardists, permaculture market gardeners and urban farmers and the relationships formed by producers and consumers who, research shows, increasingly value sustainable agriculture and the production of healthy food.

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### Background:

The Earthbound project is driven by the author's decades working as a newspaper journalist, writing stories that questioned the corporatization and the lack of sustainability in mainstream food production. I have travelled around the world to write the book, Womankind, documenting the work of women activists like Vandana Shiva in India and her decades-long struggle to save the native seed culture, and women in Africa and South America whose sense of community is intrinsically linked to their relationship to the land. Most recently, I have written extensively on the small farm movement and the young people who have decided to farm in a new way, incorporating their understanding of the latest technologies with a drive to create a sustainable alternative lifestyle.

Indeed, research has shown that farmers are increasingly paying attention to soil sustainability and regenerative agriculture and we are learning more about the ability of small farms to feed large communities. A 2019 study, Organic Agriculture in the 21st Century published in *Nature Plants*, compared organic and conventional agriculture using four metrics of sustainability: be productive, economically profitable, environmentally sound and socially just. It found that while environmental costs tend to be lower and the benefits greater with organic agriculture, conventional farming systems lead to biodiversity loss, environmental degradation and impacts on wildlife habitats, crop pollination and soil health and water quality. Organic farms, the study points out, tend to have better soil quality, reduced soil erosion, better use of energy as well as being "associated with greater biodiversity of plants, animals, insects and microbes as well as genetic diversity."

The small trickle of change has become a river. In Canada, for example, the number of organic farms has increased by more than 100 percent in the last decade. In the U.S., there has been a 56 percent increase between 2011 and 2016, and sales of certified organic goods more than doubled in those five years. Worldwide, the areas under organic cultivation grew from 17.16 million hectares in 2000 to 71.5 million hectares in 2018. In academic environments, students often take the lead, pressuring universities to divest from fossil fuel investments and well as changing university policies about sustainability and food. There is growing awareness even at the corporate level, as more companies consider sustainability and the environment in their business outlooks.

But everywhere, especially in parts of the world where small farms already produce sustainably, without the use of pesticides, agri-business models continue to finance change under the guise of "progress." Even as consumer habits and needs are reflecting the changing landscape of food and food security, consumer behaviours continue to be dominated by the vast amount of marketing that supports agri-business. Positive news about the organic movement is countered

by massive resources which make use of the mainstream corporate media (with a few exceptions) to promote the industrial agriculture model.

Despite the dominance of the status quo, the voices of this enlightened community of advocates for the organic movement are being heard by more and more citizen consumers. Simply put, the organic movement is growing organically, as increasing interest in the benefits of good food and environmental protection square off against the disturbing news of the side effects of pesticide use on plants, insect life and the human and animal population, coupled with the catastrophic effects of droughts, floods, wildfires and other disasters attributed to climate change.

Earthbound is situated at this nexus, focused on documenting a growing movement as it challenges the status quo. As a professor of journalism, I see the growing concern among students about sustainability, good food and the changing environment. Since the project was launched over a year ago, the story bank is building. The journalism produced by myself, colleagues and students in Earthbound combines research and interviews to reach beyond the academic environment into a community of interested citizens.

### **Core messages and conclusions:**

The voices of citizens have power. Echoing Gandhi's phrase to "be the change you want to see in the world," producers, consumers are making more and more choices linking them with the organic and "new food" movement. Communities of urban agriculture activists, artisanal producers, CSA members and organic consumers are growing daily. In order to raise their voices, their stories should be documented, personal stories of challenges and successes.

Earthbound tells those stories, using the most powerful tool available to us, social media, in order to reflect the path, hopeful yet underlaid with concern for the ongoing environmental destruction that affects individuals and communities. Each story, however small, show possibilities to the reader; they combine into a whole cloth showing a changing culture, a resilience and a certain hope. The common thread of Earthbound is the slowly changing mindset toward sustainable living. The vehicle to reflect the lives of those change-makers is a digital journal.

Earthbound stories have included an urban collective in Dublin, Ireland, that shares locally grown hops with small beer producers and uses coffee grounds to grow oyster mushrooms; a young man in Montreal who has set up rooftop apiaries to protect bees and produce local honey; a young Canadian woman who has forged a career teaching homesteading skills; the thriving community at River Cottage in Devon, reaching out to share a message of a sustainable life; a tomato grower in Ontario, Canada, growing dozens of obscure varieties thus protecting heritage seeds; an organic farm in Elgin, Quebec, that celebrates 35 years as a community supported agriculture project, feeding 200 families weekly with fresh produce; a small city bakery that mills its own organic grains; a permaculture orchardist growing up to 40 varieties of heritage apples; a sustainable food movement at a Canadian university; a sustainable, organic homestead in Costa Rica.

We are at a crossroads, where a new belief system is taking root and communities are being created to share a green culture. This is the link that joins all of those featured in Earthbound, where the stories of pesticide-free farmers are told alongside green consumers, market gardeners, community activists, sustainable producers — forming a whole, a new culture of care for ourselves and the earth. Earthbound will reflect the ongoing stories and the future possibilities of this collective.

Suggested readings and/or references:

<http://www.cartv.gouv.qc.ca/en/organic-designation> <http://www.filierebio.qc.ca/Accueil>  
<http://www.equiterre.org/en/project/family-farmers-network> [http://www.extenso.org/article/un-produitbio-c-est-quoi/new\\_farmer\\_initiative\\_final\\_report\\_quebec\\_6.pdf](http://www.extenso.org/article/un-produitbio-c-est-quoi/new_farmer_initiative_final_report_quebec_6.pdf)



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**OWC2020-FAR-1375 (pitch/poster, EDU-4)**

## **PROTAGONISTAS AGROECOLOGICOS, UNA ESTRATEGIA DE MEDIOS LOCAL PARA VISIBILIZAR LA AGROECOLOGIA Y TODAS SUS DIMENSIONES A NIVEL GLOBAL**

Carlos A. Escobar<sup>\*1</sup>

<sup>1</sup>*Conexion Ecologica - ECONEXOS, Cali, Colombia*

**Targeted audience:** Farmers, Advisors, extension services (including transition support), Trade (incl. retailers) / fair trade, Consumers (and citizens), Certification bodies / Participatory guarantee systems, Teachers, trainers, Students, Researchers, Policy makers (including institutions, local authorities and territories), NGO representatives, Cook chiefs, restaurants and collective catering; **contributing as an advisor**

**Keywords:** agroecology, Media, social learning, social network

**Summary:** "Protagonistas Agroecologicos" es una iniciativa en redes sociales que está mostrando diferentes experiencias sobre agroecología y agricultura orgánica de personas y organizaciones que, en muchas ocasiones, son invisibles en eventos, publicaciones y otras formas de comunicación pero, gracias a ellos y muchos más, el tema crece y se está consolidando.

**Background:** "Protagonistas Agroecológicos" es una iniciativa que comenzó en el 2018 que, básicamente, pretende reconocer y hacer visible a las personas y organizaciones que vienen trabajando en la producción, la comercialización, la educación y la investigación, entre otros temas, en la agroecología y la agricultura orgánica.

Ser parte de esta iniciativa no tiene ningún costo pero tampoco genera ningún beneficio económico a Conexión Ecológica – ECONEXOS como precursor de esta iniciativa.

Los videos cortos se realizan con una cámara de celular y a través de los diferentes viajes de trabajo e intercambio que se realizan en Conexión Ecológica – ECONEXOS; sin embargo, siempre estamos abiertos a que otras personas y entidades se unan en la recopilación y divulgación del material.

**Core messages and conclusions:** Hoy por hoy, cerca de 40 videos cortos, han permitido que cientos de personas se hayan acercado más a lo que significa hacer agroecología y agricultura orgánica y la importancia de ello para la salud y el medio ambiente principalmente.

"Protagonistas Agroecológicos" ha ayudado a difundir el mensaje central de la agroecología y la agricultura orgánica, incluyendo el comercio justo. Gracias a esta iniciativa, productores, productoras, indígenas, jóvenes, consumidores, asesores técnicos y líderes han dado a conocer su pensamiento y hacer de una manera simple y concreta, en sus propias palabras sin ningún tipo de libreto o filtro.

A pesar de estos avances, tenemos el reto de mantener el flujo de video cortos ya que se ha tratado de mostrar la diversidad de experiencias a lo largo y ancho de Colombia y Latinoamérica, no solo mostrar una sola experiencia. De aquí la importancia que otros asesores, investigadores, ONGs y los mismos protagonistas agroecológicos se unan con sus propios videos hechos en casa, bien sea usando nuestras redes sociales o sus propias redes sociales. Es un sueño tener una gran red de videos para que se tenga muy presente que la agroecología y la agricultura orgánica es de carne y hueso, no solo un pensamiento.

También esta experiencia nos ha enseñado que las redes sociales son armas poderosas que no están siendo ampliamente usadas por nosotros en la agroecológica y la agricultura orgánica. Esto nos pone un reto y compromiso con las nuevas generaciones digitales. También esto es un logro de la iniciativa que nos abre la posibilidad de crecer en el uso de estas herramientas de forma positiva, incluso para generar más garantía real y simple.

#### **Suggested readings and/or references:**

Nuestros videos están disponibles en:

[https://www.youtube.com/user/Econexos/videos?view\\_as=subscriber](https://www.youtube.com/user/Econexos/videos?view_as=subscriber)

#### **OWC2020-CUL-385 (pitch/poster, EDU-4)**

### **SPREADING ORGANIC AGRICULTURAL PRACTICES THROUGH TRAINING VIDEOS**

Josephine Rodgers<sup>\*1</sup>, Jonas Wanvoeke<sup>1,1</sup>, Florent Okry<sup>1</sup>, Paul Van Mele<sup>1</sup>

<sup>1</sup>Access Agriculture, Brussels, Belgium

**Keywords:** Extension, Impacts, Local languages, Training, Video  
Preferred language for oral presentation: English

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**Summary:** Organic agriculture is knowledge-intensive and most extension methods reach relatively small audiences. Access Agriculture promotes the use of farmer-to-farmer videos to promote the transition towards sustainable agroecology and organic farming across the global South. It hosts over 140 videos related to ecological agriculture on its video platform, which has been visited by some 300,000 people, mainly from Africa and Asia. Video shows by a multitude of service providers have reached more than 3 million farmers. Through TV stations and rural radio, the videos have reached an estimated 60 million farmers worldwide. Evidence from Benin, Mali and Uganda show the power of video to help shift farmers from conventional to ecological agriculture.

**Background:** Organic and ecological agriculture provides multiple opportunities to smallholder farmers. The diverse needs of organic farmers mean that extension service providers are increasingly seeking appropriate information to train farmers. To address this need, Access Agriculture was created in 2012 as an international non-profit organisation promoting South-South exchange through quality farmer-to-farmer training videos in international and local languages.

Access Agriculture's specialised video platform hosts over 200 well-researched, quality farmer-to-farmer training videos. The videos are in English, French, Spanish and in 77 local languages resulting in more than 1500 videos freely downloadable in various formats. All videos merge scientific with local knowledge presented in an easy-to-understand language, featuring real and experienced farmers. More than 140 of the videos deal specifically with organic and ecological farming: [www.accessagriculture.org/category/316/organic-agriculture](http://www.accessagriculture.org/category/316/organic-agriculture).

**Core messages and conclusions:** Some 300,000 people from more than 200 countries have visited the platform since its establishment. About 44% of the visitors came from Africa, 23% from Asia and 6% came from Latin America. More than 12,800 people have registered on the website to download videos, with farmers having become the largest professional group registering since 2017. Of the 3,500 farmers who have registered, only 18% are members of a farmers' organisation.

More than 6,000 DVDs on sesame, onions, maize, chicken, chili, soil fertility and fighting striga have been distributed to organisations across the globe. More than 40 TV stations have broadcast local language videos from our platform, whilst many radio stations have broadcast the audio files.

The DCS smart projector is a computer and projector built in one. It contains all the videos available to play off-line, off-grid and off mobile signal. It comes complete with a solar panel unit, a battery and a sound system suitable for 200 people – all in one backpack or solid, rain and dust-proof case.

Over 3 million farmers watched the training videos through video shows, DVD or on mobile phones. Radios and TV stations together have reached an estimated 60 million rural people in the global South.

In Benin, 86% of the farmers who watched videos on vegetable production reduced their pesticide use, 92% began rotating their crops, 97% started to use compost and 56% began using insect nets over their seedbed. Videos has helped farmers to drastically reduce their use of agrochemicals for small-scale commercial vegetable growing (Zoundji et al., 2018a).

In Mali, more than 95% of farmers who watched videos applied climate-smart technologies, such as intercropping cereals with cowpea. Sorghum, millet and maize yields increased by 14%, 30% and 15% respectively (Zoundji et al., 2018a).

In northern Uganda, a private company invested in smart projectors and in less than a year trained and engaged more than 80,000 farmers to grow organic chilli and sesame as a business (Van Mele et al., 2018).

Farmer-to-farmer videos reach more farmers than the conventional extension methods. Videos trigger farmers to shift to more sustainable practices and support social learning among smallholder farmers (Bentley et al., 2014). Video-mediated extension is an important vehicle to support organic agriculture and food sovereignty and has contributed to the emergence of sustainable agricultural practices.

Rural people, many of whom cannot read, increasingly need quality training materials in a format and language that is appropriate. The growing body of evidence suggests that the Access Agriculture video approach helps to address this challenge in a cost-effective way, without having to re-invent the wheel in every single country.

**Suggested readings and/or references:** [www.accessagriculture.org](http://www.accessagriculture.org)

Bentley, J., Van Mele, P., Zoundji, G. and Guindo, S. (2014) Social innovations triggered by videos: Evidence from Mali. Agro-Insight and Access Agriculture.

Van Mele, P., Okry, F., Wanvoeke, J., Fouseni Barres, N., Malone, P., Rodgers, J., Rahman, E. and A. Salahuddin (2018) Quality farmer training videos to support South-South learning. CSI Transactions on ICT, 6(3), 245-255.

Zoundji, G.C., Okry, F., Vodouhe, S.D. and Bentley, J.W. (2018a) Towards sustainable vegetable growing with farmer learning videos in Benin. *International Journal of Agricultural Sustainability* 16(1), 54-63.

Zoundji, G.C., Okry, F., Vodouhe, S.D., Bentley, J.W. and Tossou, R.C. (2018b) Beyond Striga management: Learning videos enhanced farmers' knowledge on climate-smart agriculture in Mali. *Sustainable Agriculture Research* 7(1), 80-91



## EDUCATION 5: Training students - 9/09/2021, 15:30

OWC2020-CUL-448 (EDU-5)

### THE PUBLIC EDUCATION SYSTEM SUPPORTS THE DEVELOPMENT OF ORGANIC AGRICULTURE IN QUEBEC

Denis La France<sup>\*1</sup> and Cégep de Victoriaville

<sup>1</sup>Centre d'expertise et de transfert en agriculture biologique et de proximité, Cégep de Victoriaville, Victoriaville, Canada

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**Targeted audience:** Farmers, Advisors, extension services (including transition support), Consumers (and citizens), Teachers, trainers, Students, Policy makers (including institutions, local authorities and territories), NGO representatives

**Keywords:** Adult education, public college, research, extension

**Summary:** In 1973 activists started using a very accessible public adult education system to teach organic agriculture in Québec. A few of them became professionalized and entered the regular public education system. The Collège de Victoriaville (Cégep) started a full three-year organic technical training program in 1987, hired the author to develop a major adult education program for farmers and agronomists in 1988. More than 40 public conferences were held, along with 20 international study tours over 30 years. The *Centre d'expertise et de transfert en agriculture biologique et de proximité* (CETAB+) was founded in 2010. Facing a major rise in student registration, the college built a new school and research center on a 55 hectares farm and created the new *Institut national d'agriculture biologique* in 2018.

**Background:** Canada is a large country with quite varied regional climates and agricultural vocations. Officially bilingual, most regions are dominated by an anglophone culture but Québec is mostly francophone. Circumstances have lead to the early emergence of the adult education system in support of organic agriculture in Québec in the 1970s followed by a farmer training program in the 1980s. In the rest of Canada leadership of organic development was assumed more by grassroot organizations, farmer groups, mentorship and peer support, although such activities were also present in Québec. Emergence of educational programs in Anglo-Canada was later, in the 2000s, for instance with creation of the Organic Agriculture Center of Canada at University of Dalhousie. Programs mostly emphasize Agroecology or sustainability rather than certified organic agriculture. Although consumer demand for organic food is higher in provinces to the west, in 2020, 8,4% of farms in Québec were certified organic, a higher proportion than in the rest of Canada. Along with recently improved provincial government support, the public education system has been instrumental in this development.

#### Core messages and conclusions:

The public adult education and school system has been instrumental in supporting the development of biological agriculture in the province of Québec, more so than in the rest of Canada and other parts of the world. The Collège de Victoriaville has assumed leadership in the sector for 33 years.

1973-1987: Freelance adult education courses were offered all over the province in local high schools, colleges and agricultural institutes. Starting in 1983, some schoolboards offered a 1200 hours professional training program.

University professors have not been very supportive of organic agriculture, with one exception: Stuart B. Hill created *Ecological Agriculture Projects* at McGill University in 1974 offering support and a meeting place for interested students. He also co-organized the 1978 IFOAM OWC in Montreal in 1978.

1987-88: Cégep de Victoriaville starts a three-year Diploma technical training program for future farmers, and a professional adult education program for practicing farmers during winter. The Cégep supports creation of the *Centre de développement d'agrobiologie*, a non-profit corporation with farmer membership.

1988-2012: Forty experts from France, Germany, USA, English Canada, Switzerland were invited to present research and development results in one or two-days conferences at the college. For example, Yves Héron, Miguel Altieri, Jean-Marc Besson, Walter Kress, Joseph Templier.

2003: Cégep de Victoriaville rents a farm for practical training.

2005-2007: Unsuccessful attempts to start a Center for transfer of technology.

2005-2019: Twenty study tours for farmers and agronomists are organized to various foreign countries to discover organic research and practices, for example Germany, Brazil, France, Austria, Denmark, Switzerland, New Zealand, Great Britain and the USA.

2008-2010: Work started on the *Centre d'expertise et de transfert en agriculture biologique et de proximité*, leading to official foundation in 2010, now recognized as a Collegial center for transfer of technology.

2008-2012: A 180 hour adult education training and mentorship program, using online platform, was offered to two groups of 21 agronomists and technicians to expand base of expertise over the whole provincial territory.

2015: The Cégep buys a 55 ha farm within the city of Victoriaville. The college also operates an organic orchard belonging to the city.

2015-2020: Development by CETAB+ of new adult education program for farmers during winter. Online platform allows home-access on your own schedule with computer. Twenty-two courses offered during winter 2020.

2017-2018: Building new school cum research center (17 million \$). Foundation of *Institut national d'agriculture biologique* (INAB), overseeing all agricultural activities in the college.

2020: Over 180 students registered in four full-time, three-year training programs. And demand for the 2020-2021 school year is on the rise.

2020: CETAB+ has 33 employees working in applied research, advisory services, training and administrative support. Over 1000 people (80 % farmers) yearly take part in CETAB+ trainings, field days, study tours and annual conference. This demonstrates a high level of confidence on the part of farmers towards the institution.

Future. Between 2013 and 2020 organic farming has expanded from 3,5 % of farms in Québec to 8,4 %. It is clear that expansion will continue and that the close relationship between the Cégep and farmers will be pursued.

#### Suggested readings or references:

[www.cetab.org](http://www.cetab.org)

## **CELEBRATE DIVERSITY - HARMONISE KNOWLEDGE**

Konrad Hauptfleisch<sup>\* 1</sup>

*<sup>1</sup>IFOAM - Organics International, Bonn, Germany*

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**Targeted audience:** Advisors, extension services (including transition support), Teachers, trainers, Students, Researchers, Philosophers, historians, NGO representatives

**Keywords:** DIVERSITY, Education, knowledge management, Leadership, Participatory Learning, Training

**Summary:** The Organic Academy of IFOAM-Organics International is 8 years old. It has trained over 700 stakeholders from more than 70 countries, and has conducted its training on four out of five continents. Its main approach is to base its curriculum on the key principles and values of organic agriculture, in order to inspire change and trigger further action, rather than supplying ready-made solutions to students in a classroom environment. Due to its limitations in size and budget, it works actively to develop more multipliers, taking up the concept, methodology and curriculum, to replicate its success globally.

Methodology includes experiential learning, with Theory, Action and Reflection making up the complete training experience. The Organic Academy mirrors IFOAM-Organics International's global presence, and works across countries and cultures along the common themes of aspiration, inspiration, network-building and the celebration of diversity.

**Background:** Educational content cannot be presented from a 'global up-high' – it should bring together core principles, values, better practices and concepts into an 'educational seedball' – or, to use a more genetic analogy: similar organisms have similar DNA, but in different regions and under different circumstances, different genetic markers are switched on. The full diversity of solutions and approaches are not only recognized, but actively supported. This is organic learning, in the complex and adaptive ecosystem of adult education. Similarly, organic solutions are locally appropriate and locally adapted. It therefore makes no sense for global organizations to provide 'ready-made' solutions.

In order to develop adaptive educational systems, we need to celebrate diversity, while harmonising knowledge.

**Core messages and conclusions:** IFOAM-Organics International describes itself in its new strategy as 'The organic agent of change for true sustainability in agriculture, value chains and consumption; working on behalf of its membership, the global organic movement in over 120 countries.'

The IFOAM Organic Academy has a participatory learning approach - drawing on local experience suited to the context, and in so doing to support local people in building on local resources and indigenous knowledge. Leading and uniting the organic world over the last 45 years with a small core of staff needed a strategic approach. Effecting global change and broader adoption of sustainable food and farming systems based on organic principles even more so. Often, broad adoption goes hand in hand with a technocratic strategy of exponential growth, identifying and scaling-up successful systems. This is the modus operandi of many large corporates and of the industrial food companies. The seminal and definitive IAASTD Report contains the following inspiring quote: 'If many little people, in many little places, do many little things, we can change the face of the world.' This defines the Organic Academy's approach: we

do not scale-up, we replicate. We do not send an army to conduct mass training programmes, but we inspire the multipliers to do many good little things in many little places.

Organic solutions are locally appropriate and locally adapted. It therefore makes no sense for the global organization to provide 'ready-made' solutions. Its approach to learning and teaching must honour this principle, and the Academy recognizes that. It aims to develop capacity of local multipliers to co-create and develop solutions, and share and disseminate appropriately.

The Academy training works with the 'common DNA' of organic, namely a well-developed definition, supported by core principles. These principles, driven by organic values, inspire the content. Organic has a proud, centuries-old history of supporting sustainability through agroecological production systems. The pioneers recognized this more than a century ago, across all continents and climate zones. From Fukuoka to Steiner, from Balfour to Rodale, from Mazibuko to Phiri to Podolinsky, we see a golden thread of sustainability.

The Organic Academy therefore bases its curriculum very closely on these fundamentals, in order to inspire and capacitate people, who, in turn, capacitate other people exponentially. The Academy is not seen as a prescriptive teacher of recipes, but as an enabler of local solutions. The Academy focuses on participation as its main approach to adult education: participatory curriculum development, participatory methodology and peer-to-peer learning. Adults approach training differently to younger students: they come with a wealth of experience, and this experience and knowledge needs to be tapped and harvested and shared in a process that celebrates the diversity within the harmonised organic approach.

**Suggested readings and/or references:** <https://www.youtube.com/watch?v=v8ySs3S9Jrk>

<https://www.ifoam.bio/en/what-we-do/organic-academy>

#### **OWC2020-CUL-658 (EDU-5)**

### **ACTIVE COOPERATION FOR DYNAMIC LEARNING FOR MORE THAN 20 YEARS, BIODYNAMIC FARMERS HAVE JOINED FORCES TO SET UP A TRAINING PROGRAM THEY WOULD HAVE WISHED FOR THEMSELVES**

Olivier Clisson\*<sup>1</sup>

and Mouvement de l'Agriculture Biodynamique (MABD)

<sup>1</sup>Agriculture, CFPPA Ségré, parthenay de Bretagne, France

**Targeted audience:** Farmers, Food (non food) processors, Trade (incl. retailers) / fair trade, Teachers, trainers, Students,

**Keywords:** Agriculture, Biodynamic farming, Education, TrainingPreferred language for oral presentation: French

**Summary:** Over the past 20 years biodynamic farmers have built a successful training program to share their knowledge.

This renowned course aims to give students the holistic education in biodynamic farming that we, the farmers, would have liked to have.

The two-years cycle aims to train tomorrow's farmers, by giving them an deep understanding of the living world and of how we can care of Mankind by caring for the land.

## **Background:**

### Healing both Man and Earth

Developing practices in line with recent soil developments and the Earth is becoming more urgent! The Earth needs us to take care of her, her landscapes, her streams, her atmosphere.

Not to mention that this training also constitutes a strong human experience, necessary when we know that many young farmers set up in co-operative models, and that the first cause of breakup in the agricultural associations is the human and not the technical factor.

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### **Core messages and conclusions:**

The need for a solid grounding in farming is at the root of this program, the aim is that over a 2-years course the student is fully qualified to become a biodynamic farmer. The course is aimed for adults (average between 25 and 30 years old) who can come from an agricultural background but generally who are not.

Clearly, no one can truly become a farmer in just two years; but what can be done is we can begin to fill our "bag" with a significant load of good practices, tools, interesting methods and useful references.

### Acquire a deep understanding of the living world.

If we had to choose a key element with which the teaching team wants the trainees to leave, it would be a development of their senses, an increased observation capacity: a way of looking at the living, plants, animals, in order to act in respect of these beings.

Thus, the course is organized around two practical farm experience sessions, lasting one full season, one in animal husbandry, the other in vegetable production (market gardening or large crop). The choice of a specific and more specialized production makes sense with regard to the experiences gained in these two areas. Moreover, it is not uncommon for a student to start the course initially preferring market gardening and eventually buying cows, and vice versa !

The program also examines the basics of agronomy, crop care, breeding, farm management, bio-dynamic specific techniques, ...

At a time when everything must go fast, we take the time to learn, to feel, to wait ... biodynamics is also based on a material-spiritual paradigm that requires a certain time to be experienced and integrated.

### The Structure of the Course and the Board of Education

The French Biodynamic movement (MABD) provides a coordinator (30 days/year) and speakers (about 40 % of the course), and the vocational training centre (CFPPA) a coordinator, teachers (60%) and the certification process. A partnership contract is signed between the two bodies. The course is financed by regional funds as part of adult training programs.

The teaching guidelines and the construction of the course are decided by a board composed of professional farmers and teachers (10 to 12 persons). The Board of Education meets in average twice a year to define the year's program, take stock of the actions and propose course adjustments. The Board of Education is the guarantor of the course's educational quality.

### The Intern Professional Board

The Intern Professional Board brings together all the active biodynamic farmers from the French biodynamic movement who have committed to hosting trainees on their farms for practical placements (8 months each year). All training supervisors are co-opted and approved by the Board members and are thus the guarantors of the farm quality and the accompaniment of trainees during their intern period. The Intern Professional Board meets three times per year to

monitor internships, renewing host farms and working on pedagogical questions related to the Board of Education. All internships during the course are carried out only on the farms of this network.

**Suggested readings and/or references:** <https://www.cfppa-segre.com/bp-rea-biodynamie>

<https://www.cfppa-segre.com/wp-content/uploads/2019/01/E12-145-Dossier-de-candidature.pdf>

<https://www.bio-dynamie.org/formations/formation-qualifiante-bprea/>

<https://www.cfppaobernai67.com/formations-diplomantes/>

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### **OWC2020-CUL-737 (pitch/poster, EDU-5)**

## **AN « ORGANIC SEMESTER » FOR FUTURE AGRICULTURAL ENGINEERS: THE GREEN THREAD.**

Eve Balard<sup>\*1</sup>, Gaëlle Marliac<sup>1</sup>

<sup>1</sup>VetAgro Sup, Lempdes, France

**Targeted audience:** Teachers, trainers, Students

**Keywords:** future engineers, organic semester, tailored courses

**Summary:** Due to the variety of audiences in Engineering schools, the representations associated with organic farming differ, ranging from fierce advocates to convinced sceptics. However, these beliefs are often poorly supported by objective arguments.

Since 2018, it has been possible for VetAgro Sup's agricultural engineering students to follow 1 to 5 modules (from 2 weeks to 1 semester) related to organic farming. This tailored training has enabled to individualize the courses and increase the percentage of learners trained in organic agriculture.

**Background:** For many years, in the training of VetAgro Sup agricultural engineering students, an optional 3-week module existed on OA and about fifteen students would choose it each year. However, it was necessary to go further in relation to the context:

- the change in scale of organic farming implies that the vast majority of our outgoing engineers will have to work with organic structures throughout their careers
- more and more students are doing their mandatory internships (47 weeks divided into 4 internships over the 3 years of study) in organic structures or themes
- organic structures are fond of learners in continuing education, whether in apprenticeship in 3 years or in a professionalization contract in 1 year
- we have dynamic local partners around OA
- OA can be a prototype for sustainable agriculture (Bellon, 2014)

It is therefore quite naturally that we decided to propose a semester around organic farming in the middle of the agricultural engineer course (semester 8): the green thread.

**Core messages and conclusions:** This semester consists of 5 independent modules:

1. From OA to organic agriculture: origins and diversities
2. Research and innovation in human nutrition
3. Ecological expertise for a biodiversity diagnosis

4. From conventional to organic farming: study projects to convert farms to OA

5. Facilitation of a social network on OA

Modules 2 and 3 are not exclusively built around OA but address it.

Module 5 is only available to students enrolled in Modules 1 and 4, and Module 2 or 3. It allows to validate the green thread.

The purpose of this teaching is not to train how to work in organic but to use organic as a subject for study. By reactivating the processes studied upstream, it is a question of making an objective analysis of OA and use it like a prototype for other farming system.

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This modular organization enables to tailor the course for each individual; learners can choose from 1 to 5 modules on organic farming. The division into different modules allows a diversity of approach both on the themes and on the pedagogical modalities (lectures, reverse class, video of surprise, tutorials, case study, comparative visits, online resources...).

This semester runs in parallel with the MOOC BIO (massive open online course about OA) and is based on some of these resources. Thus, these two training systems are self-sustaining; green thread learners enrolling in the MOOC BIO because they're addressing complementary themes (e.g. territorial aspects vs technical aspects of conversion).

Before, ten to twenty (depending on the year) out of hundred learners chose the organic module. In 2019, out of 98 students present (89 in 2018):

63 learners (58 in 2018) have chosen at least one of the modules,

30 learners (33 in 2018) have chosen one or two modules entirely dedicated to OA (1 and/or 4)

9 learners (9 in 2018) have chosen the two modules entirely dedicated to OA (1 and 4)

No learner (1 in 2018) has chosen the 5 modules

These modules (in particular the 1 and 4) are widely chosen by international students who come to pursue one semester (or more) of their studies in our institution.

We also often welcome students from Sciences Po Lyon or the Ecole normale supérieure de Lyon.

**Conclusion:** If this teaching was initially created as an opportunity for learners to work for a whole semester on OA, we realized that few people made this choice. Indeed, after 3 semesters of common syllabus, it seemed that they prefer to individualize their journey and choose their organic training "à la carte" rather than our "menu". However, this really made it possible to reach more learners than before.

**Prospects:** New modules could be integrated into the system, particularly in place 2 and 3, in order to expand the training map.

This experience could be extended to an organic course, including the various internships and achievements over the 6 semesters of the course.

A certification in the form of a mention of the diploma could lead to increased recognition, particularly at the professional level.

**Suggested readings and/or references:**

**Bellon, Stéphane, Penvern, Servane (Eds), 2014. *Organic Farming, Prototype for Sustainable Agricultures*.** Springer, 489 p.

<https://www.natexbio.com/quelle-place-pour-lagriculture-biologique-dans-lenseignement-agricole-aujourd'hui/>

Image 1:



Image 2:



OWC2020-CUL-1340

## PARTICIPATORY CURRICULUM DEVELOPMENT FOR ORGANIC AGRICULTURE AND AGROECOLOGY

Phillipp Dietrich<sup>1</sup>, Pierre Ellßel<sup>1</sup>, Bernhard Freyer\*<sup>1</sup>

<sup>1</sup>Division of Organic Farming, University of Natural Resources and Life Sciences, Vienna, Austria

Targeted audience: Farmers, Advisors, extension services (including transition support), Trade (incl. retailers) / fair trade, Consumers (and citizens), Teachers, trainers, Students, Researchers, Philosophers, historians, NGO representatives

### 1. Summary

Over the last 5 years our team was involved in the participatory curriculum development (PCD) of two University master curricula in Uganda and Mozambique - both with their own characteristics, international collaboration, funding schemes, and organizational and cultural challenges. PCD appears to meet the high demand for knowledge transfer on agricultural master curricula to equip future Alumni with essential competencies to address sustainability

embedded within their respective contexts. PCD integrates the needs and demands of local stakeholders and includes the latter into the overall conceptualization of competencies building and knowledge transfer. Participation is organized through workshops, where stakeholders, i.e. representatives of the regional food system, discuss and reflect on relevant content of the planned master's curricula, participate in excursions to the sites of production, processing, and retail. Qualitative and quantitative interviews serve for collecting further information and the evaluation of the process.

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## 2. Background

Many African countries face enormous challenges such as over-exploitation of natural resources and high poverty rates among smallholder farmers. Consequently, there is a high demand for education that meets and integrates the experiences, needs and demands of affected people. Through workshops, qualitative interviews and group discussions with local farmers, agricultural extension staff and other local stakeholders, a collaborative learning process was facilitated and an assessment of local needs was conducted which informs the master's curriculum content and thus higher education and related research programs through a bottom-up process. Our general approach aims to shift from linear learning to a systemic pedagogy in agricultural higher education. The curricula contain modules on organic farming (methods) and agroecological principles with case-study and action learning as core learning approaches, theoretically underpinned by systems theory/systems thinking, transdisciplinarity and the (IFOAM) principles of Organic Agriculture (OA).

## 3. Core messages and conclusions (1500-3000 characters)

We experienced four phases in PCD:

Application for funding (A) (development of a proposal), and then the project implementation itself, which can be divided in three phases:

- (B) Initiation: consultative processes, conceptualisation and capacity building of teachers
- (C) Curriculum development: creation of the detailed structure and content based on the results of these consultative processes
- (D) Finalization of the project: implementation of the curricula at the respective institution and feedback to/from stakeholders.

Results: Experiences during projects

<b>Factors influencing resp. outcomes of the PCD in the respective phase</b>	<b>Application for funding (A)</b>	<b>Initiation (B)</b>	<b>Curriculum Development (C)</b>	<b>Finalisation (D)</b>
<b>Capacity building/knowledge transfer between partners</b>	<ul style="list-style-type: none"> <li>- Unequal distribution of knowledge and access to knowledge between partners</li> <li>- Risk aversion/motivation to invest into unknown outcome</li> </ul>	<ul style="list-style-type: none"> <li>- Profound knowledge of participatory methods, systems theory, transdisciplinarity and OA needed</li> <li>- Non-hierarchical approach to stakeholders crucial to establish mutual understanding</li> </ul>	<ul style="list-style-type: none"> <li>- Focus on the integration of innovative teaching/learning methods</li> <li>- Difficulties to integrate transdisciplinary expertise and systems thinking (e.g. lack of time)</li> </ul>	
<b>Institutional capacity</b>	<ul style="list-style-type: none"> <li>- Insufficient human resources attributed to the acquisition of funding</li> <li>- Compatibility of formal procedures (e.g. financial handling / monitoring of activities) with Austrian funding guidelines</li> </ul>	<ul style="list-style-type: none"> <li>- Motivation for changing teaching paradigms and conceptualisation of agriculture itself</li> <li>- Time restraints during workshops (more time necessary for content workshops and elaboration of a common understanding of sustainable agriculture)</li> </ul>	<ul style="list-style-type: none"> <li>- Insufficient human resources trained in required fields</li> <li>- Support from the heads of the university to introduce innovative curriculum required</li> </ul>	<ul style="list-style-type: none"> <li>- Budget restrictions may hinder sustaining of innovative approaches</li> <li>- Keeping trained staff at respective institution to teach the curriculum</li> </ul>

<b>Intercultural understanding</b>	- Experienced network needed to apply for funding	- Cultural hindrances often overseen, which may influence project outcomes significantly both within the Universities (working approach) and among implementing project team and intercultural communication skills		- Acceptance of bureaucratic procedures as demanded by Austrian funding organisation
<b>Environmental context</b>	<ul style="list-style-type: none"> <li>- Political (in)stability</li> <li>- Natural disasters</li> <li>- General working conditions at African Uni (e.g. power and internet blackouts, climatic challenges (e.g. fine dust loads in offices during dry season, restricted mobility during rainy season)</li> </ul>	<ul style="list-style-type: none"> <li>- Willingness of stakeholders to pro-actively contribute during consultative process</li> <li>- Inclusion of stakeholders in remote areas difficult, but essential</li> <li>- Mainstream conceptualisation of agricultural modernisation and development among participants</li> </ul>	<ul style="list-style-type: none"> <li>- Top-down approach of official/governmental bodies in curriculum development does not favour participatory approaches</li> <li>- Technical issues hindered continuous dialogue between team members (e.g. internet connectivity)</li> <li>- Natural disaster delayed project flow</li> </ul>	

#### 4. Suggested readings and/or references to your work (max. 1000 characters)

- Francis, C., King, J., Lieblein, G., Breland, T. A., . . . Wiedenhoef, M. (2009). Open-ended Cases in Agroecology: Farming and Food Systems in the Nordic Region and the US Midwest. *The Journal of Agricultural Education and Extension*, 15(4), 385-400.
- Kerr, R., Young, S., Young, C., . . . Snapp, S. (2019). Farming for change: developing a participatory curriculum on agroecology, nutrition, climate change and social equity in Malawi and Tanzania. *Agriculture and Human Values*.
- Leicht, A., Heiss, J., & Byun, W. J. (2018). *Issues and trends in education for sustainable development*: United Nations Education, Scientific & Cultural Organization.
- Lieblein, G., Breland, T. A., Francis, C., & Østergaard, E. (2012). Agroecology Education: Action-oriented Learning and Research. *The Journal of Agricultural Education and Extension*, 18(1), 27-40.
- Seatter, C., & Ceulemans, K. (2018). Teaching Sustainability in Higher Education: Pedagogical styles that make a difference. *Canadian Journal of Higher Education*, 47.

#### OWC2020-CUL-801 (EDU-5)

### TRAIN VERSATILE MIDDLE MANAGERS IN ORGANIC FARMING FOR LOCAL ORGANIZATIONS AND COMPANIES: THE PROFESSIONAL DEGREE "ORGANIC AGRICULTURE CONSULTING AND DEVELOPMENT" AND ITS MULTI-SITE NETWORK. TESTIMONIALS FROM GRADUATES.

Alexia Arnaud Dupont<sup>1</sup>, Boris Fumanal\*<sup>2</sup> and Vincent Gauchard, CFPPA Rennes- Le Rheu, Manuel Chatain,

Réseau des anciens diplômés AbioLink, étudiant ESSEC Quentin Testa, Réseau des anciens diplômés AbioLink, responsable commercial Jean Bouteille Carole Tonin, Réseau des anciens diplômés AbioLink

<sup>1</sup>VetAgro Sup, Lempdes, <sup>2</sup>Université Clermont Auvergne, Aubière, France

**Targeted audience:** Trade (incl. retailers) / fair trade, Certification bodies / Participatory guarantee systems, Students

**Summary:** The "Organic Agriculture Consulting and Development" professional degree (ABCD pro degree), is a Bac + 3 level diploma from the University of Clermont Auvergne, co-accredited with VetAgro Sup (Ministry of Agriculture institute). It involves 11 agricultural technical education institutions, working together to train 100 learners each year, in 8 different sites.

The ABCD pro degree trains middle managers, versatile in organic farming issues, to work in the following 4 main areas: 1 advice and facilitation for producers, 2 advice on the development of

sectors, 3 technical and commercial developer, 4 auditors for the organic certification of companies.

In order to be prepared for their future careers, learners must demonstrate the ability to integrate knowledge and values from the AB sector, work independently and in teams and communicate. To this end they carry out various case studies, conducted collectively or individually, in collaboration with organizations and companies.

**Background:** The French organic sector generates about 155,000 direct jobs. Among its jobs, 20,000 are in the processing and distribution sector and 2,250 in control, consulting, research and training, development and administrative services.

In a growing context, this diploma began in September 2008 and in September 2019 welcomed its 12th class of 96 learners; these are both students of initial training, including apprenticeship contracts, but also trainees of continuing professional training.

Each of the 8 sites hosts a group of 10 to 20 learners and implements the training on a common basis using a national pilot based in Clermont-Ferrand.

A common website (<http://www.licence-pro-abcd.fr/>) provides information to candidates for training.

**Core messages and conclusions:** Main elements of the message:

- Training of students, people undergoing professional retraining and employees from companies
- Construction of an original training network of training centres, each one anchored in its own territorial dynamics.
- An example of agricultural training with 3 years of higher education, piloted and organised with the help of an ISO 9001 quality certification.
- Testimonials from graduates working in different sectors of activity.

Form of the contribution: Presentation of the training, with slides to support it. Then the floor is given to 4 or 5 graduates, inserted in different trades; they will testify about their training paths and their current trades. Duration: 30 to 45 minutes

Clarification on the innovative nature of this diploma:

Its network organisation of several training centres, federated around a national steering committee (University and Grandes Ecoles).

National management certified by an ISO 9001 quality approach that guarantees the proper functioning of its national network and its implementation. It supports the departments and the pedagogical commission in their work and makes it possible to integrate a continuous improvement approach (management of dysfunctions and improvement proposals). The general organization can thus be adjusted and improved

Organization of education:

National training is provided simultaneously at all 8 sites using the same teaching model.

The training is organized around:

8 teaching units (EU 1 to 8) totalling 500 hours.

An individual internship in a company, in alternation, of 16 or 32 weeks (depending on the learner's status)

A supervised project: collective management of a project, over 120 hours

Original teaching methods

In order to ensure that learners from different sites have access to homogeneous training, the network develops pedagogical and management tools common to all sites. The curriculum combines different pedagogical modalities: simultaneous and distance learning by web-conference with the sharing of approximately 20% of common speakers, the use of a digital exchange platform, traditional face-to-face teaching.

**Suggested readings and/or references to your work:** A common website <http://www.licence-pro-abcd.fr/>

**Image 1:**





# WC 2021

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French and international certification body



French national bodies and federations



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