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## Interviews: Organic variety trials and official registration trials

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Angers, France, 6<sup>th</sup> December 2018



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# Interviews, 2018

- Interviews with LIVESEED partners, variety officials organic breeders etc. – not yet completed (F, LV, GR, A, H, I, NL, PL, RO, E, CH, UK, DK, D)
- Arable crops, vegetables and fruit
- Questions about organic variety trials (mainly post-registration), VCU and DUS trials for organic varieties
- Aim is to learn from each others experiences and to develop the organisation models for post-registration and registration trials



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# Organic variety trials – general comments from interviews

- Assessment of important traits for organic farmers, processors etc.
- Varieties are evaluated in organic soils. Some traits rank differently when evaluated under organic compared to conventional conditions due to a different level of biotic stress.
- Aim to provide farmers, traders and breeders with results that are relevant for organic farming conditions
- Results are used by farmers for variety choice, by seed producers for marketing purposes and by breeders to monitor variety performance.



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# Organic variety trials – important traits

Crop specific, e.g. for cereals:

- Weed suppression
- Early vigour
- Disease tolerance
- Bread quality

Etc.

Handbook: "Cereal variety testing for organic and low input agriculture"  
(COST860 – SUSVAR)



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# Organic variety trials

	Preliminary data from interviews
Complexity of trials	From simple trials with few repetitions to randomised block designs with several repetitions
Locations	On-station or on-farm trials, 1-40 locations in extensive networks
Trial protocols	Different levels of assessments for organic traits
Assessments	Done by farmers, researchers, advisors, trial technicians
Plant material	Pre-release, post-registration and under registration in supplementary VCU-trials
Choice of varieties	Expert groups with several actors, or combinations of researchers, breeders, seed companies, farmers, advisors
Dissemination	From dissemination in closed groups to public available online results
Funding	Public funding, projects, applicant fee, membership fee, voluntary work

**Data will be made available at the LIVESEED website**



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# Examples: France, Germany

- Collaborative and extensive networks divided in regions
- On-farm and on-station trials
- Governmental/federal state support for trials
- Result are made public for use



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# Examples: Greece, Italy (RSR)

- Participatory approach with strong involvement of farmers based on personal commitment
- On-farm trials mainly
- Trials are financed by membership fees, voluntary work and projects
- Dissemination by direct communication with farmers



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# Example: Denmark

- Trials are part of the National Field Trials – a national collaboration between farmers unions (local trial units), SEGES and Technological Institute.
- On-farm trials only
- Variety trials are financed by applicant fee for breeders or seed producers and they decide which varieties are tested
- All variety result available in database "SortInfo.dk" after harvest.



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# VCU for organic

	Organic	Suppl. organic
Germany	X (wheat, barley, oat)	
Austria	X (winter wheat)	X (several crops)
Denmark	X (winter wheat)	
France		X (winter wheat)
Latvia		X (several crops)
Switzerland		One organic location



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# VCU – Germany (Bundessortenamt)

- 1999 to 2011: supplementary organic trials (double price)
- 2012 - : only organic locations – included in the Federal states' organic network
- Species: winter wheat, spring wheat, winter barley, spring barley and oat
- Descriptive variety list – chapter for organic
- 14 organic locations (4 replications)
- Ground cover, mass during shooting, in winter wheat artificial disease infestation, milling and baking plus gluten content
- Price for winter wheat 3340 € per year



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# Example: VCU - Austria (AGES)

- Species: Winter wheat (org.)
- 5 on-farm and 1 on-station location (3-4 replications) and 2 locations for common bunt infestation trials
- Weed competitiveness, resistance against common bunt
- Descriptive list of varieties – chapter for organic
- 2018: 691,4 € per year (half price for reference varieties)
- Suppl. organic trials in spring and winter barley, rye, winter triticale, winter spelt, spring wheat, oat and potato



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# VCU – France (GEVES)

- 2016: A commission settled to promote the registration of varieties adapted to organic farming.
- Species: winter wheat
- Organic and conventional locations
- 2 years
- Weed competition, baking quality
- Price not confirmed (same as conventional)



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# VCU – Latvia (AREI)

- In 2002 all cereal varieties in the National list were tested in organic VCU trials – now only few requests
- Species: Spring wheat, spring barley, oat, buckwheat, rye, potato
- 2 organic on-station locations and 2 conv. locations
- 2 years for spring crops, 3 for winter crops
- Conventional protocols with few additional traits e.g. lodging
- Marked "Bio" in the National list
- Cereals 2018: 242 € per location per year (double price compared to conventional)



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# VCU – Denmark (Tystofte Foundation)

- Species: on request (2018-2019: Winter wheat)
- 3 organic on-farm locations (6 repetitions)  
2018: 3 organic observation plots for additional observations of diseases, lodging etc.
- Conventional protocol with additional traits for organic farming
- Price on a trial basis and yet to be determined



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# VCU – general comments from interviews

- Important to have harmonized guidelines for technical approaches
  - Suggestion to use Handbook from COST860 SUSVAR
- Price should not be double if trials are performed under both conventional and organic conditions
- It should be possible to see in the European Catalogue if a variety has been tested under organic conditions



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# VCU – general comments from interviews

- Challenging when organic varieties from organic seed is compared equally to conventional varieties from conventional seed (difference of 5-10 % due to protein content and grain weight).
  - Use organic varieties as reference varieties
- Less emphasis on yield only, and equally emphasis on weed competitiveness, quality and other important traits for organic farming



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# VCU – general comments from interviews

- Adjust thresholds of diseases, as the same diseases are not equally important in organic farming and conventional farming
- Possibility for testing mixed crops like barley and pea that are bred together and may not perform the same when separated.
- Lack of organic trial sites for VCU → possibility to use established organic trial networks and integrate with official testing



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# VCU – general comments from interviews

Spelt:

- VCU in Switzerland is performed only every 7 years - too long time
- The use of Marker SNP for characterising as spelt means a loss of diversity
- VCU is performed under conventional system in all Europe
- Unclear if sommerspelt ever get tested as spring seed



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# DUS – comments from registration offices

- In most countries not yet requests for registration of organic varieties
- Registration offices have positive experiences with DUS testing of organic varieties
- Challenges are species-specific
  - GEVES, France – suchini
  - (Naktuinbouw, NL – lettuce)



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# DUS – comments from one organic cereal breeder:

- Varieties are maintained under organic conditions and DUS-testing is performed under relatively high fertilization levels under conventional farming condition  
→ testing organic rather than conventional if varieties behave differently
- Official trials should show remarks about the origin of seeds (organic or conventional)



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# DUS – comments from another organic cereal breeders:

- Did not experience difficulties with DUS testing of organic varieties
- Identified a contradiction in terms: Uniformity in pure line varieties versus organic varieties with higher level of genetic diversity, - their approach is to breed for diversity by breeding many uniform pure line varieties
- Identified a need for clearer definitions of categories (Pure line-, organic-, population-, conservation- and amateur varieties, heterogenous material etc.)



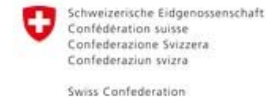
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