

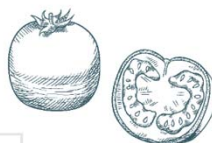


LIVESEED

Taste the innovation of seed ambassadors

Edwin Nuijten, Monika Messmer, Véronique Chable, Micaela Colley, Kaja Gutzen, Agnes Bruszik, Pedro Mendes Moreira

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www.liveseed.eu



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Workshop program

11.00-11.20 Introduction

11.20-11.40 world café and tasting of carrots

11.40-12.00 swapping groups

12.00-12.10 present taste statistics

12.10-12.30 Discussion



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Preconference Seed Ambassadors: Building an international network to advance organic seed systems

- Culinary breeding: celebrating a focus on taste, quality and food diversity
- Linking generations and cultures: supporting knowledge exchange and foster new developments
- Preserving diversity of cultures, traditions, foods and culinary uses is essential to cultivated biodiversity.
- A systems-based breeding concept: broadening approaches in organic breeding
- Fostering diversity in breeding approaches for the transition to truly sustainable food systems
- Involvement of the value chain in plant breeding and financing thereof
- Creating seed networks: Supporting the growth and success of the next generation of organic plant breeders and seed ambassadors



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Short overview of the preconference

- Monday: field tour and culinary evaluations



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Short overview of the preconference

- Monday: field tour and culinary evaluations: site 2



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After tasting the carrot sample, please write below one to three sensory descriptors that characterize it according to you
Sample
Descriptors 1:
Descriptors 2:
Descriptors 3:

Variable number of descriptors used according to the variety



A

```
SA
Item % glob % Intern freq Glob freq p.value v.test
crunchy 11.842105 6.952663 9 47 0.1371150 1.486621
supermarket_carrot 9.210526 5.029586 7 34 0.1505986 1.437420
```

B

```
SB
Item % glob % Intern freq Glob freq p.value v.test
aqueous 14.0625 5.177515 9 35 0.006725786 2.710125
tasteless 18.7500 10.650888 12 72 0.058153188 1.894541
well_well_balanced 1.5625 0.147929 1 1 0.189349112 1.312507
unwell_balanced 1.5625 0.147929 1 1 0.189349112 1.312507
tender 1.5625 0.147929 1 1 0.189349112 1.312507
soft_taste 1.5625 0.147929 1 1 0.189349112 1.312507
smooth 1.5625 0.147929 1 1 0.189349112 1.312507
light_sugared 1.5625 0.147929 1 1 0.189349112 1.312507
juicy 6.2500 2.810651 4 19 0.191438168 1.306336
very_juicy 0.0000 0.147929 0 1 0.189349112 1.312507
very_crunchy 0.0000 0.147929 0 1 0.189349112 1.312507
therebutin 0.0000 0.147929 0 1 0.189349112 1.312507
taste 0.0000 0.147929 0 1 0.189349112 1.312507
sweetness 0.0000 0.147929 0 1 0.189349112 1.312507
surprising_colour 0.0000 0.147929 0 1 0.189349112 1.312507
sparkling 0.0000 0.147929 0 1 0.189349112 1.312507
persistent 0.0000 0.147929 0 1 0.189349112 1.312507
pepper 0.0000 0.147929 0 1 0.189349112 1.312507
paper 0.0000 0.147929 0 1 0.189349112 1.312507
not_sweet 0.0000 0.147929 0 1 0.189349112 1.312507
not_persistent 0.0000 0.147929 0 1 0.189349112 1.312507
nice_taste 0.0000 0.147929 0 1 0.189349112 1.312507
nice_orange_color 0.0000 0.147929 0 1 0.189349112 1.312507
nice_color 0.0000 0.147929 0 1 0.189349112 1.312507
mineral 0.0000 0.147929 0 1 0.189349112 1.312507
lowly_sugared 0.0000 0.147929 0 1 0.189349112 1.312507
low_flavoured 0.0000 0.147929 0 1 0.189349112 1.312507
little_sugared 0.0000 0.147929 0 1 0.189349112 1.312507
light_terpen 0.0000 0.147929 0 1 0.189349112 1.312507
light_pungent 0.0000 0.147929 0 1 0.189349112 1.312507
light_juicy 0.0000 0.147929 0 1 0.189349112 1.312507
light_astringent 0.0000 0.147929 0 1 0.189349112 1.312507
light 0.0000 0.147929 0 1 0.189349112 1.312507
frozen 0.0000 0.147929 0 1 0.189349112 1.312507
flower 0.0000 0.147929 0 1 0.189349112 1.312507
explosive 0.0000 0.147929 0 1 0.189349112 1.312507
crunch 0.0000 0.147929 0 1 0.189349112 1.312507
cooked_taste 0.0000 0.147929 0 1 0.189349112 1.312507
complex 0.0000 0.147929 0 1 0.189349112 1.312507
chewy 0.0000 0.147929 0 1 0.189349112 1.312507
carrot_leaves 0.0000 0.147929 0 1 0.189349112 1.312507
bof 0.0000 0.147929 0 1 0.189349112 1.312507
biterness 0.0000 0.147929 0 1 0.189349112 1.312507
bitter_after_taste 0.0000 0.147929 0 1 0.189349112 1.312507
ananas 0.0000 0.147929 0 1 0.189349112 1.312507
crunchy 1.5625 6.952663 1 47 0.098822883 1.650587
```

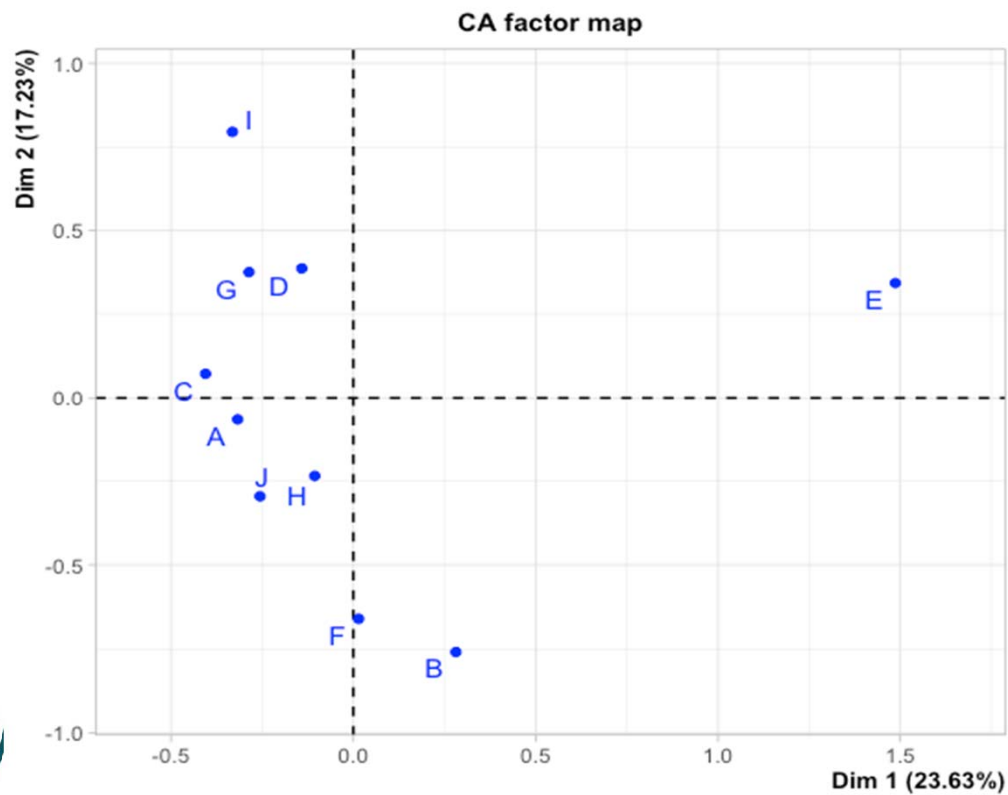
C

```
SC
Item % glob % Intern freq Glob freq p.value v.test
earthy 12.857143 2.958580 9 20 0.0001100661 3.867258
salty 4.285714 1.183432 3 8 0.0814288646 1.742455
light_bitter 2.857143 0.591716 2 4 0.1105726085 1.595625
sweet 4.285714 12.573964 3 85 0.0285318687 2.189895
```



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Carrot comparison on sensory descriptor, dimension 1 et 2



Delicious, sweet



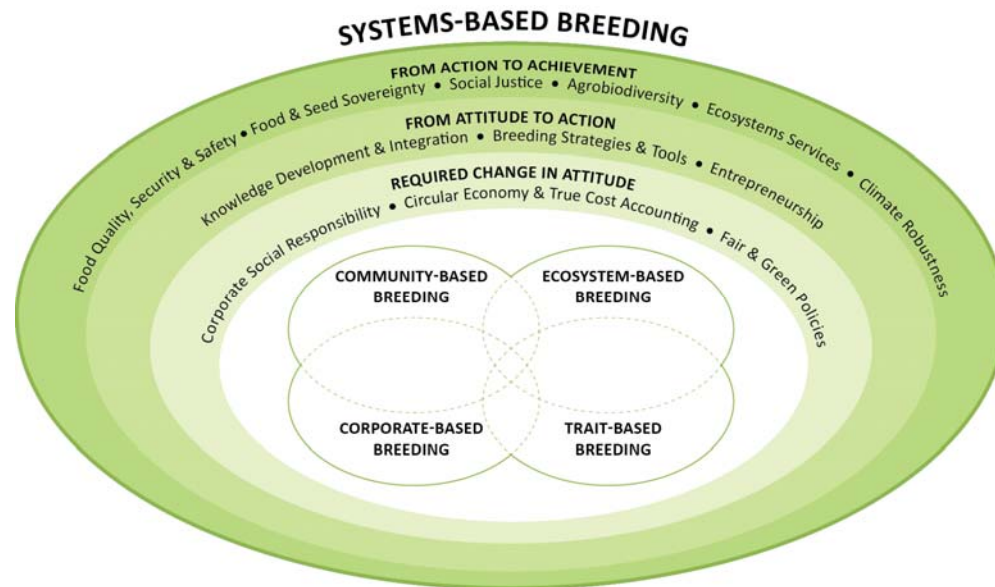
Tasteless, aqueous



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Workshop on systems based breeding: six goals for ecological and social resilience



Six key-elements (goals):

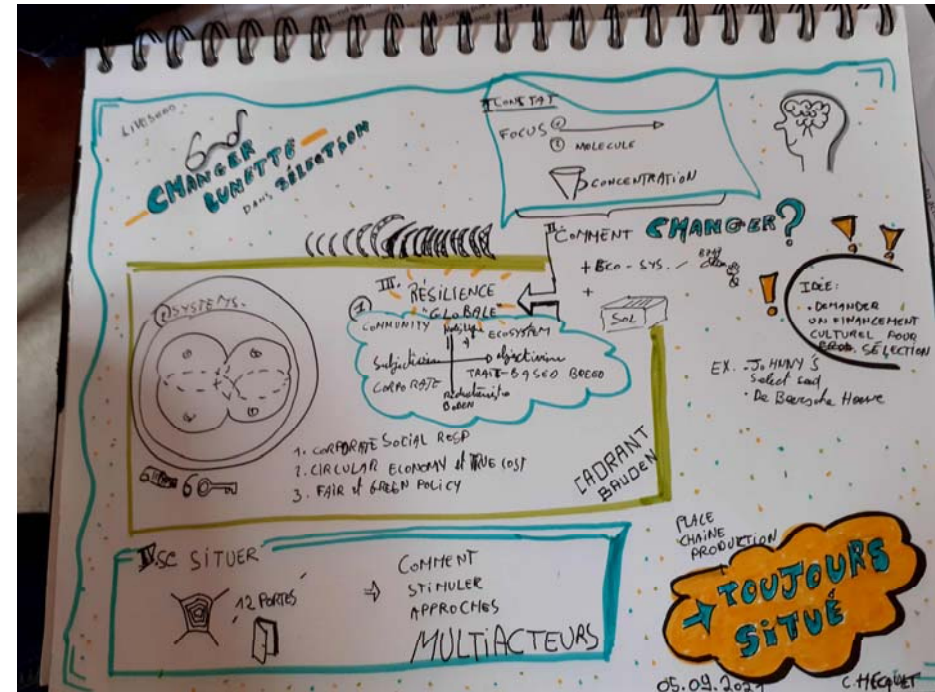
1. Social justice
2. Food security, quality and safety
3. Food and seed sovereignty
4. Agro-biodiversity
5. Ecosystem services
6. Climate robustness

(Lammerts van Bueren et al. 2018. *Towards resilience through systems-based plant breeding. A review. Agronomy for Sustainable Development.*)



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Workshop on systems based breeding

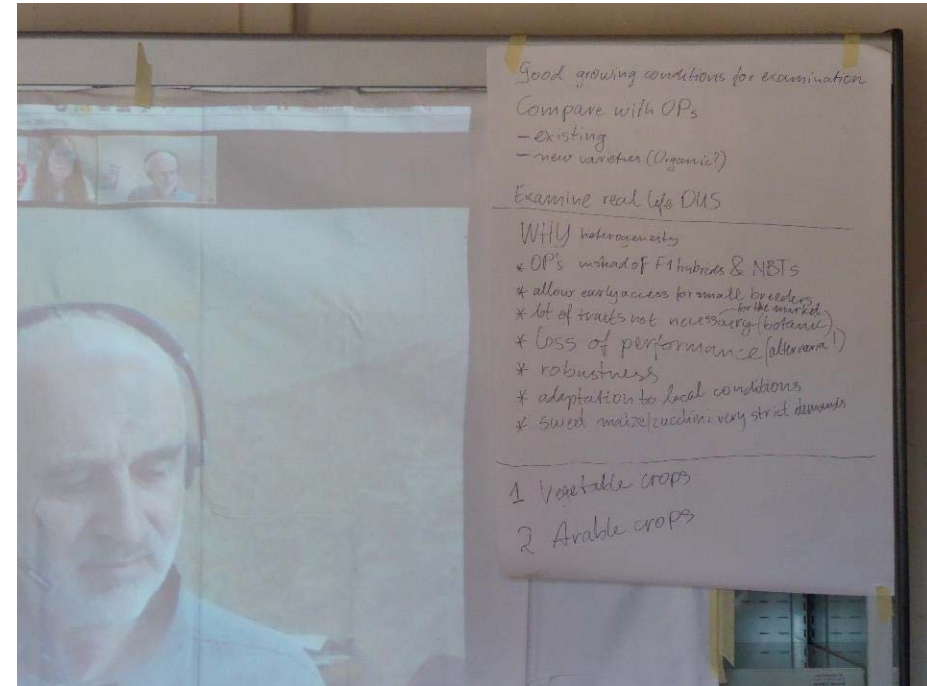


How to achieve mind shift?



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GEVES workshop on temporary experiment on organic varieties suited for organic production



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GEVES workshop on temporary experiment on organic varieties suited for organic production

- Discussion in the field on homogeneity of cultivars and effect of soil, climatic effects and growing conditions on carrot morphological traits
 - Discussion on the distinction of Organic Heterogeneous Material (OHM) that can be commercialized after notification from 2022 onwards and Organic Varieties suitable for Organic Production (OV)
 - upcoming EU temporary experiment on characterization and faster commercialization of OV
 - common trials for DUS testing of OV including different examination offices and organic breeders
 - discuss on feasibility of suggestion on adjusted DUS of LIVESEED and ECO-PB to allow less uniform cultivars and its impact on Plant Variety Protection of conventionally bred lines
- Consider difference between vegetables and arable crops with mandatory VCU
 - DUS traits per se are not related to performance but easy to assess traits
 - VCU should become optional to allow also varieties for speciality markets
 - if easier market access with adjusted registration for OV the plant protection of OV might not be possible
- Presently the EU commission is preparing outline and rules for adjusted DUS and VCU testing for OV
 - Present suggestion foresees one standard procedure to be applied to OV for all crop species
 - ECO-PB and examination need more meeting and propose a more differentiated procedure
 - conduct more carrot trials in 2022 with GEVES including candidate cultivars of organic breeders like Kulturaat, Saat:gut, Sativa, etc.

Day 1 and 2: parallel workshops

1 online / #5 on site: How to increase the resilience of the agroecosystems with the use of seed diversity?

2 (online only): Seed commons – preserving farming rights to seed, addressing intellectual property restrictions

3/6 (on site /online): Strategies to support the growth and success of the next generation of organic plant breeders and seed ambassadors

4/7 (on site /online): Resilient seed systems, community seed banks and networks, cultural diversity in seed systems



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Next steps to strengthen the international seed & breeding network

We need more organic breeding initiatives to cover demand of growing number of organic farmers for locally adapted cultivars, new crops and cultivar types with increased diversity to combat climate change and to ensure that also in future cultivars are available developed IFOAM compliant breeding methods <https://www.ifoam.bio/compatibility-breeding-techniques-organic-systems>

- **Advocacy, seed policy, seed legislation**
 - **#2 Seed commons preserving farmers rights (35)**
 - **International legal taskforce** on seed law, UPOV, GMO, new GMO, promote LIVESEED results on more flexibility in seed regulation for OHM and OV, revision of EU seed directives
 - **exchange with other organisations** like Via Campesina, OSSI, ECLLD
 - **conduct monthly / or bimonthly webinars to keep discussion going and find common vision and position**
 - **transparency on public resources invested in conventional vs. organic breeding**
- **Exchange on knowledge and practices across continents**
 - **#1, #5 How to increase resilience of agroecosystems with seed biodiversity (32)**
 - **face to face meetings on farm** for mutual exchange on knowledge and practice
 - **translation of IFOAM and other position papers in different languages**



Next steps to strengthen the international seed & breeding network

- **Networking and Awareness raising**
 - #7, #4 Resilient seed systems, community seed banks and networks (28)
 - keep the seed issue on the IFOAM agenda, maintain
 - Utilize Organic Seed Commons platform during and after OWC
<https://www.organicseedcommons.org/chats/5740452>
- **Next generation of organic plant breeders and seed ambassadors**
 - #3, #6 Strategies to support the growth and success of the next generation of organic plant breeders and seed ambassadors (40)
 - list of possible internships with organic breeders
 - winter schools on participatory plant breeding and resilient seed systems like those conducted by Edith
 - join forces of OSA and ECO-PB and share links of open source training material, webinars, videos
 - update material for practioners on Organic Farmknowledge Section seed with automatic translation
 - methods and technology can be exchanged globally, but type and implementation of training must be context specific on local level
- **Address challenges of organic seed production at local level**

Main outcome of the workshops: need to work on various priorities

- Training of seed professionals, at various levels
 - Exchange of knowledge and practices
- Building networks, at various levels
 - Improving synergies between existing networks
 - Agro-ecosystem resilience and social resilience
- Governance, seed policy, seed legislation
 - Working together, at regional, national and international level



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