



Workshop announcement

European Plant Science Organisation
<https://epsoweb.org>

Diverse Crops, Cropping Systems, and Diets for Food and Nutritional Security via Science-Driven Solutions

Online, 26.10.2021

Brussels, 17.9.2021

Goal: Develop a framework linking the 4 EPSO concepts together, populate it with key examples and facts for the production of an EPSO report, recommendations to the European Commission and Member States, and ultimately a manuscript for publication.

Lead: Alan Schulman, Angelo Santino, Odd Arne Rognli, Ernst van den Ende, Ulrich Schurr

Participants: EPSO members (Representatives, Supporting Scientists, additional experts in the various aspects) please register by email to alan.schulman@helsinki.fi and Karin.Metzlaff@epsomail.org before 12th October.

Format: The workshop will begin with short inspirational notes across the range of topics, followed by open discussion and organisation of a report and manuscript.

Concepts:

- (1) Address Food and Nutritional Security, environmental sustainability and human health in parallel as much as possible.
- (2) Improve crops towards 'Diverse crops for diverse diets and human and resilient production'
- (3) 'Combine approaches on crop improvement, crop management and crop processing', to enable interdisciplinary approaches with co-benefits in Europe and beyond.
- (4) Policy makers should define the goals to reach but leave the pathways how to achieve this open to the stakeholders to encourage innovation and combining advantages of different approaches.

The **environmental sustainability** of agriculture and silviculture is aided by cultivation of locally and regionally adapted **diverse crops** to match the diverse European environments. **Science-driven crop improvement as well as new crop management** (e.g., co-cultivation) **and crop processing** approaches will optimize both environmental sustainability and food production, while delivering co-benefits in Europe and beyond. Simultaneously, diverse crops enable **diverse diets**, and through crop improvement, provide **food and nutritional security** in the face of **climate change**. Food and nutritional security from a diverse diet is a major component of **human health** and societal stability. Therefore, food and nutritional security, environmental sustainability and human health need to be addressed **in parallel through integrated solutions**. The individual components of this framework (e.g., micronutrient content in harvested food or nutrient use efficiency in the cultivated plant) represent milestones on the pathways to the goals to be reached.

Policy makers should define these goals, but leave choice of the pathways to them open to the stakeholders to encourage innovation, flexibility, and evidence-based confirmation. Through this approach, policy makers will be able to mobilize the European plant research community and all interested actors in agri-food research and innovation to achieve a sustainable agriculture for sustainable, healthful, and nutritious food supporting the wellbeing of both people and the environment.

Crop systems:

Inclusive for the purposes of the workshop. Field crops, horticultural crops, dual-use crops (food-feed, food-fibre), annual and perennial, arboreal and herbaceous.

History:

- '1001 crops – diverse crops for diverse diets and human health and sustainable production' EPSO submission to EC mission ideas call, 30.3.2018 [\[link\]](#)
- EC funding in H2020 / Horizon Europe so far tends to be for
 - DG AGRI: environmental sustainability, crop management (less crop improvement)
 - DG RTD: food systems / processing .. (hardly crop improvement for more nutritious diets)
 - Only start to cross-reference 'co-benefits'
- Referred to in EPSO
 - statements on the
 - Farm to Fork strategy, 2.6.2020 [\[link\]](#)
 - Nutritional security, 11.5.2020 [\[link\]](#)
 - Biodiversity Draft SRIA, 29.1.2021 [\[link\]](#)
 - Informal science and policy meetings on GE & SDGs..., which started 19.9.2019
- Karin draft topic for the EC HE Draft WP 2023-24, 6.10.2020
- Uli @ science policy session PBE 21 conference
- Karin @ GM 2021

Suggestions from previous discussions

- Healthy diets / human health: Nutritional Security Working Group (Angelo, Chiara, Monika)
 - Alan: COVID – self-sufficiency (in Baltics 7 other regions of Europe)
 - Protein crops: Alan, Aldo
 - Iain (IBERS): UK uses 'eat well plate', recently upgraded to 'sustainably eat well plate'
- Resilient production
 - Angela S, Paul SL, Corne P (Plants and Microbiomes Working Group): Diverse with diverse microbiomes
 - Carole / Isabelle (INRAE): Diverse crops with diverse cropping systems
 - Bruce (UCD): for lower GHG footprint (carbon capture) – runs project 'GHG manage' funded by ERA-GAS
 - Uli: circularity
- George C (MPI COL):
- Heiko & Kirsi (VTT): For non-food products – e.g. cellular agriculture
- Michele M (Udine): combining tradition with innovation
- Uli: circularity
- Alan, Uli, Ernst, Karin:
 - Focus on Europe
 - DevCo WG chairs might organise a 2nd workshop on the global perspective if there is sufficient interest (warmer climates – Africa ..)
 - Food and non-food uses (fibre ..)
 - Include regenerative agriculture (organic) – limits, what can we do for e.g. N ...
 - Identify leaders per aspect / chapter (see above) → inspirational notes → chair discussion at workshop → write chapter afterwards

Publications relevant to this workshop:

EPSO Publications:

- EPSO: [Repurposing agricultural support to transform food systems' FAO, UNDP and UNEP Report – will be discussed at EPSO concepts workshop 26 October 2021](#), 16.9.2021
- Opinion paper: [Designing the Crops for the Future; The CropBooster Program](#) – mobilize the European plant research community and all interested actors in agri-food research and innovation to face the challenge, 30.7.2021
- EPSO: [Statement on the Draft Strategic Research and Innovation Strategy by the Biodiversity Partnership Consortium](#), 29.1.2021
- EPSO: [Statement on the Farm to Fork Strategy by the European Commission](#), 2.6.2020
- EPSO: [Contributions from plant science towards Nutritional Security and human health](#), Draft Statement, 11.5.2020
- EPSO [Submission to the EC consultation on EU research and innovation missions \(FP9\)](#), 30/03/2018, based on the [Mazzucato report](#), welcoming the mission concept and offering to help further develop and implement it as it highlights similar principles we proposed in the [EPSO position on FP9](#) (19.9.2017). EPSO suggest three mission ideas: 1) 1001 Crops – diverse crops for diverse diets and human health and sustainable production, 2) Planty Food – Sustainable agriculture for sustainable food, and 3) Green Bio-Factories – New bioactives for pharma, cosmetics, food and fine chemicals. [Completed online questionnaire](#). [Online questionnaire](#).

EC publications:

- EU Green Deal EC: [A European Green Deal](#), 11.12.2019 → strategies relevant to the plant sector:
 - EC: [Farm to Fork Strategy](#), 20.5.2020
 - EC: [Biodiversity Strategy for 2030](#), 20.5.2020
 - Biodiversity partnership [DRAFT SRIA](#), January 2021
 - EC: [EU Forest Strategy for 2030](#), adopted by the 16.7.21 → EC [Press release](#); to discuss at EPSO WG meeting 27.9.2021.

FAO publication:

- FAO, UNDP, UNEP. 2021: A multi-billion-dollar opportunity – Repurposing agricultural support to transform food systems: [Summary](#): In brief. 28 pages [\[link\]](#); [Full report](#): 180 p. [\[link\]](#)

Contacts

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About EPSO

EPSO, the European Plant Science Organisation, is an independent academic organisation that represents more than 200 research institutes, departments and universities from 32 countries, mainly from Europe, and 2.700 individuals Personal Members, representing over 26 000 people working in plant science. EPSO's mission is to improve the impact and visibility of plant science in Europe, to provide authoritative source of independent information on plant science including science advice to policy, and to promote training of plant scientists to meet the 21st century challenges in breeding, agriculture, horticulture, forestry, plant ecology and sectors related to plant science. <https://epsoweb.org> | EU Transparency Register Number 38511867304-09