

# AVENA WG REPORT (2024–2025)

In preparation for the 18th Steering Committee Meeting, Tbilisi, Georgia, 2-4 June 2026

Compiled by WG Chair: Andreas Katsiotis / Edyta Paczos-Grzęda

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## 1. CONTRIBUTION TO ECPGR OBJECTIVES

### 1.1. Achievements and success stories

- To efficiently conserve and provide access to unique germplasm in Europe through AEGIS and the European Collection  
n/a
- To provide passport and phenotypic information of actively conserved European PGRFA diversity *ex situ* and *in situ* through the EURISCO catalogue

Through the [UMORPHEAS](#) project, a new accurate and updated morphological descriptor guide for oats is being prepared. This will reliably be used by non-specialists to ensure uniform scoring of phenotypes.

- To improve *in situ* conservation and use of crop wild relatives  
n/a
- To promote on-farm conservation and management of European PGRFA diversity  
n/a
- To promote use of PGRFA  
n/a

### 1.2. Gaps or constraints identified

n/a

## 2. GRANT SCHEME ACTIVITIES, WG MEETINGS AND EVA ACTIVITIES

- **Ongoing Grant Scheme proposals (Phase X: submitted:1; approved:1)**
  - [Umorpheas](#) (Updated MORPHological dEscriptors for Avena Species)
- **Total number of partners involved in Grant Scheme: 6 from 4 countries**
  - ECPGR-funded: 5 from 4 countries
  - Self-funded: 1 from 1 country
- **Meetings held**
  - Umorpheas, virtual meeting, 9 November 2023
  - Umorpheas kick-off meeting, online, 11 March 2022
- **Total number of partners involved in WG Meeting: n/a**

- **Reports and related data**
  - UMORPHEAS progress report, online, February 2026
- **Funds mobilized**
  - ECPGR granted funds: €15,000
  - Inputs in-kind declared in Grant activities: €0

### 3. OTHER ACTIVITIES (CROSS-WORKING GROUP ACTIVITIES, LINKS WITH OTHER NETWORKS, PROJECTS AND INITIATIVES)

- **Cross-Working Group activities:**  
None.
- **Others:**
  - WG members participated in PanOat: the oat pangenome project. The goal of the project was the construction of annotated chromosome-scale reference genome sequences for 29 diverse oat genotypes. PanOat focuses mainly on hexaploid *Avena sativa*, but also includes diploid and tetraploid *Avena* progenitors and relative (<https://graingenes.org/GG3/PanOat>).
  - WG members were involved in preparation and submission of Horizon 2020 project entitled: BREAKFAST: BREEDING FOR RESILIENCE IN EUROPEAN AGROECOSYSTEMS WITH A KNOWLEDGE-BASED G×E×M FRAMEWORK TO ACHIEVE MULTI-STRESS TOLERANCE IN OATS. Coordinator of the project was Lucia Gutierrez from the Department of Plant Breeding, Swedish University of Agricultural Sciences (SLU), Alnarp, Sweden. The proposal was not promoted to stage 2.
  - Several members of the Avena WG attended the EUCARPIA General Congress “Global Challenges for Crop Improvement” held 18-23 August 2024 in Leipzig, Germany.
  - Members of the Avena WG attended MONOGRAM Cereals & Grasses Research Network held 7-10 April 2025 in Aberystwyth, UK.
  - Members of the Avena WG attended the 19th EWAC The European Cereals Genetics Co-operative Conference held 10 November 2025 in Budapest, Hungary.
  - Members of the Avena WG attended the 8th Conference on Cereal Biotechnology and Breeding held 11-13 November 2025 in Budapest, Hungary.
  - December 17 2025 Avena WG members, Elena Prats and Edyta Paczos-Grzeda, participated in on-line PanOat meeting, which was set to summarize the consortium activity and look ahead at the next steps in oat research. The meeting was organized by Martin Mascher (IPK Gatersleben) and Wubishet Bekele (AAFC Canada).

### 4. WORKING GROUP DOCUMENTS AND PUBLICATIONS

WG members publications:

- Bekele, W.A., Avni, R., (...), **Langdon T.**, Maughan P.J., **Paczos-Grzeda E.**, **Prats E.**, Sen T.Z., Mascher M., Tinkeret N.A. **2025**. Global genomic population structure of wild and cultivated oat reveals signatures of chromosome rearrangements. *Nat Commun* 16, 9486 <https://doi.org/10.1038/s41467-025-57895-3>
- Jevtić, R.; Župunski, V.; **Brbaklić, L.**; Živančev, D.; Dolapčev Rakić, A.; Aćin, V.; Mikić, S.; Orbović, B. Potential for Enhancing Seed Yield and Quality of Spring Oat

and Hull-Less Barley Through Intercropping with Pea Under the Pannonian Climate. *Agronomy* 2025, 15, 1349. <https://doi.org/10.3390/agronomy15061349>

- Girija, A., Canales, F.J., Haddadi, B.S., Dye, R., Corke, F., Williams, K. Phillips H., Beckmann M., **Prats E.**, Doonan J.H., Mur L.J.A. (2025) Metabolomic approaches suggest two mechanisms of drought response post-anthesis in Mediterranean oat (*Avena sativa* L.) cultivars. *Physiologia Plantarum*, 177(2), e70181. <https://doi.org/10.1111/ppl.70181>
- Montilla-Bascon G, Cristescu SM, Mur LAJ, **Prats E.** Phytoglobin Scavenging of Nitric Oxide Is Associated With Ethylene Reduction and Drought Tolerance in Oat (*Avena sativa*). *Physiol Plant*. 2025 Nov-Dec;177(6):e70597. <https://doi:10.1111/ppl.70597>
- Morcia, C.; **Terzi, V.**; Ghizzoni, R.; Carrara, I.; Gazzetti, K. Looking for Fusarium Resistance in Oats: An Update. *Agronomy* 2024, 14, 505. <https://doi.org/10.3390/agronomy14030505>

## 5. EXPECTED ADDITIONAL ACHIEVEMENTS AND FUTURE ACTIVITIES

Currently, I have carried out a literature review aimed at identifying scientists and institutions that have published on oats in recent years. I analyzed these publications to determine which research topics are being addressed in oat and which of these topics engage the largest number of research groups. I also reviewed oat-related projects that are currently being implemented in Europe and plan to conduct a similar search for countries outside Europe.

In addition, I examined how a person with no prior experience in navigating genetic resources can access wild species related to *Avena sativa* and found that this is not a straightforward process.

At the meeting planned for March 2026, I would like to listen to experienced Working Group Chairs and draw inspiration from their modes of operation.

After collecting the above-mentioned data and contacting national representatives, I will aim to reach out to individuals who are actively working with oat. Based on our experience with this crop and our shared interests, we will try to define directions that are aligned with ECPGR priorities and that we would like to develop further. If by June 2026 I succeed in engaging a sufficient number of people, I will organize an online meeting at the end of June. Depending on the outcomes, we will then schedule a follow-up meeting in the autumn to discuss the possibility of preparing a proposal to be submitted under the 4th ECPGR Grant Scheme call for proposals.