

AVENA WG REPORT FOR PHASE IX (2014-2018)

Submitted to the 15th Steering Committee Meeting, Thessaloniki, Greece, May 2018
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1. CONTRIBUTION TO ECPGR OBJECTIVES

1.1. Achievements and success stories

Outcome 1. Aegis is operational; accessions of Aegis are characterized and evaluated.

The AQUAS quality system was adopted and implemented by the WG through the approval in March 2016 of the *Avena*-specific genebank standards for orthodox seeds.

1.2. Gaps or constraints identified

2. GRANT SCHEME ACTIVITIES

- **Grant Scheme proposals (submitted: 0)**



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

- **Cross-Working Group activities:** none
- **Others**
 - Several members of the *Avena* WG attended the [10th International Oat Conference](#) held 11-15 July 2016 in St. Petersburg, Russian Federation. They held a small satellite meeting on 13 July to discuss ECPGR matters (see minutes below, section 4).
 - H2020
Submission of a Horizon 2020 project entitled 'Genetic Resources for Agriculture Diversification and Quality' (acronym GRAC-Q). Coordinator for the project was Dr. Christoph Germeier. This project evolved from the experience gathered from the three previous AGRI GEN RES EC funded projects involving *Avena*:
 1. Evaluation and enhancement of *Avena* landrace collections for extensification of the genetic basis of *Avena* for quality and resistance breeding – Coordinator Dr. Andreas Katsiotis
 2. AVEQ - *Avena* for quality in human consumption – Coordinator Dr. Christoph Germeier

3. AEGRO – An integrated European *in-situ* management work plan – Coordinator Dr. Lothar Frese

Twenty-three partners were included in the project, a large number of which were also involved in the previously mentioned projects. Except Avena, other crops included were lentil, faba bean and linseed. The project reached the minimum thresholds necessary for 'stage 1-evaluation' and it was invited for a full proposal submission. During 'stage 2' the proposal was not selected for funding.

4. WORKING GROUP DOCUMENTS AND PUBLICATIONS

-  [Crop-specific genebank standards for orthodox seeds \(agreed by the Avena WG, March 2016\)](#)
- Report of the satellite meeting in St Petersburg  [Minutes of the meeting.](#)
- Selection of publications from Avena Working Group members (in bold) related to WG activities (the list below contains publications after 2014 present in database 'Agricola' for all Avena WG members):

S. Constandinou, N. Nikoloudakis, A. C. Kyrtzis, **A. Katsiotis**. 2018. Genetic diversity of *Avena ventricosa* populations along an ecogeographical transect in Cyprus is correlated to environmental variables. *PLOS ONE* (under publication).

N. Nikoloudakis, A. Aissat, **A. Katsiotis**. 2018 Screening *A. ventricosa* populations for 2n gametes. *Euphytica* 214 (34) doi.org/10.1007/s10681-017-2017-x

N. Nikoloudakis, K. Bladenopoulos, **A. Katsiotis**. 2016. Structural patterns and genetic diversity among oat (*Avena*) landraces assessed by microsatellite markers and morphological analysis. *Genetic Resources and Crop Evolution* 63(5), 801-811

Tumino G, Voorrips RE, Rizza F, Badeck FW, Morcia C, Ghizzoni R, **Germeier CU**, Paulo MJ, **Terzi V**, Smulders MJ. 2016. Population structure and genome-wide association analysis for frost tolerance in oat using continuous SNP array signal intensity ratios. *Theor Appl Genet.* 129(9):1711-24. doi: 10.1007/s00122-016-2734-y.

V. Sterna, **S. Zute**, L. Brunava. 2016. Oat Grain Composition and its Nutrition Benefice. *Agriculture and Agricultural Science Procedia*. Volume 8: 252-256

M. Boczkowska, **B. Łapiński**, I. Kordulasińska, D. F. Dostatny, J. H. Czembor. 2016. Promoting the Use of Common Oat Genetic Resources through Diversity Analysis and Core Collection Construction *PLOS ONE* <https://doi.org/10.1371/journal.pone.0167855>

H. Yan, W. A. Bekele, C. P. Wight, Y. Peng, **T. Langdon**, R. G. Latta, Y. Bi Fu, A. Diederichsen, C. J. Howarth, E. N. Jellen, B. Boyle, Y. Wei, N. A. Tinker. 2016. High-density marker profiling confirms ancestral genomes of Avena species and identifies D-genome chromosomes of hexaploid oat. *Theor Appl Genet.* 129 (11):2133-2149

5. EXPECTED ADDITIONAL ACHIEVEMENTS AND FUTURE ACTIVITIES

- It is expected that a proposal will be submitted under the Sixth Call of the ECPGR Activity Grant Scheme (Phase IX).