

BARLEY GERMINATION AFTER FLOODING EVENTS DEPENDS ON HYPOXIA-INDUCED SECONDARY DORMANCY

GÓMEZ-ÁLVAREZ E. M.*, TONDELLI A.***, NGHI K. N.*, VIKTORIIA V.*, VALÈ G.***, PERATA P.*, PUCCIARIELLO C.*

*) Center of Plant Sciences, Scuola Superiore Sant'Anna - Pisa (Italy)

**) Council for Agricultural Research and Economics (CREA), Research Centre for Genomics and Bioinformatics, Fiorenzuola d'Arda, Italy

***) Dipartimento di Scienze e Innovazione Tecnologica, Università del Piemonte Orientale, Vercelli, Italy

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Global climate change has increased flooding events, with a strong impact on crop production. Flooding events culminate in a reduction of oxygen availability for plants. The spatial-temporal limitation of oxygen compromises the plant function, which leads to growth reduction and yield loss. We tested the capacity of a large panel of barley accessions to germinate after a short period of submergence followed by a recovery phase. Sensitive barley activates secondary dormancy as a consequence of low oxygen state. A genome wide association study identified a laccase located in a region of marker-trait association as a key player in this process. We believe that our results open a new perspective in barley tolerance to short periods of flooding.