

DEFRA Oilseed Rape Genetic Improvement Network
2020 Stakeholder *Virtual* Forum
24th November 2020

To register: email lenka.havlickova@york.ac.uk or
georgia.mitrousia@limagrains.co.uk by 16th November

Background to the Oilseed Rape Genetic Improvement Network (OREGIN)

OREGIN is one of four projects supported by DEFRA as part of a long-term research platform for the genetic improvement of arable crops and fresh produce. OREGIN project started in 2003 and is now in its 5th stage. The current PI is Prof Ian Bancroft of the University of York, with partner organisations: ADAS, the John Innes Centre, NIAB, Rothamsted Research and Scotland's Rural College, along with Universities of Hertfordshire, Nottingham and Reading, with AHDB leading Knowledge Transfer to growers. Two plant breeding companies, Elsoms and Limagrains are also involved. Productive interaction between such stakeholders and academics involved in rapeseed research underpins the long-term competitiveness of the sector. To continue promotion of this interaction, OREGIN organises and supports regular engagement via meetings, including the Annual Stakeholder Forum. More broadly, OREGIN promotes the availability of shared underpinning plant and microbial resources and information with the aim of promoting an open approach to pre-competitive research, reducing the risk of redundant activity and enabling added value to be realised. Building on previous research that implicated specific genes as being detrimental to important characteristics of rapeseed, the present phase of OREGIN includes pre-breeding activities to test predicted impacts of the loss of these genes. This involves the development of new winter oilseed rape lines with benchmarking relative to a panel of reference varieties, along with the development of molecular markers to assist future breeding. Priority plant characteristics being investigated include tolerance to insects, viruses and diseases, including phoma stem canker, light leaf spot and clubroot, and improved fertiliser use efficiency. Further information is available from the OREGIN website:
<http://www.herts.ac.uk/oregin>.

2020 Stakeholder Forum

Successful establishment is a prerequisite for productive crops. Autumn-sown crops, such as Winter Oilseed Rape (WOSR), face particular challenges in establishment prior to winter due to increasing environmental variability, pressures from pests and diseases and loss of chemical controls. The theme for the OREGIN Stakeholder Forum this year is general establishment (including pests, starter fertilisers & biostimulants, moisture, drilling, disease control, hybrid vigour etc.). Talks on these subjects have been invited from across the rapeseed academic and industry sectors to share experience and identify emerging opportunities.

Overall project progress

The main objectives of the OREGIN project is to drive interaction and collaboration. This has been a challenging year as face-to-face meetings are a vital part of this. The inclusive nature of the project helped, for example by enabling interaction of a range of stakeholders and academic partners during the OREGIN Management Meeting in July 2020. The 2020 Stakeholder Forum has been combined with the 2020 UK *Brassica* Research Community meeting, to promote broader interaction. The combined meeting is being organised by OREGIN. Sharing of news and information continues to be via supported web resources including OREGIN (<http://www.herts.ac.uk/oregin/information>), UK-BRC (<http://uk-brc.info/>) and York Oilseed Rape Knowledgebase (<http://www.yorkknowledgebase.info/>). Ongoing physical resource sharing includes plant germplasm and pathogen accessions. Field trials have been completed for 2019/20 with data analysis in progress. Publicly accessible 2020/21 field trials are in the ground, focusing on newly fixed germplasm and key accessions of interest for beneficial traits. Pre-breeding winter oilseed rape lines with novel genetic characteristics for assessment of their impacts on priority traits have been developed and will enable the testing of 12 genes for their impacts on priority traits. The programme is on track for the amplification of seeds from these lines this year, ready for them to be the focus of the 2021/22 field trials.