**Minutes of the Oilseed Rape Genetic Improvement Network Management Meeting**

4th February 2020

University of York, B/B/102A Seminar Room

Present:

ADAS: Kate Storer (**KS**)

AHDB: Dhan Bandari (**DB**)

DEFRA: Helen Riordan (**HR**)

Elsoms: Mark Nightingale (**MN**)

Limagrain: Georgia Mitrousia (**GM**)

NIAB: Tom Wood (**TW**)

RRes: Jon West (**JW**)

UoH: Bruce Fitt (**BF**)

UoN: Rory Hayden (**RH**)

UoY: Ian Bancroft (**IB**), Lenka Havlickova (**LH**), Zhesi He (**ZH**)

UoW: Graham Teakle (**GT**)

Apologies: ADAS: Pete Berry; SRUC Fiona Burnett, UoH Yongju Huang, RRes Fred Beaudoin

Organiser: **IB** (UoY), **LH** (UoY)

Chair: **IB**

Minutes: **LH**

**IB** opens the meeting, offers the apologies for the missing members. Everyone is happy with previous minutes circulated in August. **AP21** **LH** send an e-mail to Jamie to put minutes from previous meeting to the website.

**Actions from the previous minutes:**

**AP05: MN** All seeds Limagrain had went back to Nottingham, but we are happy to do NIR. **AP22** RH to send seeds stock to Mark (the actual batch which was sown to avoid EA contamination)

**AP10 - done**

**AP12:** **IB:** Vasilis promised he would send that to me today and I'm assuming because he didn't email it so it will be with Georgia.

**AP13**: **IB:** I've got a report from Fiona in the form of a presentation so I'll give that presentation today about their activity on the clubroot pathogen.

**AP14**: Vasilis has confirmed that Georgia is taking over his role in terms of developing the F1 hybrid material and Graham Teakle is sorting the material for that so it's going to be 113 lines, and we'll talk about that a bit further down the programme.

**AP15**: **JW:** done, the location is no more required we know where it is

**AP16**: – **IB:** done, GT provided all the details of the new DFFS lines and they were included for the agreed panel for amplification at Nottingham this year.

**AP17:**- BF confirmed that Jamie is still maintaining the OREGIN website and is in hand.

**AP18**: **IB:** it will be Zhesi’s template for the analysis so we could do a mini Association analysis on it. I know that the trials are really too small for that to have a lot of power but it's something without too much effort we can do if the data is in the right format to add impact to that. ZH confirmed she has already template for that. JW will you need a summary or the mean of all the individual plants scores for each plot to be put into the template? Probably only, the mean is, is what is your need for your association mapping? IB: it will be based on your knowledge of the data so whatever is your best estimate of the value before, and usually that will be mean. The important thing about the template is that it makes sure everything is associated with an accession number, because we had to sign some new accessions, and it's we know it's not reliable just using variety names. So that's the main purpose of it and then everything's tractable. The website would be if anybody from outside the project wanted to do the assessment, but they'll have to go through the trial managers anyway. So we can just pass on the template to anyone who requests to view it. That will be probably easier. **AP23:** **ZH** will make sure that the template for AT is ready, and **LH** will email it via the circulation list.

AP19: **IB:** we've not got the data, data sent through to anybody yet so action point 19 we will come back to. So that in fact should be the data to Jamie for putting on the website as raw data, and also send to perhaps to Lenka to then feed into AT analysis should we decided that we have resources to do that later. And also the labelling is important for example flag as OREGIN 2019 trial data.

**DB:** are we covering website in the agenda? IB: yes in WP6.1. DB in last RAG meeting the recommendation was trying to get the GIN websites standardised in terms of effectiveness as possible. IB: it depends on the resources. BF: Jamie is not funded by OREGIN and it will be difficult to get him to do something at the moment, because unexpectedly we have got 800 new master students from India. Surely it can be done, but not quickly. DB: it should not be done now, but the recommendation was that each of the GIN website should be more user friendly for people from outside – to understand better WP etc. IB we are regularly updating our websites with current minutes, presentations etc. BF: Of course, not from the beginning, old things were taking too much space.

**Project management and administrative matters**

IB: A clean draft of the collaboration agreement went out for signature in middle of January. Apologies that it has been taking such a long time.

HR: Introducing herself, the nutritional scoping work has been reviewed and there is a possibility of some future funding in that area.

**Updates on work programme OREGIN 5**

**WP1.1 Direct interactions between stakeholders and academic project partners. Activity throughout; Milestones 1, 5, 15, 20, 33, 38, 56, 62, 76, 81, 87**

**IB:** as scheduled

**WP1.2 Facilitated interactions between stakeholders and the wider academic community. Activity throughout; Milestones 3, 9, 17, 27, 36, 49, 59, 69, 78, 86**

IB: Vasilis promised a little report on the stakeholder forum, did he finish it? GM: it is ongoing he has not finished it yet. IB: the Stakeholder forum happened on the 26th November. There was ~40 people, half of them were from industry and people thought it went very well - it had good feedback. IB reported it to the management group already.

**BF** mentioning the agriculture food charities partnership meeting open to anyone with interest in oilseed rape. It will be at the University of Hartfordshire on the 16th of April. Please visit AFCP website (<https://www.afcp.org.uk/> ) for booking. **IB** this could it be put on the Oregin website. **AP24** **BF** check with Jamie to put information about AFCP Forum to the OREGIN website.

**IB** The annual sponsorship of the UK BRC meeting, which this year is going to be held at JIC and Rachel Wells is organising it at the JIC. **AP25 RW & LH** will poll opinions and fix the date of next UK BRC meeting. [Now agreed as Thursday, May 14th]

**IB** we should start thinking about this year OREGIN stakeholder meeting. Any ideas/preferences on the topic? UoY do not have staff time to organise, but will help as much as we can and we will pay for the catering as usual.

**AP26 GM** ask Vasilis what he prefers to do this year for the OREGIN stakeholders meeting. It may be that it gets delegated to GM or MN if he has a time? **GM** do we have any common location? **MN** PGRO could be an option or if you can it host it (ie. 40-50 people). **MN** needs to be booked soon. **IB** we should let the stakeholder partners decide what they want to do and where, and let the academic partners know what your preferences are. UoY can offer minimal hep in organising but the mailing list and everything are fairly well set up from last time, and Dan is always there to help with the contacting the stakeholders.

**DB** colleague Jason Pool involved with putting out a publicity can get much of that if having more info in advance and can inform growers. If the titles of the talks will be simple and “more grower friendly” it can attract more people. **MN** November would be a good time as confirmed last year **DB** any information before then would be beneficial. **IB** our next management meeting in August we have to have a clear idea who is doing it and what the theme is going to be and so that would be the time to get it circulated about then.

**WP2.1 Maintain and make available for cost-recovered distribution core pathogen sets. Activity throughout; Milestone 13, 31, 54, 74, 91**

**BF:** Presentation on Phoma stem canker pathogens. New isolates added to our collection: 8 virulent against *Rlm7*, 2 against *Rlm3* and *Rlm7*. L. biglobosa – different types. We have got at least one isolate from China (brassicae) and we have got a few other different types from different countries. Light leaf spot – most of them from the UK, but some from different part of word.

**IB** giving updates from Fiona Burnett on clubroot isolates. Some material collected in 2018 and 2019 - available for distribution. Recently some material sent to the scientist in the Czech Republic. Some of this work has been included in AHDB report so there is wider dissemination of these activities.

**JW**: alerting about the new species occurring in northwest USA causing chlorotic leaf spot. We published this work and the JW circulate the paper if people are interested.

**WP2.2 Maintain and make available for cost-recovered distribution *B. napus* DFFS lines. Activity throughout; Milestones 14, 23, 32, 55, 75, 92**

**GT:** next lot plants for bulking is growing in polytunnels. They are more prone to aphids but all is in hands as planned.

**WP2.3 Amplify panel of reference *B. napus* varieties for trialling. Activity in months 9-44; Milestones 21, 40, 63**

**RH:** Everything is going well this year and everything is on track for this year amplification.

**WP3.2 Develop pre-breeding lines from exotic *B. napus* and spring oilseed rape. Activity in months 3-44; Milestones 6, 24, 41, 45, 64**

**WP3.3 Develop pre-breeding lines from mutagenized populations. Activity in months 3-44; Milestones 7, 25, 42, 46, 65**

**WP3.4 Develop pre-breeding lines from alien introgression material. Activity in months 3-44; Milestones 8, 26, 43, 47, 66**

**LH** WP3.2 Lot of work went into the developing IHPs markers to control the crossing of plants with big structural variation. The pre-breeding lines in progress, some of them are homozygous, some of them are still in the heterozygous stage (F1, F2, M3, BC1). Almost all markers for MAS (to track “00” and the target mutation) developed, plants in process of screening and different stages of crossing. Mutants are covering wax, sterol biosynthesis, GSL, virus resistance, root hair.

WP3.4 The PCR-based screening of ~600 M2 plants finished. We identified 5 mutated restorer plants showing changes in the size of radish introgression. These lines has been send for DNAseq and the date are just being analysed at the moment.

**WP3.5 Develop pre-breeding F1 hybrids between winter and spring oilseed rape. Activity in months 1-32; Milestones 22, 39**

GM: There has been some delays because of changing the personnel, but we are now in a good hands and the time availability. The latest plan was that 113 lines identified are going to be crossed to some of our female lines. This is a mixture of winter and spring types and the plan is that the spring material will be grown initially in York and will be sampled and tested to be proven to be GMO free and then the plants will be transferred to Limagrain. Winter and semi-winter material can get straight to Limagrain. **GM** and **GT** will get the paperwork done for that.

**IB** for those who don’t know, this has become quite an important activity in terms of helping develop plants with the biggest outgrow pests and also as supporting data for potential linked proposal to look at this, especially in the area where industry is interested. **MN** autumn vigour is particularly important, majority plants doing poorly in the autumn. **JW** to MN: any priming on seeds done? **MN** we did some experiments – you get day or 1.5 advantage but after about 10 days, you don't see any difference. The real key is having moisture. If you prime seeds, you can also sow it much later and avoid migrating pests and larvae attacks. Mid of September sowing has fraction load than August, but every week delay in sowing causes a yield penalty.

**WP4.1** **Establishment, management and phenotyping of field trials Activity in months 21-57; Milestones 29, 44, 51, 67, 71, 82**

**TW** The flea beetle damage: the setup of the trials, similar to the 2017/2018 design. Standard and Low N, avoiding spreading any fungicides and insecticides. 51 lines in triplicates, 70 seeds per square metre in 24x3m plots drilled 29th of August. Good establishment for rep 1. Some poorer one probably because of flea beetle. **IB** who will be the contact for the different sites? **TW** me or Rachel. IB if we could ask all trial site managers assuming you're still happy to have people come along. We could put it in a mail to UK-BRC and **DB** if you could send it around your grower contacts as well. Just to make sure that everyone is aware that they are invited to come and have a look at this material

**AP27 All trial site managers** provide information about the field trials and contact points email addresses to **LH** mailshot to UK-RC and cc’d **DB in. DB** send it around his grower contacts as well.

**WP4.1** **Establishment, management and phenotyping of field trials Activity in months 21-57; Milestones 29, 44, 51, 67, 71, 82**

**KS**: The trials near Stamford Bridge were drilled late August/September are coming up really nicely. Plant population range is about 22 to 67 across the different varieties, nice range; most of them are 50 or more plants per square metre. It is a good access so if anybody is interested in using it for anything please get in touch with me. It is in standardized, randomized design layout. Just treated with fungicide, our main aim is to look at routing at the end of June. One variety already flowering. **MN** asked **KS if they** did an early vigour score - yes. If there are any variety you would like to do rooting experiment please let me know. **DB:** how do you assess the rooting? **KS:** going down to 1 meter and do the horizons. We have a root washing machine. **DB** do you get any info about root spreading? **KS** – we get a root density and other assessments using particular software for evaluation.

**MN:** – backup site, which was drilled on the 29th 30th August, established very well, minimal cabbage flea beetle, then from the end of September up to now it rained so we lost everything on the whole site. There is no rape or anything else, all rotted.

**IB** we lost backup, but two trial places should be enough. **GM**: is there any place where the lines drilled has been deposited? **IB:** The material is all being amplified in Nottingham and within the project we can share seed. Historically, everything is available from its original sources Warwick and JIC. Vasilis will have a list what was in the plan for this year. MN: all the seed comes to us from Rory, they are thrashed and returned to Nottingham – they are storing everything.

**AP28 ZH** circulate template with the accession numbers to track it through to the sequences.

**GM:** how you save the data from the trials? **IB** all is on the OREGIN website, then also at the UoY for AT analysis. We can circulate it, but it is easier to do it through the website. **MN:** we could send it, but the website should be the best option.

**MN** – what about next year? **IB:** Rory has a material for bulking for similar scale of trial. We have a first batch of the novel material but nothing is going to be ready on time. It is going to be a further set of DFFS lines and other interesting lines like Imola. **AP29** Rory could you just circulate the list? IB this year was not supposed to be spring material and next year it is supposed to contain spring material. **MN** asked **RH** for the lines that you are bulking this year, do you want to asses EA? **IB** it would be helpful **GT**: there will be some HEARs. **KS**: we will incinerate them. **AP30 MN** to follow up with **RH** for NIR analysis on the bulked seeds harvested in June/July 2020.

**IB:** we have probably more lines than the budget but if you can stretch it, that would be helpful. **KS IW** we will see what we can do.

**WP4.2** **Assessment of heterosis in spring x winter hybrid oilseed rape. Activity in months 21-54; Milestone 35, 58, 61, 79**

**GM** heterosis plan discussed. No material to assess this year so that will be will be later on we get those data.

**WP5.** **Promote spin-off projects. Activity throughout**

**GT** Jon Walsh got a FoF for 2 years and is using the diversity panel. **KS** we referenced OREGIN in horizon 2020 project. **IB** some of the OREGIN diversity material was incorporated as a small part in a circular economy project which we didn't get invited to the next stage so we need to look at other opportunities in agriculture.

**WP6.1** **Provision of molecular data from current phase of OREGIN. Activity throughout the project; Milestones 10, 12, 18, 30, 53, 73, 89**

**BF&IB** as we talked before, Zhesi is constructing the sheets for the data. ZH we already have a file in the knowledgebase associating our accession numbers with the varieties names. We did it only for the sequencing data and maybe we should also do it for the other accessions/varieties/names? **IB:** Currently various names are used for the same material and it is a bit fragmented across the projects. With new reference sequence, we could do it globally. Close to do new international brassica nomenclature. **ZS** I will try to gather all lines no matter which data we have and we could assign them. If anyone can give me more information – grouping, crop types, original description etc. Including the note field with distinctive characteristic? Zhesi will first send the list as part of AP28.

**WP6.2** **Provision of trait data from current phase of OREGIN. Activity Q9-Q20; Milestones 49, 68, 86**

**AP31 BF** will send the information about the AFCP to be added to the minutes.

**Reporting to the authority.**

**IB** there is an upcoming meeting requiring 2pg summary and presentation to DEFRA. I will ask people for details and your contribution.

**AOB?** No

**Date for next meeting**: teleconference 10th July at 9:00am. UoY will organise it. **AP32 LH** to organise teleconference for the next OREGIN