



2021 MEMBERSHIP REVIEW

MULTIPLE CHALLENGES, MULTIPLE SOLUTIONS

The 2020/21 growing season has been challenging but also dynamic for all concerned. Covid has had its effects, but I am extremely proud that the regional agronomy team started doing online member events within two weeks of the first Covid lockdown on 23 March, 2020 and these events have continued and expanded over the past eighteen months. I am unaware of any agricultural organisation that reacted so quickly back in spring 2020. It is also gratifying that the number of members attending these events has increased dramatically which is fantastic for member engagement and debate. As a result, in the future we will provide a hybrid event system, with both live and online events, with the balance in each region determined by the members in that region.

But farming and agronomy would be very dull without the weather, and how we plan for and react to the changing weather is critical to success. Autumn 2020 drilling was tricky in some regions with resulting delays in cereal drilling. However, the most interesting outcome was the wide range of sowing dates, with a significant volume of September-drilled wheat partly as a reaction to the devastating drilling delays in Autumn 2019. This inevitably created greater challenges for both farmer and agronomist in dealing with increased BYDV, diseases and grassweeds.

Fungicide timing proved very challenging in 2021. The cold, late spring meant that T1 was 10-14 days later than usual in many wheat crops and T2, which has been seen as largely day length dependent and remarkably fixed each year, was also significantly delayed. NIAB's regional agronomy and trials teams made hundreds of dissections, sharing the results via the weekly agronomy e-newsletter to inform and help members with the unprecedented T1 timings.

Autumn grassweed control was remarkably good with some long-term member trials showing the highest level of black-grass plant control from residual chemistry in a generation. However, as nature often does, it was balanced out by the cold spring which meant that contact treatments tended to be less effective and the few black-grass plants left showed remarkable tillering ability and overall weed control was less impressive in some fields, at harvest.

Every season is different and, if anything, they seem to get more extreme. This, in conjunction with increased financial pressures on farmers due to the loss of BPS, will make NIAB more critical and valuable to its current and future members. Membership is increasing and I suspect this is because we are in a unique position to use our extensive research capacity and wealth of expertise to provide independent, science-based advice to members, firstly and always for the benefit of our members.

As ever, we welcome your feedback, ideas and suggestions on all our membership services. By all means, contact me (andrew.watson@niab.com and 07768 143730) or the membership office (mary.mcphee@niab.com or 01223 342495) or speak to your local regional agronomist. Over 400 staff are now employed at NIAB and this huge range of research, experience and knowledge is focused through the membership services team to help our members deal with the increasing challenges of UK agriculture.

We thank you for your continued support,

Andrew Watson

Head of Membership Technical Services

THIS YEAR'S HIGHLIGHTS

Black-grass and Italian Ryegrass

Continuing research into
grass weed management

Farewell

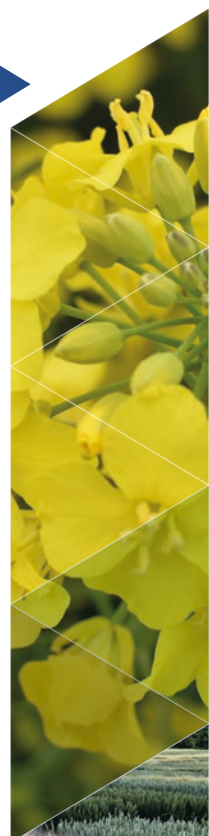
Celebrating the careers
of Bill Clark and Richard
Overthrow on their
retirements

Live events

A careful return to outdoor
field days and events

Climate and weather

Adapting and planning for
extremes



Your membership service in 2021

As a response to the challenges within UK agriculture and agronomy, we are constantly evolving NIAB's research alongside results delivery and subsequent advice to NIAB TAG members. Here we summarise how NIAB TAG has dealt with the key issues and opportunities seen in the past harvest year and how the membership and wider NIAB team has adapted to provide practical, relevant and topical information to members.

Wheat crop development

2021 saw unprecedented changes in the timing of standard T1 and T2 fungicide applications. T1 (leaf 3 on the main tiller 75-100% emerged) was 10-14 days late this spring; a rare occurrence. T2 was also an unheard of 7-10 days late. Correct fungicide timing at these growth stages is critical to disease control; particularly in 2021 as the rain arrived in force in May, between T1 and T2. Although there were other factors, correct T1 timing and product choice were decisive in achieving effective disease control this season, particularly for Septoria. NIAB's growth stage dissection data aided members in making the most appropriate decisions around fungicide timings.

Breakdowns in resistance

The breakdown of Cougar resistance to *Zymoseptoria tritici* in 2020 resulted in unexpected levels of Septoria on a selection of winter wheat varieties with Cougar in their background. This breakdown in resistance was not a new finding; isolates of *Z. tritici* virulent against Cougar were identified following its commercialisation as a variety less than a decade ago. At that time, research conducted by NIAB showed that the virulence exhibited by these isolates was specific to Cougar and posed no greater threat to the majority of varieties grown.

The 2021 situation has now shifted, and many varieties now depend heavily on the STB resistance conferred by Cougar. How each of these varieties responds will be determined, not just by the presence of Cougar, but also by the levels of STB resistance the other parent(s) may bring. There is no evidence to suggest that these Cougar isolates are more aggressive on 'non-Cougar' varieties; nor are they more sensitive to available fungicides. Nonetheless, with varietal resistance a key pillar in cereal disease control, it reinforces the need to ensure a diversity of resistance sources are used against this ever-evasive pathogen. NIAB will continue to investigate how this can be achieved; using the best genetics available combined with on-farm agronomy.

Black-grass and Italian Ryegrass

Building on work carried out previously at NIAB's Hardwick Black-grass Centre we have looked more closely at drilling date and herbicide options in spring cereals. This includes estimating the potential benefit from different spring crop drilling dates and demonstrating that, in spring barley at least, when it comes to herbicide treatment in many scenarios a relatively low herbicide loading is optimal and addition inputs can undermine weed control. Increasingly, we carry out work on chemical and non-chemical control of black-grass in parallel with Italian Ryegrass management. Examples include spring barley drilling date work, cultivation strategies and the effectiveness of crop competition in Italian Ryegrass compared to black-grass.

Grass weed herbicide resistance

In Summer 2020 NIAB completed one of the largest herbicide resistance surveys ever undertaken in the UK on Wild Oats and presented the findings, including the threat from Winter Wild Oats (*Avena sterilis* ssp *ludoviciana*), at our winter conferences. In Summer 2021, with the support of Bayer Crop Science, we have carried out an even larger survey on Italian Ryegrass management and resistance status. The resistance testing is on-going and will be reported to members in the spring but from the initial survey results we can already see that this weed is both more widely distributed and more of a problem on-farm than had previously been thought.

Farewell to Bill Clark and Richard Overthrow

We cannot have a review of 2021 and membership services without mentioning our Technical Director Bill Clark who retired at the end of July. Bill was a huge asset to both members and to NIAB, and his experience and knowledge will be particularly missed within the membership team. Looking forward, under a planned succession, Bill's many roles have been passed onto other staff within NIAB, but this change is also an opportunity to consult with members and review how we provide membership services in the future. As you may have seen, we are also further expanding the NIAB TAG membership team.

Western Regional Agronomist Richard Overthrow retired in June after over 40 years service to ARC, TAG and NIAB. Again, members will miss his matter of fact, no nonsense approach to agronomy as will the whole RA team. Poppy de Pass is a worthy replacement in the west and her succession to this role has been on-going for several years.

Members Agronomy e-newsletter

Back in January, the RA team took the decision to make the members agronomy e-newsletter clearer and more technical. In addition to the standard weekly regional reports in season, topical agronomy subjects were covered in greater depth, including showing research data and the use of clearer tabular information. In essence, the e-newsletter sits alongside the Agronomy Strategy documents and provides greater depth at the right time, as well as being a future library resource for members.

Events in 2021

Of course Covid limited our ability, particularly earlier this year, to hold live events, but NIAB TAG's online events remained incredibly popular and well attended, often getting double the attendance for an equivalent live event pre-Covid. Some members prefer online mainly to save time or to avoid travel whereas some would still favour live events.

So, in consultation with local members, we will aim to carry out both in the future to maintain engagement levels with as many members as possible.



Climate and weather

Even in the last 10 years, our climate has seemed more extreme with 'batches' of weather such as dry, wet, cold or hot. We need to adapt and try to plan to reduce the impact of such extremes on crops. NIAB continues to do a huge amount of research into the effects and mitigation of climate change and the membership team will continue to disseminate information and advice as it comes through the system. This could be as simple as finding varieties with better drought resistance or disease resistance but also entails more complicated research in reducing the environmental impact of nitrogen or manure use or even just accurately calculating the carbon footprint of your farm.

Regen Farming

Although not the answer for all, regenerative agriculture has come to the fore in the last year. It has many forms at farm level and in many ways it is going back to first principles of agriculture and integrated crop management. It is a system-based approach and there is much to be learnt from each other. Within NIAB, regen farming is a priority focus within the Systems/Soil health research team led by Dr Elizabeth Stockdale and NIAB attended the Groundswell event this year. Watch this space.



Oilseed rape

Following trials looking at the establishment of winter oilseed rape using companion crops, NIAB was successful in obtaining funding from Defra to look into management opportunities for the crop going forwards. NIAB immediately formed csfbSMART, a group of researchers/trade members and most importantly farmers, to make sure that NIAB's activities complemented other on-going projects with AHDB and ADAS. NIAB is monitoring emergence data of this pest from north Norfolk to

Devon with the aim of understanding more about how the adults behave in the wider environment. Exciting results that differ from the historic literature (this year) are leading to the planning of a wider range of trials following oilseed rape in 2022. NIAB has also begun trials based around the differing behaviour of oilseed rape varieties in the presence of the larval stage of the pest to determine whether the use of blends may give an advantage to not only improve yield but also to reduce the pest numbers.

NIAB continues to look for alternative break crops and following the publishing of the Alternative Crop Guide in 2020, we are involved in a wider-ranging Defra project, looking at underutilised crops and how they may be used in the future.

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