frontier

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AGRONOMY

News and agronomy advice for arable farmers

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Coronavirus (Covid-19)

We are working hard to respond to the latest Government advice and maintain customer service levels. Please visit www.frontierag.co.uk/coronavirus to find our latest information.

Bolstering performance of spring barley crops

Crop nutrition will play a vital role for 2020 spring barley crops. Levels of nitrogen and sulphur are significantly lower than previous seasons, due to leaching from extremely high levels of rainfall over winter.

Growers therefore need to pay attention to crop nutrition programmes, reviewing nitrogen rates and timings along with considering foliar micronutrients and biostimulants to maximise crop performance.

Nitrogen rates

"Most malting spring barley will have received all of the nitrogen by now with the rate very much linked to the grain contract and yield potential," says Edward Downing, Frontier National Crop Nutrition Technical Manager.

"However, the large area of spring barley this year means a significant proportion will be destined for the feed market. So, growers will need to be more generous with nitrogen this season, usually in the region of an extra 30-40kg per hectare, in order to maximise economic yield."

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Edward explains this is further supported this season as crops need to be provided with more nitrogen to make up for the shortfall in soil nitrogen levels.

"Moving down one SNS index because of the high over winter rainfall increases the nitrogen recommendation by a further 20-30kg/ha. However, it is important to remain compliant with the N max limit. In feed barley, I would also encourage splitting nitrogen applications into three to apply this bigger total dosage, without significantly increasing the risk of lodging," he adds.

"This third application around early stem extension gives more of an opportunity to assess the season we're in and the potential performance of the crop to adjust the amount that is applied. If conditions or the crop aren't great it may not even need to be applied whereas if everything looks good then a reasonable dose would be sensible."

Micronutrients

It's worth remembering that overall plant growth is impacted by a wide range of nutrients and, if all aren't supplied in the correct amounts, yield will be impacted.

"It's therefore important to not just focus on nitrogen, but also micronutrients such as manganese, zinc and copper, which will be especially important this season," explains Jamie Stotzka, Frontier Soil and Plant Health Specialist.

"Broad spectrum tissue testing and ideally soil sampling can be used to determine any low or deficient nutrients, which then allows appropriate nutrition plans to be developed."

Jamie notes biostimulants can be very useful to complement micronutrient applications because they stimulate natural processes that benefit nutrient uptake efficiency, tolerance to abiotic stress and/or crop quality.

"This year I would recommend considering foliar applications of pidolic acid, which acts as a signalling compound and plays a key part in the nitrogen assimilation process by keeping the cycle in balance. Pidolic acid also primes plants to rapidly recover from stress once limiting factors have been addressed and can be applied with T2 fungicide applications."

In the field with Marcus Mann, Frontier Agronomist

"In light of the season and an increase in the spring barley area, I'm currently having conversations on how to further improve yields, particularly on soils that have struggled to reach malting specifications. Heavier clay soils that have historically retained better moisture have resulted in higher grain nitrogen. We're increasing nitrogen rates and improving its utilisation to further enhance yields.

"If the season turns dry, this may result in considering a three-split programme to time this around moisture being present. For those using liquid fertiliser for N applications, we're including Limus Clear®, to minimise the risk of nitrogen volatilisation. To complement better nitrogen utilisation, early PGR and phosphite applications will help enhance rooting, resulting in better access to water and nutrients. This will also have additional benefits including stronger crown roots which will reduce the risk of root-based lodging and enhance tiller survival."

Support good crop genetics with the best chemistry available

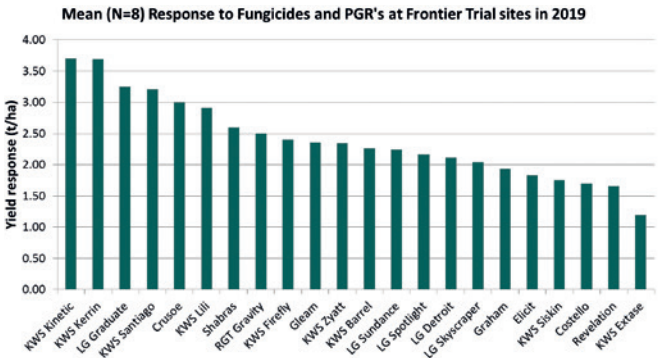
Disease control this season will be more challenging than normal, given the range of crops that are in the ground and the turbulent weather conditions from harvest 2019 onwards. With investments made in the latest crop genetics, these should be supported by applications of the best chemistry available in order to maximise the crops' potential.

Frontier Crop Production Technical Lead, Paul Fogg, says this means appropriate fungicide programmes have never been more vital.

"Growers are investing in good genetics, with increased acreage of varieties such as KWS Extase, Graham, Gleam and KWS Firefly being seen this year.

"All of these varieties offer good agronomic features and disease resistance, but this doesn't mean fungicide applications should be overlooked. Data from Frontier trial sites in 2019 shows that it pays to use the best chemistry available on key varieties, with cost effective yield responses when fungicides and PGRs are included as part of a programmed approach combining good nutrition," says Paul.

"The average response to fungicide and PGR applications across these eight sites was 2.4t/ha, ranging from 5.36t/ha on KWS Kerrin, to 0.4t/ha on KWS Extase. While better genetics offer some opportunity for cost savings, these results still prove the crop needs protecting by using an appropriate fungicide programme, which clearly pays for itself."



Paul recommends a programme based on an SDHI/Azole mix plus a multisite fungicide at T1, using a similar strategy at T2, with rates decided on a case by case basis.

T2 applications remain critical

With 65% of the final yield coming from the flag leaf and ear, T2 applications will remain essential.

"For later sown, thinner crops, lower leaves may have a bigger contribution to yields this year, so I would advise using the best chemistry available with rates managed based on risk. This season, we'll be losing key actives such as chlorothalonil, but we do have new chemistry such as Revysol®. In trials last year, it gave very high levels of septoria control, so is a good option for any T2 fungicide programme."

Innovation focus: carbon management

With targets to reduce the nationwide carbon footprint, the agricultural industry is increasingly looking at how growers can incorporate carbon capture techniques into their business.

Carbon capture greatly improves soil health and structure, ultimately leading to healthier and more productive crops. Long-term, there may also be government incentives to improve the carbon footprint on-farm, so growers may look to do so either through improving the organic matter of soils, or by planting carbon capture crops alongside cash crops.

At Frontier, a number of its Soil Life demonstration sites across the UK have included carbon capture techniques, such as planting more cover crops or long-term legume leys. This will enable Frontier to continue to provide up-to-date data to help customers make informed cropping decisions.

Top tips for controlling virus yellows in sugar beet

Following a wet and mild winter, the beet yellows virus (BYV) and beet mild yellowing virus (BMYV) forecast for 2020 from the British Beet Research Organisation (BBRO) indicates almost double the risk to crops this growing season, with an early flight of peach-potato aphids expected and very high levels of virus in crops where no control measures are adopted.

For growers, this is a cause for concern, particularly as there is still uncertainty as to what insecticides will be authorised by the Expert Committee on Pesticides (ECP). However, Frontier Crop Production Specialist, Reuben Morris, says all is still to play for, as improving soil and growing conditions will help crops to establish rapidly.

Plant when conditions are right

Sugar beet remains a high gross margin crop, so it will pay to be patient and get it planted in optimum soil conditions to ensure rapid establishment. Despite the wet winter, soil conditions are looking favourable and many growers already have crops in the ground.

Apply aphicides earlier

As the predictions are that aphids will be flying earlier this year compared to 2019, growers should be looking to apply the relevant aphicide at an earlier growth stage than in 2019 to combat potential for early establishment of aphids in crops. In doing so, growers must still adhere to the wingless aphid application threshold. Teppeki is the only insecticide available to growers until the ECP makes its decisions later in April.

Get crops to 12-16 leaves ASAP

For the best defence against virus yellows given by BMYV and BYV, consider the role of the crop nutrition programme, particularly ensuring enough nitrogen is always available for rapid canopy expansion.

To do so, ensure that enough nitrogen is being applied – note that more early applied nitrogen will be needed this season due to lower residual levels in the soil from over-winter leaching.

Consider use of biostimulants

To maximise the natural processes in the plant, Frontier agronomists are increasingly looking to biostimulants, such as ZC technology, seaweed extracts or amino acid formulations. Biostimulants help in getting beet to the 12-16 leaf stage as soon as possible, maximising utilisation of natural adult plant resistance to aphid feeding.

Work smarter, not harder

‘Working smarter, not harder’ is a mantra many growers are adopting, by using the latest innovation and technology to produce profitable, healthy crops.

Biomass imagery is part of the offering of MySOYL, just one application within Frontier’s MyFarm platform. This gives growers the opportunity to review crop performance, field-by-field and crop-by-crop, throughout the season, and implement changes quickly in order to create a uniform, successful, profitable, crop.

“Through investment each season to augment free at source satellite imagery, we provide high-res imagery to give growers a regular series of images to track their crop’s progress,” explains Tom Parker, Head of Digital Development at Frontier.

“The images show how the crop is performing on the day the image was taken, showing the variation in crop canopy within the field. When you compare this week by week, it provides a holistic view on crop development across fields or detailed variation within the field, and in turn gives an early warning of any issues, often undetectable by eye.”

Tom explains the software also gives an indication of total crop performance on-farm, allowing the grower to compare all crop types or just specific varieties, whether it be cereals, pulses, legumes, potatoes or even grass leys.

“Biomass imagery is one of the standard tools which all Frontier agronomists have access to, enabling them to use it with all customers.

“You don’t have to invest in any other technology such as combine yield mapping, and it doesn’t require data preparation before a solution is given – it has appeal to any crop grower in the UK.”

He notes the software is also allowing the Frontier agronomists to plan a more specific and effective service to customers.

“Ahead of crop walks, our team can review the images across the farm, or a specific crop or variety of concern. This means they can plan exactly where in the field needs urgent review, and if there’s a field which may need some extra attention.”

EXPERT FOCUS: PAUL FOGG

Q: What is your role at Frontier?

I am the Frontier Crop Production Technical Lead, and I oversee all aspects of our crop production service by providing sustainable advice and solutions to support our agronomy team.

Q: What does your job entail?

Understanding the technical challenges facing growers which agronomists need to help solve. To do this, a proportion of my job is to work with key stakeholders within the crop production supply chain, such as crop protection companies, to create and develop sustainable and technical solutions to combat these issues.

Q: How are you supporting Frontier customers?

I look to provide early insight into potential issues growers may see on-farm and suggest the solutions they need to have in their crop protection armoury to mitigate any long-term impact on performance and profit. This includes highlighting the latest innovations, from both products new to the market and novel techniques that farmers can adapt and use.

Q: What's the best part of your job?

I have involvement in all stages of the crop protection supply chain – from conversations in the field with growers; to working with the team of Frontier agronomists; being involved in R&D liaising with our trials team through to keeping the dialogue with key stakeholders throughout the industry.

Have you logged into MyFarm?

MyFarm is a comprehensive farm management platform which all Frontier customers have access to free of charge. MyFarm is intuitive and fully interactive, working as well on a desktop as it does mobile. Through MyFarm farmers can view and manage crop records, recommendations, invoices, payments, grain movements, sampling results, live markets, precision data and more.

Find out more by asking your Frontier advisor, calling **03330 141 141**, or visiting **www.frontierag.co.uk/myfarminfo**

Frontier has a UK-wide team of 130 BASIS qualified agronomists, including 44 Diploma holders, working with growers to deliver fully integrated agronomy advice on all aspects of profitable and sustainable crop production. To find out more about Frontier's agronomy services in your area email agronomy@frontier.co.uk, call 0800 227 445 or visit www.frontierag.co.uk.

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