PROCAM
AGRONOMY THAT DELIVERS™

Technical Update
June '20

JUNE JOTTINGS

June is typically the month for the final agronomic inputs to combinable crops. These last decisions carry significant impact for optimum crop yields and quality.

A very dry May and high temperatures towards the end of the month ensured crop development was at typical growth stages for the time of year. Wheat crops, sown in the latter half of October are ranging from 'breaking boot' to full ear emergence and later sown crops will not be too far behind. Despite many crops only receiving 'T2' or flag leaf fungicides in the latter part of May, plans need to be put in place for a 'T3' or ear fungicide. Most grain fill occurs post-anthesis or 'flowering' so maintaining a healthy crop canopy from ear emergence onwards is critical to optimise yield performance and grain quality. Yield is laid down at an approximate rate of 0.2 t/ha/day and the ear alone contributes around 20% to the final yield. So, these agronomic inputs, post ear emergence, can be critical for optimum performance.

In recent years the focus on ear fungicides has been to limit the 'ear blight' complex of disease that can seriously affect yields, but more importantly impact grain quality and ultimate marketability. For effective suppression of the 'ear blights' fungicides need to be applied at or just before flowering. This often means the interval between a 'T2' & 'T3' fungicide can be little more than a few days depending on prevailing temperatures. A change to wetter conditions and high humidity around the flowering period are key factors to encourage high levels of ear blight infection. These largely fusarium species can directly affect grain yield and quality, but more importantly, produce toxic metabolites known as mycotoxins. High mycotoxin levels reduce quality and marketability, especially in varieties destined for the milling market. The only way of reducing the mycotoxin risk is through appropriate fungicide application. Triazole fungicides based on prothioconazole, tebuconazole, bromuconazole and metconazole are effective options at a minimum 50% dose. In high disease pressure, total fungicide loading will need to be increased.

In the drier conditions to date, in spring 2020, much of the focus has been on controlling yellow rust. This may still be a consideration at the 'T3' timing, with the added potential risk from a late surge of brown rust if warm, dry, conditions persist. A number of the more popular wheat varieties have only moderate disease rating for brown rust tolerance. The active ingredients selected for 'ear blight' as suggested above, should also be effective in suppressing both rusts, although dose rates may need to be adjusted if rust is present and active.

Whatever the target disease, including adjuvants such as Mica, will improve the efficacy and persistence of 'T3' fungicides. Mica is an organo-silicone + synthetic latex adjuvant blend that increases fungicide coverage of the ear, whilst also preventing losses from wash-off from unexpected showers and breakdown in high UV light.

The 'T3' timing is also the final opportunity to correct crop nutrition. In the current dry soil scenario, nutrients such as Magnesium, Potassium and Sulphur can be rendered unavailable to plants, even if soil levels are adequate. Independent analysis of around 900 crops, post harvest, in 2019 showed 75% were probably deficient in at least one nutrient. Tissue analysis could identify nutrient shortages combined with applications of foliar nutrient/biostimulant products. Check with your ProCam agronomist for the appropriate nutrient strategies and ensure you give your crops the best opportunity to optimise grain-fill and grain quality this season.

CEREALS

GRASS WEED CONTROL STRATEGY

The difficult conditions of last autumn and winter meant that many grass weed herbicide programmes were compromised or applications missed out altogether. Later sowing of winter crops and especially the necessary introduction of a lot of spring cropping has, in many cases, helped to keep grass weed levels at acceptable levels. However, there may be areas where some attention is needed and June is the time to start next season's grass weed control programme.

Heads of bromes, blackgrass and ryegrass are in evidence in crops and the levels of infestation should be assessed and mapped to gauge the required treatment options. Grass weed seeds will rarely be viable before the end of May, but will quickly become so in early-mid June and, if possible, should be removed to limit seed return in the following crop. A single blackgrass head produces around 100 seeds. Consequently a modest population of 50-100 heads/m^2 can easily return 5-10000 seeds/m^2.

If feasible, at low weed levels, consider rogueing to remove grass weeds from the field.

Where distinct, dense patches of bromes or blackgrass occur, spray these out with glyphosate as soon as possible and before seeds become viable. Ensure a minimum dose of at least 540g ai/ha to limit the risk of developing resistance to glyphosate.

More severe and general field infestations will need to be dealt with by planned cultural control methods, including later drilling or a rotational change and/or spring cropping.

SPRING BEANS

INSECT PESTS 2020

The larvae of Bruchid Beetle can seriously damage bean quality. Adult females fly lay eggs on developing pods. The larvae bore through the pod and into the seed where they feed until mature. An insecticide approved for use during flowering should be applied, at early pod set, following 2 consecutive days when the maximum daily temperature has reached 20°C and repeated 7-10 days later.

Forecasts for optimum spray timing can be obtained from your ProCam agronomist and the Syngenta BruchidCast on: https://www.syngenta.co.uk/BruchidCast

WINTER WHEAT

OWBM 2020

During the last week of May Orange Wheat Blossom Midge (OWBM) were being recorded in the Rothamsted suction traps and observed in wheat crops where ears were just emerging. This year higher numbers of the Yellow Wheat Blossom Midge are also being reported. These have a similar life cycle to their orange cousins but tend to lay their eggs earlier as wheat ears emerge.

A large number of current varieties have genetic resistance to OWBM, but there are still a significant few key varieties that do not e.g. Crusoe, KWS Lili, KWS Extase, JB Diego et al. Wheat crops are susceptible from the start of ear emergence until the majority of ears are 'flowering'. Later-sown winter and spring varieties will continue to be at risk well into June.

Midge pupation is triggered when the soil is moist and at temperatures greater than 13°C. Air temperatures above 15°C after adults hatch are needed for them to fly and lay eggs. Eggs are laid on emerged ears, before flowering. Eggs hatch in 4–10 days, depending on temperature and the larvae move to a developing grain and feed for 2–3 weeks. Substantial loss of yield and quality can result, especially in milling varieties.

In susceptible varieties an assessment of the need to apply insecticides should be made, as ears emerge, ideally on warm, still evenings as dusk advances. Thresholds for spraying are 1 midge per 3 ears in milling varieties or 1 per 6 ears in feed varieties. These equate to between 50–100 midges/m^2.

Pyrethroids e.g. lambda cyhalothrin, beta-cyfluthrin and the neonicotinoid thiacloprid are still effective against the adult midges, but need to be timed to target the midges and prevent egg laying. These options are broad spectrum and will also have an impact on midge predators e.g. parasitic wasps, ground beetles etc. So, insecticides should only be applied when thresholds are exceeded and a high risk of damage established.

At the end of May numbers of cereal aphids in crops were still relatively low, but may increase through June on later sown winter and spring varieties. Thresholds for treatment remain:

- 50% or more of tillers infested before GS 61 – start of flowering
- 66% or more tillers infested after GS61

Natural predators, notably ladybirds and their larvae play an important role in reducing aphid numbers. As with the midge only apply insecticides where thresholds are exceeded.