



PROCAM
AGRONOMY THAT DELIVERS™

Technical Update
May '18

MAY MONITOR

Weather delays in April have disrupted fieldwork and typical husbandry timings. May will be a critical month to set crops up for optimum performance.



The inclement weather of March and much of April slowed crop development and severely limited opportunities for field work. Despite a surge in temperatures and crop growth in the latter part of April, the earlier delays have meant that many winter wheat 'T1' fungicide applications will only just have been or are still about to be applied. In some cases 'T0' applications were only completed in the latter half of April or in some cases omitted. It will be important to ensure that any T1 application is timed to protect the emerging leaf 3 irrespective of when earlier fungicides were applied. N.B. In later sown crops leaf 3 may be emerging at GS31 rather than the more typical second node stage.

Following on, the same logic will need to be applied for the 'T2' timing. Fungicides will need to be planned as the final flag leaves will be emerging from mid-May onwards. The T2 fungicides will be targeted at protecting the flag leaf, the main yield producing component of the wheat plant, along with topping-up the cover on leaves 2 and 3. A robust level of protection needs to be maintained into and through the grain filling period from flowering (anthesis) for optimum photosynthetic efficiency.

The value of the SDHI group of fungicides in either wet or dry seasons is now well established. However, it is essential that they are used in mixture with partner fungicides with different modes of action to slow or prevent the development

of resistance to this valuable group of disease management tools. SDHIs with triazole and strobilurin partners have produced consistently reliable results in terms of both disease suppression and yield enhancement in ProCam's fungicide trials in recent years.

Using a high loading of SDHI at T2 will improve persistence and effect throughout the grain fill period. As an example of this, a ProCam trial in Cambridgeshire in 2017 produced an additional 0.34 t/ha of yield when the SDHI dose was increased by 20% from the 'standard farm use' rate.

The inclusion of strobilurin fungicides (e.g. pyraclostrobin with a strong SDHI or fluxapyroxad) improves disease control, especially on the rusts and enhances the SDHIs effect on crop physiology. SDHIs in addition to their obvious disease suppressing properties have been shown to reduce crop stress, improve water use efficiency and enhance the plants ability to extract water from deeper in the soil profile. This has a direct benefit on crop performance independent of disease control and perhaps accounts for some of the generally high responses to fungicide application in the hot, dry conditions in June 2017.

In AHDB recommended list trials the 6 year average yield response to fungicide and is around 3.19 t/ha ranging from 1.08—4.85 t/ha in the lowest to highest disease years, thus providing a cost effective return every season.

The unpredictability of the UK climate means that there is no room for complacency or false economy at the T2 timing. A wet May will maintain and increase the septoria risk and would also suggest that a multisite inhibitor (e.g. chlorothalonil) is included with the T2 fungicide mix. Including a multi-site inhibitor at the T2 timing has the dual benefit of suppressing septoria sporulation but also, crucially, helps to reduce the risk of encouraging more septoria tolerance to the SDHI and triazole fungicide groups. Make sure your crops are fully protected to maintain a healthy and efficient green leaf canopy throughout the grain filling period.

WINTER WHEAT

NUTRITION SPRING 2018



Maintaining a healthy and efficient canopy in cereal crops relies both on fungicides to suppress disease and an adequate supply of nutrients throughout the season. In spring 2017 the dry conditions limited crops ability to extract nutrients from the soil. In 2018, the excess wet conditions are similarly reducing root efficiency and nutrient availability. In many parts of the UK the excess winter rainfall has been estimated to be in the moderate to high range (150-250 mm). Many crops are showing 'stress' symptoms indicating a lack of key nutrients, notably nitrogen (N), potassium (K) and magnesium (Mg).



Typical Mg deficiency symptoms are a common sight at the current 'T1' timing. Mg, as a central component of chlorophyll, is particularly important in maintaining a healthy and efficient green leaf canopy. Sulphur is another macronutrient that is vital to ensure efficient utilisation of nitrogen and is a major component of proteins. It is an essential part of key amino acids that give bread making wheat its baking properties. Sulphur (S) is a very mobile element in the soil and levels may have been depleted in the

wetter conditions of this year. It is advisable to check tissue levels, even where S fertilisers have been applied, and top-up with foliar applications to avoid subclinical deficiencies or so called 'hidden nutrient hunger'.

Other micronutrients are frequently showing low levels from tissue analysis. Boron (B) is one element that is being increasingly found at limiting levels, especially on calcareous soils. Boron is important for the formation of grain sites and N metabolism.



ProCam trials in recent years have demonstrated yield benefits from including foliar nutrients with fungicides over and above those achieved from fungicides alone. These effects have come particularly from applications at the T2 and T3 timings. Keeping the plants healthy and well supplied with the correct nutrients appears to make the fungicide programme more effective. A tissue test ahead of the T2 timing will allow you to determine what, if any, nutrients are lacking and provide the basis for a tailored nutrient input to help your crops maintain optimum photosynthetic efficiency during the critical grain fill period. Your ProCam Agronomist will have full details of the appropriate sampling requirements and analytical services.

SPRING CEREALS

PGRS SPRING 2018



The difficult spring to date has inevitably meant that a lot of spring crops have been drilled later than was planned. On the positive side the presence of a plentiful supply of moisture in the soil and warming temperatures should encourage rapid establishment and growth. There has also been a trend in recent seasons to increase seed rates to produce thick, competitive crops to suppress grass weeds. This is often the main reason why spring crops have been introduced into the rotation. The combination of fast growth and thick crops inevitably means that stem strength and root plate, the spread and mass of root per tiller, are weaker and smaller. Even late sown crops will benefit from the application of plant growth regulators (PGRs). Applied at early stem extension these will thicken and strengthen cell walls in the lower internodes as well as stimulating root development. Medax Max, a combination of two anti-gibberellin components, prohexadione-calcium and trinexapac-ethyl, has wide flexibility of dose rate and timing in all spring cereals to suit your individual crop and field conditions. It is a standalone product but can also be applied with chlormequat if required.

In addition, the use of biostimulants with or without additional nutrients is now well established. ProCam's own trials at Nottingham University have demonstrated significant improvements in root and shoot development from biostimulants applied at the early tillering stages of crop development.

In 2017 many spring barley crops were subject to high levels of brackling as harvest was delayed in wet conditions. The application of ethephon based PGRs applied around the flag leaf to awns emerging can help to shorten the upper internodes of the stem lowering the risk of lodging and brackling.



Untreated



SDHI T2

In addition, the SDHI fungicides can also contribute to reducing brackling and improving straw quality. Current shortages of straw and forage mean that the straw itself is a significant contributor to the crops income and is worth investing in. Your ProCam Agronomist will have details of the appropriate products to optimise the performance of your spring cereals.