



PROCAM
AGRONOMY THAT DELIVERS™

Technical Update
May '19

MAY MONITOR

Dry soils and high temperatures in April have created some concerns about the impact on yield potential. May is the ideal time for key inputs to influence final yield and quality.



After a cooler spell in April cereal crop development surged in response to the record temperatures over the Easter period. While there is some local variability in crop condition, typically reflecting the rainfall received, most crops are at the anticipated growth stages for early May. 'T1' applications have generally been completed in winter wheat crops and plans will need to be in place for the key 'T2' or flag leaf fungicides later this month.

Despite the generally dry conditions *Septoria tritici* was the main disease present and active in crops at the end of April. Yellow rust was also easily found, especially where earlier fungicide applications were compromised or omitted. Obviously, the T1 fungicides should suppress current disease levels and provide appropriate and adequate protection to the emerging leaf 3. However, the 'T2' timing at flag leaf emerged fungicide is still the most important timing for yield formation.

The T2 fungicides, protect 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) onwards for optimum photosynthetic efficiency. There is a clear case for using the most effective chemistry available, especially where disease pressure is high, but even under lower disease threat the SDHI and strobilurin fungicides have major benefits to

crop physiology. SDHIs and strobilurins, in addition to their obvious disease suppressing properties, have been shown to reduce crop stress, lower leaf canopy temperature, improve water use efficiency and enhance the plant's ability to extract water from deeper in the soil profile. This has a direct impact on crop performance independent of disease control.

In AHDB recommended list trials the 5 year average yield response to fungicide in the control varieties is around 3.6 t/ha. Even in 2018 the response was 2.62 t/ha – a very cost effective return in a perceived low disease season.

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. Combinations of 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.

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 multisite 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.

In barley crops, *Ramularia* is now widely insensitive to SDHIs, prothioconazole and strobilurins. The use of chlorothalonil, especially at the T2 timing, is essential for suppression of this typically late season disease.

Make sure your crops are fully protected to maintain a healthy and efficient green leaf canopy throughout the grain filling period.

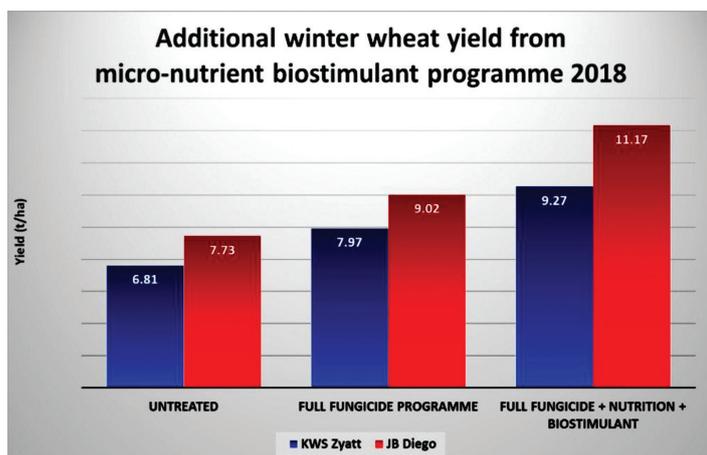
WINTER WHEAT

NUTRITION
SPRING 2019



Maintaining a healthy and efficient canopy in cereal crops relies both on fungicides to suppress disease and an adequate supply of macro and micro nutrients throughout the season. The generally dry conditions to date in 2019 are causing concerns about nutrient supply and many crops are already showing 'stress' symptoms. Nitrogen, Potassium (K) and Magnesium (Mg) are particularly important to maintain a healthy, green canopy. Potassium is essential for regulating water supply in plants. A deficiency in K can reduce the plant's ability to quickly respond to changes in water availability and can actually make it more susceptible to water stress. 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. S is a very mobile element in the soil and it is advisable to check tissue levels, even where S fertilisers have been applied, and 'top up' with foliar applications to avoid sub clinical deficiencies or so called 'hidden nutrient hunger'.

ProCam trials in recent years have demonstrated yield benefits from including foliar nutrients with fungicides over and above those achieved from fungicides alone. In 2018 yield increases of up to 1.9 t/ha were achieved when nutrients and biostimulants were included with fungicides, particularly 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

PEST RISK
2019



The surge in temperatures in late April also caused a surge in both the number and diversity of aphids caught in the Rothamsted suction traps. In particular, high numbers of the bird cherry-oat aphid, the principal vector for BYDV, were in evidence. The risk to winter cereals has now passed but spring cereals may still be at risk from infection. In spring, cereals infection is usually seen in individual plants rather than the typical patches found in winter cereals. An early application of an insecticide could well be worthwhile in a potentially high risk season.

Spring cereals, especially later sown crops, can also be affected by the first generation of Gout Fly. The small adult flies with distinctive black stripes and yellow markings lay eggs on upper leaf surfaces in May and June. The larvae hatching from these eggs tunnel into the main tillers and stems. The severity of the damage depends on the crops stage when the maggots tunnel into the plant shoots. Spring crops are most at risk if invasion occurs after stem extension and before flag leaf emergence. In spring sown crops infested tillers can become swollen or 'gouty' and ultimately fail to produce ears. Barley wheat and rye crops can be affected although oats are immune. Insecticide application, usually a pyrethroid, at the first sign of eggs being laid can still be an effective suppression of damage.

WINTER OSR

LATE N BENEFITS



The case for late N applications to oilseed rape during the flowering and early post flowering period has been established over a number of years. A series of trials by ADAS and Yara indicated that 40-50 kg/ha of foliar N applied at the end of flowering gave responses averaging 0.26 t/ha. Larger responses were most likely in years where earlier 'bag' N uptake had been compromised e.g. in dry springs, as experienced to date. Arranging and applying large quantities of foliar N product is not always feasible or convenient. There are a variety of slow release, methylated or polymer urea products that despite low use rates, typically around 10 l/ha, and delivering relatively small amounts of N have produced increases in oil content of 3-4%. Check with your ProCam agronomist for details of these products and the opportunity to improve the gross output of your oilseed rape crop.