



PROCAM
AGRONOMY THAT DELIVERS™

Technical Update
Mar '19

MARCH MONITOR

Record breaking temperatures in February have given an early boost to crop growth and focused the attention on early season crop husbandry.



The 1st of March is recognised as the meteorological start of spring. Conditions to date in 2019 are in complete contrast to last year when the 'Beast from the East' was delivering a distinctly chilly blast. Winter crops have responded vigorously to the warmth and sunshine in the latter part of February and planting of spring crops is advanced and progressing well.

The combination of warmth and extending daylight hours will soon provide the photothermal trigger to move winter cereal crops towards the stem extension or GS30 growth stage. This approximates to the so called 'TO' timing, the first major intervention point for fungicide, plant growth regulators (pgrs) and crop nutrition. The rapid start to spring growth, especially in the earlier sown cereal crops, places greater priority on robust pgr applications. In the more advanced cereal crops the TO timing is the ideal opportunity to apply



pgrs to shorten and thicken the lower stem internodes. This reduces crop height and strengthens the lower stem making it more resistant to bending and breaking.

Equally importantly these pgrs encourage more rooting. With the current trend to produce thick, competitive crops to suppress grass weeds the rooting per tiller can often be compromised. A smaller root plate or 'cone' reduces the main

anchorage points of the plant and can lead to 'root lodging' where the plant topples over from the base. This typically occurs when crops are at peak ear weight and soils are wet in early July. In recent years this 'root lodging' has often been the main cause of cereals going flat rather than the traditional stem buckling. Medax Max, a mix of two antigiberellin pgrs, trinexapac-ethyl and prohexadione-calcium is an ideal choice at the TO timing. It can be used either as a standalone product or in combination with chlormequat and has been shown to increase root mass and shorten stems effectively when applied at GS30. Medax Max can be used in all cereals, including spring sown varieties and has a wide range of dose rate flexibility and timings to suit most pgr situations.



In spring cereals developing a strong and vigorous root system quickly is essential to optimise water and nutrient uptake throughout the season. An early application from the 2-3 leaf stage of an auxin generating growth promoter such as Hadron can encourage early season root growth; making the plants more tolerant of seasonal variation in water availability.

The use of biostimulants either alone or in combination with nutrients has also been demonstrated in ProCam's own trials to significantly improve root and shoot growth in spring



barley when applied at the 4 leaf stage. As a 'sink limited' crop achieving high ear numbers and optimising grain-fill is key to improving spring barley yields.

WINTER WHEAT

EARLY FUNGICIDE STRATEGY 2019



As winter cereals approach GS30, the typical TO timing, the focus will be on fungicide strategy and selection. In the late autumn and early winter yellow rust, mildew and septoria were easily found in wheat crops. The sharp frosts earlier in February have restricted disease development. However, sources of inoculum will still survive within plant tissue even if visible symptoms have been slow to re-surface despite the recent warm spell. Septoria inoculum survives on crop debris as well as living tissue. The majority of wheat varieties are susceptible to yellow rust in the seedling stages, even where they have good adult plant resistance. With the continually evolving nature of yellow rust races, early intervention with fungicide is essential to be confident of suppressing future rust development.

Planning fungicide programmes must include a high degree of risk assessment. The UK climate is inherently variable and unreliable. Most of our current portfolio of fungicides need to be applied preventatively, especially with regard to the septoria diseases, in order to protect against future disease development.

Triazole fungicides, still very effective against the rusts, have a more limited value against septoria. Although some of the older triazoles e.g. tebuconazole and prochloraz, found in products such as Artemis, still have a more than useful effect on the isolates of septoria that are more tolerant of epoxiconazole and prothioconazole. Selecting the right products at TO can avoid 'conditioning' the septoria population against the fungicides likely to be used later in the season.

Starting with a robust TO fungicide provides an opportunity to suppress disease at the outset. Although the main yield producing leaves may not be present at this time a TO fungicide application allows the creation of a 'firewall' to help protect the later emerging leaf canopy. It also takes some of the pressure off the T1 timing, allowing a level of flexibility if weather delays application. ProCam trials in recent years have demonstrated yield losses over 0.5 t/ha where a TO fungicide was omitted, compared with programmes starting with a robust triazole/chlorothalonil fungicide at GS 30.

Any economic loss is always likely to be greater and have a bigger impact from the under-use of fungicides in more disease sensitive varieties and high risk seasons than overuse in lower risk scenarios. Your ProCam agronomist will have all the current information to guide you on the appropriate TO options tailored to your individual crops and varieties.

CEREALS & OSR

PGRS SPRING 2019



Oilseed rape crops that have avoided or weathered the impact of cabbage stem flea beetle and pigeons have grown rapidly in the conditions of late February. Many are well into the stem extension growth stage and at the point where plant growth regulators (pgrs) should be considered. Toprex is a pgr that has been shown to have positive benefits on oilseed rape yields in recent years, over and above any direct effect in shortening the plants and reducing lodging.



Critically, in addition to strengthening stems and reducing crop height, Toprex manipulates the crop canopy structure allowing more light to reach the leaves.

By creating a more compact, even flowering period, the use of received radiation is dramatically improved by up to 20%. (Light interception post-mid flowering contributes to 90% of oilseed rape yield). Creating a more uniform crop also aids decisions on desiccation timing and harvest. In addition Toprex, based on triazole fungicides, provides valid and effective light leaf spot suppression.



Stem extension is the optimum timing for the best pgr and disease benefits from Toprex but optimum manipulation of the canopy can be achieved at the green bud stage. Application timing does need to be appropriate to crop size and growth. Smaller crops will benefit more when Toprex is applied later at green bud from the promotion of lateral branching and a more even flowering period, allowing the crop to reach its maximum canopy potential.