



**PROCAM**  
AGRONOMY THAT DELIVERS™

Technical Update  
March '17

## MARCH MONITOR

The 1st March is the meteorological start of spring. Daylight hours and light intensity are increasing and, as soil temperatures climb above 6°C, crops are 'on the move'. Decisions will be required on early season crop husbandry.

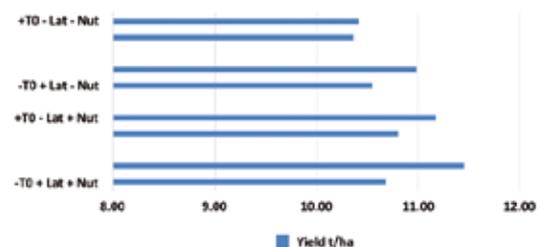


Due to a benign autumn and early winter in 2016 crops have developed well and are in generally good condition despite a colder start to 2017. Even later sown cereals have established well and are not far behind in growth stage or yield potential of their earlier sown contemporaries. The frosts of January and February have helped to suppress foliar disease but have not eliminated their threat. Yellow rust is easily found in a number of wheat varieties along with mildew and the inevitable septoria. Barley crops are also carrying levels of mildew, accompanied by net blotch and rhychosporium. This indicates that there can be no complacency in starting the disease control programme.

**Early intervention at least by GS30 - typically the TO timing - is a vital element to keep on top of disease and mitigate the risk to crop yield.**

The threat from yellow rust in wheat must not be underestimated. New races are continually evolving. In 2015 the Kranich race was detected and through last year a potential new Invicta race has been identified which could impact on varieties previously rated as tolerant to yellow rust. In 2015 isolates of septoria were found with increased tolerance to the SDHI group of fungicides. The occurrence of these strains increased in 2016. As yet, no impact on septoria

control has been detected at field level but it is a timely and on-going reminder of the threat from fungicide resistance. It is essential that mixtures of fungicides with different modes of action are used at each application timing to prolong efficiency and slow the development of resistance. ProCam trials in recent years have demonstrated the value of a robust TO fungicide application. An example in 2016 comparing combinations of TO fungicide, nutrients and Latitude seed dressing in a 3rd wheat situation showed that yield was reduced wherever the TO was omitted irrespective of the partner inputs. Although many of the leaves that present at this time are not the main yield producers, 'front-loading' the fungicide programme to suppress disease at the earliest opportunity creates a 'firewall' to protect the later emerging leaf canopy. Triazole fungicides, still very effective against the rusts, must not be relied on in a curative role against septoria.



Some of the older triazoles, e.g. tebuconazole and prochloraz, are still effective on the strains of septoria that are more tolerant of prothioconazole and epoxiconazole. Used in combination with fenpropidin in products like Artemis and applied with chlorothalonil they provide an all-round option against all the major diseases. Selecting the right triazoles at TO is important to avoid 'conditioning' the septoria population against the products likely to be used at T1 & T2. The TO timing also offers an opportunity for intervention against the stem base diseases, eyespot and the various fusarium SPP. Your ProCam Agronomist will have details of all the fungicide, PGRs and nutritional options available and will be able to guide you on the appropriate treatments at 'TO' tailored to the requirements of your individual crops and varieties.

# CEREAL PGRS

SPRING 2017



Plant growth regulators (PGRs) in cereals are an essential element in the spring husbandry of cereal crops. Most revolve around the use of products that suppress the production of the plant's own gibberellin growth hormones. These anti-gibberellins suppress apical dominance and extend the main tiller with the effect of shortening and thickening the cell walls in the lower stem internodes. This tends to reduce crop height and



Increased root plate spread

strengthen the lower stem, making it more resistant to bending and breaking. Equally important 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; typically when crops are at peak ear weight and when 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. PGRs applied at late tillering to GS30 growth stages will be the first opportunity to promote root growth and strengthen the lower internodes. Medax Max is a mix of two anti-gibberellins; trinexapacethyl and prohexadione-calcium. 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. Importantly, it has also been shown

to work well at the lower temperatures frequently encountered at this early spring timing. Medax Max can be used



Increased root length density

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 it 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. Check with your ProCam Agronomist for the optimum PGR programme for your crops this season.

# OILSEED RAPE

PGRS SPRING 2017



Oilseed rape crops are at widely varying stages of development across the UK. In the east the effects of Cabbage Stem Flea Beetle (CSFB) in combination with a dry autumn have restricted crop growth, causing a number of crops to be written off. In areas where moisture wasn't limited and with fewer pest issues, crops are well developed. These forward crops will benefit from a PGR application at the stem extension timing to reduce stem growth and minimise the risk of crop lodging. Toprex, a mixture of paclobutrazole and difenoconazole, introduced last year, has proved itself to be a very effective PGR in oilseed rape. The early stem extension timing is preferred for the best effect on height reduction, and at this timing it is also an effective fungicide against Light Leaf Spot. However, Toprex also has positive benefits on canopy architecture; increasing lateral branching and the synchronicity of flowering - reducing the flowering period. This latter effect improves light interception by the leaf canopy and evens up crop maturity, making for easier management of the crop at desiccation timing. For optimum canopy manipulation Toprex is best applied at the green bud stage. It may seem counter-intuitive but PGRs can benefit smaller, more backward crops when applied at this later growth stage by allowing them to reach maximum canopy potential.

# CROP NUTRITION

EARLY SPRING 2017



As growth starts in early spring symptoms of nutrient deficiency, especially Manganese (Mn), have started to show in many cereal crops. Mn is a pivotal element in the photosynthetic process and any deficiencies will be exacerbated by high light intensity as we move into spring growth. Research work has shown that latent or hidden deficiencies of Mn can impact on various elements of crop growth, including reduced root and shoot development and leaf wax formation. This latter feature can make the plants more susceptible to disease e.g. mildew. These effects can occur despite the absence of any visual symptoms of deficiency. Soils low in Mn are typically low in other key nutrients such as Zinc (Zn) or Copper (Cu). Magnesium (Mg) can also be limiting in early spring if soil conditions make it unavailable to plant roots. An early application of Mn in combination with the other key nutrients - Mg, Zn & Cu is worth considering to avoid any 'hidden hunger' and ensure that your crops get off to the best possible start this spring.