

ESTABLISHMENT IMPROVEMENT ON THE YORSHIRE WOLDS

Improving establishment is one of the most important combinable crop priorities for manager, Chris Redfearn and his team at Warter Priory Estate on the Yorkshire Wolds between Pocklington and Drifffield. And they have been making considerable progress in doing just this over the past two years, in particular, lifting both wheat and oilseed rape yields comfortably above their five year average.

Central to this success across the 3000-plus hectares of cereal-based cropping has been a combination of the innovative plant growth-boosting seed treatment, Take Off and autumn and spring Nutri-Phite PGA sprays together with improved cultivation and sowing practice.

“The particular challenges of recent seasons have certainly concentrated our minds,” says Chris. “Our main focus is on getting winter cereals and oilseed rape off to the best possible start through early root development and nutrient uptake. That way they’re far better able to cope with the sort of cold winters and dry springs we’ve been seeing lately.

“At the same time, we know that better rooted and tillered crops coming out of the winter require less spring fertilisation to deliver the goods as well as withstanding disease and drought far more robustly. So they reward us both economically and environmentally.”

In improving crop establishment, the chalky Wold ground with a pH of 7.5-8.0 represents a particular challenge for the Warter Priory Estate team.

Despite a P index of 0 on one wheat field, for instance, they recorded absolutely no yield differences across a range of 0 to 125 kg of P applied as triple super phosphate in a recent farm trial.

“TSP is an expensive waste for us here,” Chris Redfearn explains. “By the time the plants are big enough to utilise the phosphate it’s been locked-up by the soil. Technically, we could overcome this by lowering the pH, but the cost is prohibitive.

“Thankfully we’ve found an excellent way round this in the form of Nutri-Phite PGA. Autumn and spring sprays deliver critical phosphorus to the crops in the form of phosphite just when it’s needed – first to promote vigorous autumn rooting and then to support good early spring growth.

“In marked contrast to TSP, we saw consistent yield benefits from the sprays in our wheat trial regardless of the phosphate application level. So they have become a core part of our combinable crop improvement strategy.”

Also now used as routine across all cereals and oilseed rape at Warter Priory is the specialist seed treatment, Take Off. A complex of plant metabolites and nutrients that boosts early crop growth, the seed treatment was first employed on spring barley where it impressed sufficiently for Chris Redfearn to extend its use widely.

“We’re looking to Take Off to speed-up emergence and optimise root development, helping our crops overcome the initial phosphate-limiting

challenge of the ground before they are big enough to benefit from the Nutri-Phite PGA,” he points out.

Together with a small amount of N and P applied immediately behind the seed drilled in 20” bands using a modified Simba Freeflow, this combination did an excellent job across the Estate’s 350 ha of OSR last autumn.

Vigorous varieties like Excalibur, Excel, DK Cabernet and Dimension undoubtedly helped too, as did balanced boron, magnesium and manganese applications. This makes it impossible to tell precisely what part either the seed treatment or phosphite sprays played. Overall, though, the value was clear in a crop averaging over 4 t/ha at harvest, with every single variety exceeding the five year average of 3.5 t/ha.

“The weather prevented us getting the Nutri-Phite PGA onto our wheat last autumn so the establishment boost from Take Off was, if anything, more important,” Chris Redfearn adds. “Especially so given the very dry spring we suffered once again. Despite this our main wheats, Grafton, Oakley, Duxford and JB Diego, came through well. Last year we averaged 10.3 t/ha against our five-year average of around 9.5t/ha. We hope to be able to at least match this performance once our 2010 harvest is complete.”

Their experience to date leaves the Warter Priory Estate team convinced of the value of the concerted approach to establishment improvement they are taking. Amongst other things, they are looking to build on this further by bringing both cereals and OSR drilling forward around a week and making far greater use of farmyard manure, bio-solids and composts to increase soil phosphate as well as organic matter levels.

“We started drilling our rape on August 10 this year – after winter barley – and the first crops were through by the following week. If anything, they are establishing even better than before. So we must be doing something right,” Chris Redfearn concludes.

“It’s early days yet and I’m sure our approach will profit from a lot of fine-tuning in the years to come. We need to get all the pieces of the jigsaw in place and working together as effectively as possible.

“I’m very enthusiastic about the approach we’re taking and the progress it’s delivered so far. The more we learn about innovations like Take Off and Nutri-Phite PGA the more value we see in them and the more confident we are of being able to make the very most of our resources despite the serious questions posed by challenging land, increasingly uncertain seasons and ever-present financial pressures.”