

Mancozeb re-evaluation gives thought for T3

The future of fungicide mancozeb, an active that is effective against a range of crop diseases, and which has been used since 1962 with no known resistance, continues to look optimistic, suggests a technical specialist.

The current authorisation for mancozeb has been extended until 2018 and, hopefully, a liquid formulation from UPL Europe Ltd, currently coded as FBX49, will gain approval for use on wheat during 2017, says the company's technical support manager, UK & Ireland, Pamela Chambers (right).



"In the 1980s T3 fungicide applications to wheat often included mancozeb, however data supporting its efficacy on ear diseases and in particular on fusarium species is somewhat sparse, and with the introduction of new fungicide actives ear applications of mancozeb lost favour," she explains.

Information provided by Crop Monitor 2015, (see Graph 1) shows that the majority of fungicides applied at the T3 timing in wheat are from the DMI group such as prothioconazole and tebuconazole, points out Ms Chambers. "The reliance of fungicides from predominately one fungicide group poses potential resistance issues, prompting an investigation by UPL Europe into re-evaluating how effective the multi-

site fungicide mancozeb would be at the T3 timing.

"In the 2016 Defra winter wheat commercial crops disease survey on the ears, 84 per cent of crops were affected with ear blight, significantly higher than 2015 when 26 per cent of crops were affected," she adds.

Trials work

During 2016 ADAS carried out two trials on behalf of UPL to assess the activity of FBX49 (mancozeb) on fusarium head blight (FHB) in winter wheat; one at ADAS Gleadthorpe in the east and the other at ADAS Rosemaund in the west.

At ADAS Gleadthorpe plots of the winter wheat variety Grafton, a Group 4 hard wheat with an AHDB (2016/17) rating of 5 for FHB, were inoculated with *F.Graminearum* and *F.Culmorum* one day post the fungicide application. "*F.Graminearum* and *F.Culmorum* are the most common fusarium species found in wheat in the UK," she highlights. "All treatments received a standard T0, T1 and T2 fungicide programme but the T3 treatments were based on mancozeb, prothioconazole and tebuconazole, and, to encourage the development of FHB, the plots were misted."

Results from this trial are shown in Graph 2. "On the final assessment carried out on 19th July the untreated plots showed high levels of FHB and the two FBX49

(mancozeb) treatments were giving levels of control comparable to the current industry standards Proline (prothioconazole) and Folicur/Tebuconazole 250 (tebuconazole)," she points out.

Normal conditions

At the ADAS Rosemaund site the same winter wheat variety Grafton was used but there was no artificial inoculation of the plots with fusarium species and no misting. The crop was grown under normal field conditions and, consequently, levels of FHB at Rosemaund were much lower than those recorded at ADAS Gleadthorpe with only 11.98 per cent of ears being infected with FHB in the untreated. At the ADAS Rosemaund site a tank mix of tebuconazole + FBX49 (mancozeb) gave the best result with only 5.85 per cent infection although there were no significant differences between any of the treatments, comments Ms Chambers.

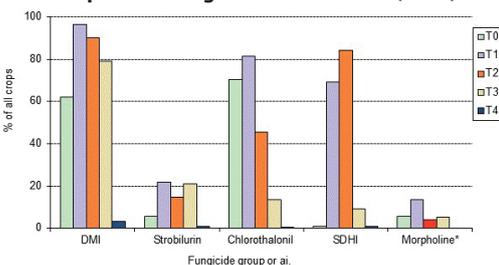
Other observations made at the ADAS Rosemaund site showed that the green leaf area retention percentage was higher on the plots that had received mancozeb (Graph 3). "The increased level of green leaf area from FBX49 is not surprising as

mancozeb contains manganese which has a nutritional/greening effect on crops," she says.

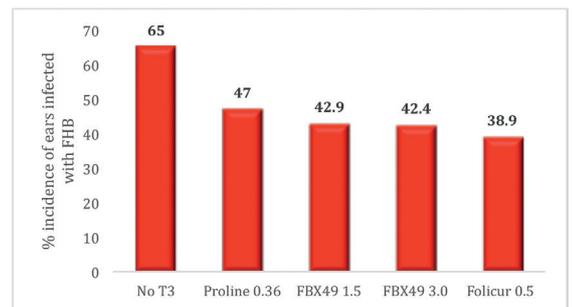
Ms Chambers does however offer a note of caution as the results are from only two trials carried out in 2016, however she says that further trials are planned for 2017 looking at T3 and T4 applications of mancozeb, and mixes of mancozeb with triazoles at different ratios. "Looking to the future it is likely that mancozeb will again be seen as an important component of the T3 timing where it will give control of FHB, protection against foliar diseases and enhanced green leaf area retention and importantly helping with resistance management," she concludes.

*Currently UPL has mancozeb-based products Manzate 75 WG, Penncozeb 80 WP and Penncozeb WDG approved and available for use on wheat in the UK.

Graph 1: UK fungicide use on wheat (2015)



Graph 2: ADAS Gleadthorpe FHB trial (19th July 2016)



Graph 3: ADAS Rosemaund - leaf 3 green leaf retention % (18th July 2016)

