Control of seedling blight in winter wheat by seed treatments - impact on emergence, crop stand, yield and deoxynivalenol

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Seedling blight caused by Fusarium spp. and Microdochium spp. is common on wheat grain, and severe attacks can lead to poor establishment of new crops. Several seed treatments using bitertanol, difenoconazole, triticonazole, mane, fludioxonil or guazatine found to significantly control Fusarium seedling blight (Fusarium spp. Microdochium spp.) were under field conditions in winter wheat improving germination and reducing seedling blight on roots and coleoptiles. Some of the seed treatments were also shown to have an impact on soil-borne Fusarium in trials carried out under glasshouse conditions.

In three field trials with 5-45% infected seeds no significant improvements on yields were seen from seed treatments, indicating that the Danish threshold of 15% attacked seeds is a conservative threshold. In two field trials including seed lots with more than 90% infected seeds, fludioxonil improved germination by approximately 100%, which led to an improved crop stand and yield increases in the range of 1.2-1.5 tonnes per ha. Attacks of Fusarium head blight were relatively slight in the two trials and the content of deoxynivalenol was below the EU limits of 1250 ppb in the harvested grain. Even so, seed treatments with fludioxonil did not help reduce attacks of Fusarium head blight at GS 75 or content of deoxynivalenol in the harvested grain.

Reference:

Jørgensen, LN; Nielsen, LK & . Nielsen, BJ (2012). Control of seedling blight by seed treatments and their potential for increasing yields under field conditions. Acta Scandinavica (accepted)