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HERBICIDE COMBINATIONS TO OPTIMISE CONTROL OF BLACK-GRASS IN SUGAR BEET

Des combinaisons d'herbicides pour un contrôle optimisé du vulpin des champs dans des betteraves sucrières / Herbizidkombinationen zur optimierten Kontrolle von Ackerfuchsschwanz in Zuckerrüben

ABSTRACT

Sugarbeet can offer control options for ACCase resistant black-grass because it is spring sown, allows ploughing and stale seedbed options and utilises herbicides with alternative modes of action.

Three active ingredients were selected which offered black-grass control options in sugarbeet; metamitron, tri-allate and ethofumesate. A base programme containing T1 and T2 applications of phenmedipham (2x120 g/ha), desmedipham (2x120 g/ha) and metamitron (T1 525 g/ha, T2 700 g/ha) was used in combination with various added components allowing comparisons between these ai's to be made. Ear counts were taken in July and percentage control compared to the untreated control (86 ears/m^2) were calculated. At the end of the experiment seed collected from the untreated plots showed moderate levels of ACCase resistance (RR).

The two best treatments contained pre-emergence metamitron (1400g/ha), ethofumesate (1000g/ha), plus the base T1 and T2 programmes and a T3 application of an ACCase graminicide. Both tepraloxydim (50 g/ha) and clethodim (120 g/ha) were used in programmes and gave similar levels of control (98%). Tri-allate granules (2.25kg/ha) in the seedbed gave useful control comparable to the pre-emergence applications of ethofumesate (1000g/ha) or ethofumesate (1000g/ha) plus metamitron (1400g/ha) but there was no benefit to using both granules and sprays. Splitting the permissible dose of ethofumesate pre- and post-em (500g/ha pre, 200g/ha T1, 300g/ha T2) did not improve activity, but was significantly better when this also included triflusulfuron-methyl at T1 (15 g/ha) and T2 (15g/ha).

This work will continue in 2014 so that best practise guidelines can be developed for herbicide use following the IPM principles as required under the Sustainable Use Directive 2009/128/EC.