

 **O.28 - Integrated weed management – strategies developed for silage maize**

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Maize (*Zea mays* L.) has a low competitive ability against weeds. Typically two applications of herbicides are applied: soil applied pre-emergence herbicides plus post-emergence treatment or just post-emergence application twice. The aim of this study was to compare two integrated weed management (IWM) strategies (intermediate – b – and advanced – c –) to the standard chemical treatment (a). The strategies were evaluated at 3 sites: 1) Pisa (Italy), 2) Dijon (France) and 3) Flakkebjerg (Denmark). For strategy (b) and in comparison with strategy (a), the amount of active ingredients was changed by 0% at Pisa, -39% at Dijon, +149% at Flakkebjerg while the figures for number of treatments were 0% at all sites. For strategy (c), the amount of active ingredients were changed by -65% at Pisa, -95% at Dijon, and -91% at Flakkebjerg, and number of treatments by 0% at Pisa, -67% at Dijon, -50% at Flakkebjerg. The higher amount of active ingredients at Flakkebjerg for strategy (b) arose when changing to another compound considered to be environmentally friendlier. Strategy (b) at Pisa did not deviate from (a) because the first herbicide application, which was similar for (a) and (b), gave sufficient overall weed control. Strategy (b) resulted in the same weeding effectiveness and provided yield results similar to standard chemical control at all sites. Weed control effects following strategy (c) was similar to (a) at Dijon but slightly lower at Pisa and Flakkebjerg with effects in the range of 85-90% compared to effects above 95% for strategy (a). Cob yield was slightly lower after strategy (c) compared to (a) at Pisa with total maize yield being the same. At Dijon the opposite was true with total maize yield being lower following strategy (c). In conclusion, IWM strategies have the potential to reduce reliance on herbicides but may be associated by yield declines and higher treatment costs.