

 **P.47 - Implementation of integrated weed control in maize in the Netherlands: research and policies**

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The environmental impact and economic costs of herbicide use in silage maize (*Zea mays L.*) in the Netherlands increased until 1997 (Rotteveel & van der Weide, 1997). Herbicide use in silage maize can be 90% replaced by mechanical control (van der Weide et al., 1995). A system based on maximum mechanical control requires harrowing 4 to 5 times, followed by hoeing with ridging and sometimes additional band spraying. The number of passages in this system proved to be unworkable particularly for contractors who do most of the weed control in silage maize. A less time consuming and more flexible and sustainable system was developed: combined mechanical control (pre emergence harrowing) and adjusted herbicide doses (van der Weide and van der Schans, 1997). Based on these results, a so-called cross-compliance system was adopted which linked EU subsidies to farmers to a maximum amount of active ingredient of herbicides used (i.e. 1 kg/ha) and the use of mechanical weed control in maize. Since 2000 this system was applied on over 90% of the Dutch maize acreage. The usage of active ingredients dropped from 1.9 kg/ha to 0.9 kg/ha in 2000. In 2005 this subsidy was stopped. Since then the usage of active ingredient slightly increased and the usage of pre emergence harrowing dropped to 35 % of the contractors in 2006 (Melander et al., 2008). Continuous communication, regulation and further innovation in integrated control and precision technology are needed to maintain and improve sustainable, flexible and economic weed control in practice and in combination with the need for less energy consumption.