



## **A generic Decision Support System for weed control**

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### **Abstract**

In the EU-project 'ENDURE' (2007-2010) a survey was conducted on Decision Support Systems (DSS) for control of weeds, pests and diseases. Data was collected on 70 DSS and upon analyses, 'best parts' were identified in a context of reducing the use of pesticides. In the EU-project 'PURE' (2011-2014), best parts (components) from 3 DSS on weed control has been integrated in a new DSS system architecture, which will be customized and parameterized for weed control in maize in Slovenia, Italy and Germany.

Based on field reports the DSS runs through a 3-step mechanism: 1) quantification of needs for weed control, supported by a French DS, 2) selection of candidate herbicides and optimization of dose rates to meet needs for control, supported by a Danish DSS and 3) calculation of expected economic net return, supported by an Italian DSS. This new DSS also integrates new components on mechanical weed control, control of herbicide resistant biotypes of weeds and measures to prevent/delay development of new incidents of herbicide resistance. This DSS also meets many of the requirements listed in EU-directive 2009/128/EC on IPM. The first field tests of this DSS will be initiated in maize in March 2013.

The Danish component has previously demonstrated a potential for reducing the use of herbicides with about 40% in cereals and about 20% in row crops.

The system IT-architecture behind this DSS has been designed as a generic frame, which may easily be customized for legal, agronomical and climatic conditions in additional countries and crops.