Use of sensors for assessment in herbicide trials

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During the last decades different sensors and signal processing algorithms have been developed with the aim of identifying weeds in crops. This enabled farmers and scientists to automatically map the distribution of weed populations in arable crops and apply herbicides and site-specific r weed control methods using GPS-controlled patch sprayers.
In late May 2012, the EWRS Site Specific Weed Management Working Group arranged a workshop with the aim of using different sensors types and signal processing algorithms in an experimental design with 5 densities of spring barley and oil seed rape, sprayed with 4 herbicides with different mode of actions. The experiment was design in 30 x 3 m stripes and two replicates i.e. in total 400 plots.
The results of the joint experiment showed that dose-response relationships fitted to the output from the different sensors irrespectively the sensing principles. The results also showed that increased number of non-destructive sensing of crop response increased the accuracy of herbicide assessment under field conditions compared to manual assessment.