

Conference Reports

Precision Farming for Crop Protection – Practical Use of Variable Rate Applications

*National Centre for Precision Farming, Harper Adams University, Newport, Shropshire
3 October 2012*

The event attracted an encouraging 47 delegates to hear a mix of offered papers and invited presentations from research and industry. Among the delegates were those who had travelled or were based on France, Netherlands, United States of America and New Zealand. The programme followed a theme that started beyond the boundary of the earth's atmosphere and ended rooted in the soil.

The scene of the day was set with Simon Blackmore reviewing the development of robotics in agriculture and some futuristic views of their role within crop production. The theme moved to activities being pioneered in horticultural and orchard crops in the Netherlands with Jan van der Zande of Wageningen University. Broad acre arable applications have long been identified as potential candidates for variable rate applications tuned to the level of disease, weed or pest infestation. Weed mapping and the associated sensor technology and image analysis techniques has been studied in a consortium led by Alistair Murdoch of Reading University who presented their work and moved the attention to the detection and mapping of black-grass in cereal crops.

Retaining the black-grass theme Ben Magri of Syngenta spoke of controlling inputs as an alternative to pesticide application. Seed rate and variety choice resulting in enhanced crop competition were shown to be a major tool in the battle.

As the arsenal of chemicals available to the grower for selective weed control diminishes the

use of total herbicides applied to specific sites becomes more attractive. The resurgence of band spraying with a 21st century twist was the subject of Micron Engineering's, John Clayton presentation where the virtues of inter-row shielded controlled droplet, over row and machine guidance combined gives the grower another option. Removing chemicals from the equation entirely was the story Nick Tillett demonstrated with his use of inter-row and inter-plant mechanical weeders, again embracing a combination of global positioning, machine vision and crop sensing systems. The platform programme ended with Dick Godwin setting the scene and work done during year zero of the controlled traffic farming project at Harper Adams.

The AAB had arranged their special general meeting and annual general meeting to coincide and take place over an extended lunch period, which then joined the afternoon programme concerning the CTF project and a visit to the anaerobic digester plant.

One paper that was hoped to address the problems standardisation of direct injection systems was not able to be presented on the day due to ill health. However it remains one of the major hurdles to precision, stop and variable rate application due to the need to dilute chemical products to a rate appropriate for application to the crop over what may be an unknown area at the start of the task.

- Simon Cooper

