

Precision ⁺ farming techniques

improve profitability and reduce environmental impact

Precision Farming – it is a term often mentioned but rarely understood by many farmers in the UK, perhaps understandable due to its past connotations of being costly and an area populated by enthusiasts and, it has to be said, those of a more technical disposition. Times are changing, however. Agronomy and crop protection specialist Agrovista UK Limited, has been involved in delivering practical precision farming solutions to arable farmers for over a decade, centred on a GPS-based mapping system for soil nutrients and pests, but there is a lot more to precision than producing field maps, according to Chris Glover, Agrovista's business projects manager.

"A decade ago, you could mention precision farming to a farmer and see them 'switch off' straight away. Then, equipment and software was costly and relatively inaccessible, and there was certainly a perception that the costs outweighed the benefits. The same cannot be said today, as the necessary hardware is far cheaper to obtain, easier to use, and has better integration with other systems than ever before," he says.

The principle behind Precision Farming is the utilisation of technology and systems to accurately target inputs and measure outputs, in order to raise productivity and ensure cost effectiveness. This optimisation of farming systems has great potential to reduce environmental impact, a major consideration for any responsible farmer.

"One of the biggest factors is the proliferation of GPS systems – you only have to look at the number of satellite navigation systems on the market to give an indication of how far things have progressed; it is second nature to make use of GPS in a car – the same thing is gathering momentum in farming," says Mr Glover.

Over recent years, large areas of land have been mapped for nutrients, auto-steer systems in tractors allow accurate application, and yield mapping on combines provide information to assess the end result. Taking nutrients as an example, these systems allow a farmer to accurately assess a field and treat accordingly, then view the impact on the harvested crop.

"Of course, it is not a 'one hit wonder' and the approach must be maintained for a number of seasons to see the pattern of change, with the ultimate aim of evening out P and K levels, with the beneficial effects on yield and cost," says Mr Glover.

One of the most promising developments recently has been the integration between systems. When pioneers began mapping nutrients in a field, it was good to learn how the indices varied – the big question was how to make use of that information. Some fields could be easily zoned into areas of high or low P and K levels and it was not uncommon to variably apply fertiliser by switching the spreader on and off.



agrovista

Chris Glover
Business Projects Manager
Agrovista UK Ltd

"A bit Heath-Robinson maybe, but it worked for some," he says. "Fortunately, the majority of mapping systems now allow data to be exported directly in to variable-rate spreaders, which gives a much better solution to applying the right level of fertiliser in the right place.

"As precision hardware becomes more accessible, and environmental and political pressures on farmers to optimise input use increase, the use of such systems will become prevalent within British agriculture to the extent that it is no longer 'novel' and becomes part and parcel of every farm.

"The most basic entry into precision farming comes with a few hundred pounds worth of GPS-based pocket computer, allowing the perimeters of fields and their features to be mapped. Plotting incidences of low soil nutrients, weed patches, or stewardship areas has become so much easier and eventually, with the increasing need to justify inputs, this will be more important to carry out," says Mr Glover.

"Fundamentally, even if the farmer does not wish to invest in precision equipment, there are plenty of contractors and companies out there who are able to provide precision farming services and the days of high costs and therefore low returns are gone. Never has there been a better time to make use of technology and targeted input systems to maintain and improve profitability."

