

# Keeping control of the costs in establishing cover crops

While the introduction of cover crops has been a further boost to soil health at Wistaston Farm in Herefordshire, farm manager Steve Klenk (right) is also ensuring seed and establishment costs are kept to a minimum.



Wistaston Farm, at Kings Pyon in Herefordshire, is an in-hand farm of Garnstone Estate. Here, Steve Klenk has been overseeing an arable system of min-tilling and/or direct drilling for the past 15 years or so.

Over this time, the structure and fertility of the silty clays on the farm have been gradually improving. Steve explains: "It's been a combination of farming practices: chopping straw, shallow cultivations and direct drilling, and adding cattle muck and digestate. We are now using less lime, and less P and K.

"We are also in two Countryside Stewardship Schemes and are applying to join a mid-tier scheme."

This autumn's combinable crops are winter wheat (360ha); oilseed rape (140ha), herbage seeds (100ha); canary seed (40ha) and soya beans (14ha).

In addition, 140ha of cover crops have been sown as part of the programme of enhancing soil structure and health.

## Cover crop mixtures

To save money on seed, Steve formulates his own 'home-made' cover crop mixture. This includes the grain from 1.5ha of spring oats grown on the farm, together with any barn sweepings – so this autumn's cover crops also feature peas, wheat and canary seed. Then, to satisfy the conditions of the EFA regulations, phacelia is bought-in as a straight. So are buckwheat, crimson clover, berseem clover, and tillage radish – adding biodiversity to the mixture. Steve looks for the best prices from several suppliers.

The seeds are mixed together in a shed using the bucket on a loader. It is not a precise operation, but Steve

considers it to be sufficient for the purpose.

After accounting for royalties on the farm-saved seed, this season's home-made seed mixture cost £20/ha, roughly half the cost of similar off-the-shelf mixtures.

## Establishment

Keeping costs low in the establishment of these cover crops is also a priority. A disc cultivator is used over cereal stubble to incorporate the straw and create a tilth (normally, chopped straw is left in situ but this year most has been baled for a nearby suckler enterprise). Then seed is sown via a fertiliser spreader, and the ground rolled afterwards. Typically, this work is carried out as a filler on wet days during the harvest period.

Steve adds: "Since we are using a fertiliser spinner on a crudely-mixed mixture with many different sizes and shapes of seed, we do get variation in species across the field. But I'm not concerned about that. We're not harvesting it as a crop."

Last year, the cultivator needed replacing and Steve and his staff tried out several different makes. In the end a 5.25m trailed He-Va Disc Roller Contour was chosen. It consists of two staggered rows of Sabre discs followed by a rear roller comprising of pressed steel 600mm V profile rings.

The He-Va Sabre discs are less concave than traditional discs and this allows all the soil to be moved when working shallow. In wet conditions, this design also prevents the back of the discs smearing and creating a disc pan.

Depending on the type of work required, their working depth and angle to the ground is adjusted: for shallow cultivations, discs are set perpendicular to the soil surface. This makes them push the soil horizontally, breaking it up and ensuring the whole surface is moved.

For the incorporation of crop residues, the disc angle and depth are increased.

This more aggressive angle pulls the discs into the ground and inverts more soil, incorporating crop residues to a depth of up to 5in.

On the Disc Roller Contour, the two hydraulic folding sections are pivoted so they can move up and

*Steve's low cost cover crop includes oat grains from the farm's spring crop, barn sweepings and bought-in straights.*



Cover crops are sown into cereal stubble which has been cultivated using the He-Va Disc Roller Contour.



The He-Va Disc Roller Contour being used to disc in an old grass/clover ley – two passes are needed to break up the root systems, but only one is needed for cereal and maize stubble.

down according to the contours of the ground, helping ensure even cultivation in rolling fields.

Steve adds: "We are using the Disc Roller as the primary cultivator on fresh stubble. The discs move all the ground and loosen the soil. We only need to go down 1.5in as we are not trying to alleviate compaction – going deeper is just using more diesel. The depth control on the machine is very good. The roller does a good job of consolidation and leaves a level finish."

## Maize

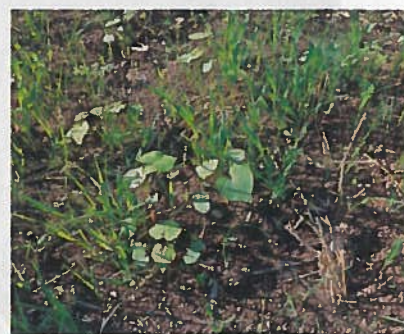
The cover crops will be incorporated into the soil in advance of maize crops being sown.

Garnstone Farms has a share in an AD plant which supplies both heat and electricity to a factory. Next year, 180ha of maize will need to be sown, to supply sufficient feedstock for it.

Steve explains: "Some of the plants in the cover crop will have died in frosts over the winter. But

we'll run through the remainder of the crop in March/April with a subsoiler and then follow with the He-Va disc roller to create a seedbed, which will be rolled before drilling.

"Having a crop in place through the winter stops the soil slumping and prevents erosion. The cover crop is also able to soak up some of the nutrients left over from the previous crop, and these get recycled into the next one."



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