

# LIVESTOCK AIDS TILLAGE TRANSITION

**Running a fully mixed farming operation with his family, Buckinghamshire farmer Steve Lear has found it easier than many out-and-out arable farms to transition from conventional cultivations to direct drilling.**

Years of applying manure from his 400-head pedigree Limousin suckler herd has kept his soils in relatively good health, so - when he put the plough and power harrow away four years ago - the pain of conversion never really came.

On the contrary, he's maintained yields in his arable crops, reduced fixed and variable costs, and established some level of control over the blackgrass infestation that partly prompted this personal farming revolution in the first place.

"Blackgrass was certainly a factor in our decision to change, but so was the desire to stop spending a fortune burning diesel trying to establish seedbeds in our very heavy soils," says Steve. "We were sometimes following the plough with as many as three passes with a power harrow before drilling, using over 80 litres/ha, so something had to change.

"Of course, it's been a process of education, but since we moved to direct drilling, we've cut our diesel consumption for cultivations to between 6 and 12 litres/

ha and significantly reduced the time spent on it. We're using the time saved for more productive work, catching up on the jobs that we would previously not have got around to.

"Working with our ProCam agronomist Paul Gruber throughout has been important. He has the technical expertise and wider knowledge that helps us to understand where we can cut back inputs and where we can't."

The transition at 1,000ha Creslow Manor, near Aylesbury, has involved some significant changes in the cropping, with a greater proportion of spring crops being grown, more grassland in the arable rotation and an important role for cover crops.

"We were moving towards more spring cropping before introducing direct drilling, as a means of combatting the blackgrass problem," adds Steve, "and we've continued to evolve the rotation over the past four years.

"Cover crops contribute greatly to soil

health, acting as a form of cultivation through their rooting activity and building organic matter. All of our spring crops are now preceded by a cover crop, and we can often establish a short term cover crop before winter wheat when following a wholecrop cereal."

Steve uses a variety of cover crops, ranging from a relatively simple winter oats and mustard formulation to very diverse mixtures containing cereals, herbs and legumes. With cover crops usually going in after wholecrop cereals and winter barley, around a quarter of the 600ha arable rotation is typically being managed in this way at any one time.

"We like the more diverse mixtures because the varying plant types are making different contributions, in terms of rooting depth and the recycling of nutrients," says Steve. "The aim is always to graze off the cover crops with sheep, wherever possible, and then spray off the residue six weeks before we establish the following spring crop. It's important to deal with the aftermath in good time, as excessive crop residues can cause problems with establishment, not least shading the blackgrass from any contact sprays."

## Direct drilling

The main drill in use at Creslow Manor is a 5 metre Cross Slot low-disturbance no-tillage machine. Incorporating a disc opener with auto-adjustable down force to suit a wide range of conditions, this drill offers Steve a good deal of versatility,



*Direct drilling at Creslow Manor with cattle in situ.*

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*Cover crop seeds mixtures used at Creslow Manor include a diverse range of species*

and is fitted out to simultaneously handle two seed types and liquid fertiliser in a single pass. He also uses a Simtech Aitchison disc and tine drill for deeper drilling. This drill is also used to establish

clover in grass leys as it leaves the slot slightly open, allowing in sunlight to stimulate germination.

In addition to their use with the cereals, spring beans and cover crops, the drills

are also used to overseed grass into established grazing and cutting leys.

“We find this to be an effective way to renew our grassland leys,” says Steve. “It’s important to reduce the competition from the existing sward, so we ease back on the nitrogen and graze tightly before drilling and keep the stock on until the point where they would pull out the new seedlings. Renovating the leys in this way minimises soil disturbance and means we can avoid having land out of production for six to eight months.”

The grassland, along with the livestock that it supports, plays a big part in the integrated farming system that Steve believes is a sustainable way forward.

“The livestock, the cover crops, even our hedgerows, all play a part in creating the diversity that we need to make the system work,” he adds. “For example, we’re seeing a build-up of beneficial insects, because we’re creating the habitats and food sources they need, and as a result we’ve been able to virtually avoid the need for insecticides for the last three years.

“It’s about finding the right balance of inputs, not simply cutting things out, and we keep learning ways to improve every year.”



*Grassland reseedling is often carried out by drilling into existing swards*