

BENEFITS OF INCORPORATING LIVESTOCK INTO ARABLE ROTATIONS

A mixed farming system, based around livestock and cropping, is a fundamental part of organic, agroecological and regenerative farming.

Why incorporate livestock?

One of the main ways of enhancing soil health is the integration of animals; a plant that has been grazed will photosynthesize more and pump more liquid carbon into the soil compared to a plant that has not been grazed.

Other benefits include...

- › Improvements in soil health, structure and fertility
- › Better soil stability, drought tolerance, water infiltration and water-holding capacity
- › Improvement in weed management – particularly Blackgrass
- › Increase in productivity – increasing revenue
- › Diversification opportunity – risks of production spread
- › Reduction in chemical use – reducing input costs
- › Reduction in soil erosion and compaction
- › Increase in biodiversity
- › Increase in soil organic matter (SOM) – sheep can promote a 35% increase in SOM
- › Nutrient cycling

What are the benefits to a livestock enterprise?

- › Clean, parasite-free grazing for the livestock
- › Nitrogen fixing and fertility building clover offers good nutrition and fast growth rates
- › Species-rich leys that include plants like chicory have anthelmintic properties, reducing vet costs
- › Outwintering can reduce the need for housing, reducing costs significantly
- › A premium may be given if livestock are finished on grass alone

Where is the livestock coming from? Are the livestock already on the farm or will they be brought in?

Grazing requirements for a breeding flock of sheep or a suckler herd is very different to that needed for finishing lambs or beef. The decision dictates the strategy and farming/business model.

Options for co-working between arable and livestock farmers

- › Tack sheep over winter (e.g. maize undersown with grass)
- › Host other out-wintering livestock (dry cows, rearing heifers, beef cattle etc.)
- › Muck for straw deals
- › Grazing or cutting agreement/licence
- › Farm business tenancy agreement
- › Purchasing/deal for poultry or pig manure
- › Joint ventures
- › Outdoor pig production

Common approaches...

OPPORTUNITY	BENEFITS	THINGS TO CONSIDER
<p>Grass, clover and herb leys</p> <ul style="list-style-type: none"> • Graze the crops using livestock owned by the farmer • Contract rearing • Grazing rented out for a season or lifetime of ley • Tack sheep over winter • Sell as standing crop or as silage/hay 	<ul style="list-style-type: none"> • Manage weeds e.g. Blackgrass • Break disease cycles • Improve soil structure • Add organic matter • Livestock add nutrients 	<ul style="list-style-type: none"> • Can be used in rotations from one to three or more years • Timing of establishment is flexible (April-September) • Weed competition can be an issue late in the season • Soil sampling should be taken six months before establishing grass (two months after last manure, fertiliser or lime application) • Important to select the right type/mixture as this will affect seed cost and longevity • Some varieties perform better under silage regime than under grazing (and vice versa)
<p>Cover crops</p> <ul style="list-style-type: none"> • Winter crops as feed for cattle and sheep 	<ul style="list-style-type: none"> • Protect soil from erosion • Roots provide anchorage and feed source for soil biology • Recycle nutrients reducing pollution risk • Plant material improves soil organic matter • Improved soil water infiltration • Decreased soil and nutrient runoff to water courses 	<ul style="list-style-type: none"> • Short-term crops, usually grown and consumed in less than one year • Cover crops are grown between harvest and establishment of main cash crop • Grasses and cereals (e.g. oat, rye and rye-grasses) are suitable for grazing and deliver good early ground cover • Autumn-sown brassicas (e.g. radishes, turnips and mustards) can be grazed with care while providing deep rooting • Suitable nitrogen fixing legumes include sainfoin, vetch and clovers • Other cover crop species include chicory, phacelia and buckwheat • Grazing can release more nutrients for the following crop compared with mechanical or chemical destruction

Important factors to consider

- Infrastructure – water and feeding facilities, fencing, handling systems, housing (if required)
- Legal advice should be taken to set up an agreement if working with other farmers
- Disease risks e.g. bovine tuberculosis (TB)
- Livestock should be managed by trained/experienced stockpeople
- Movement licences should be completed
- Cross compliance
- Check land suitability for livestock



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