AHDB BEEF & LAMB

Event report

May 2016

Better Returns Programme

Cover crop meeting

Allerton Project, Loddington, Leicestershire

The interest in cover crops continues to increase as a means to combat adverse weather conditions and increased pest problems. At an open day in March , held at the Allerton Project, livestock and arable producers were told about the various reasons for using cover crops in their farming systems. Research and subsequent use at farm level has shown that cover crops improve soil health, increase nitrogen efficiency and reduce soil-borne pests. This creates more favourable conditions for subsequent crops while reducing the impact of modern farming practices on the surrounding environment.

Professor Stoate, head of research at the Allerton Project, began by describing the improvement in farm productivity at Allerton since first planting cover crops within the rotation in 2014. Ron Stobart from NIAB TAG followed with a presentation describing how they have found deep-rooting cover crops such as fodder radish, plantain and stubble turnips have improved water infiltration by almost 300% while reducing the amount of residual nitrogen leaching into watercourses by as much as 40%. Spring oat yields alone have increased by 20% and crop failure due to wet soils has been reduced significantly.

The benefits to be gained from using cover crops are also applicable to livestock enterprises. Jake Freestone from Overbury Farm told the group about the symbiotic relationship he has seen between grazing lambs and cover crops. Lambs are grazed on a cover crop mix consisting of fodder radish, phacelia and mustard. This mix has many beneficial properties for both the grazing stock and the soil in which it is growing, as the tap rooting system improves water infiltration. Soil loss through sedimentation (estimated at a rate of 0.3-0.6 tonne/ha per year) has been reduced significantly and the crop canopy provides a nutritious forage which can be grazed in-situ.

The use of cover crops as a winter feed source within integrated crop-livestock production systems is commonplace in New Zealand. Graziers pay up to 0.24 cents NZ/kg dry matter (DM), which is the equivalent of 0.11 pence/kg DM in Sterling, for contract grazing. This system could potentially be developed further in the UK, especially in East Anglia where soil erosion losses and reduced livestock numbers remain a contentious issue.

Earthworm count under oat and phacelia cover crop mix

Later on, the group visited some of the fields at Allerton where Dr David Jones from the London Natural Museum spoke of the link between cover crops and earthworm populations in the soil. Earthworms play an essential role in soil health and subsequent crop yield. It is estimated that there is a 25% increase in crop yields where earthworm counts are at the desired rate of 400 earthworms/m^2 or 16 earthworms in the top 30cm^2 of soil. One of the main contributing factors that influence the presence of earthworms in soil is vegetative cover on the surface, so cover crops play an important role.

For many, cover crops are already providing a building block for sustainable and profitable farming. The open day at the Allerton Project gave the audience an insight into how cover crops could improve the overall viability of both livestock and arable units throughout the UK now and into the future.

AHDB Beef & Lamb, with colleagues from AHDB Cereals & Oilseeds, are currently funding work on how cover crops can be further exploited in rotational farming systems and how livestock can be used as a way of removing the cover crops rather than needing additional machinery passes. The results of the work will be available later in the year.