All round action for beef farm's grass improvement

There's more to grassland improvement than reseeding, as a beef farmer in Cumbria has been finding out over the past 14 months, with help from the Grassright Group

Edward Dean (below) has increased sward productivity with a new focus on grassland.

Cumbrian beef farmer Edward Dean has been improving the productivity of his grassland over the past 14 months and he's realised that reseeding is only a part of the solution.

Edward has been taking an integrated approach, paying attention to correcting the soil nutrient status and pH, maintaining weed control, improving soil structure and being strategic in his choice of grass seed mixtures.

At Kirkhouse Farm, Brampton, Edward runs 150 Limousin-cross spring-calving suckler cows, selling 12 month old stores at 400kg in Carlisle. A small flock of sheep serve as a management tool for excess grass and numbers may be increased once grass production levels can support them.

He has been receiving support from the Grassright Group whose activities are focused on helping livestock farmers capitalise on grass. The group's members are: Limagrain UK, OPICO, Grow-How and Dow AgroSciences.

Edward originally asked the group for advice on adding white clover back into swards and was subsequently invited to take part in a three-year grassland improvement project.

One of the first activities the group carried out was to walk the farm's fields, scoring them for ground cover and content – noting whether grasses were weed types or productive ryegrasses.

Decisions were then made on which leys needed priority and activities needed to improve grass yields.

Nutrient planning

Soil samples were also analysed, allowing a comprehensive nutrient management plan to be drawn up, highlighting areas most in need of mineral inputs.

Edward explains: "Having the P and K status of the whole farm mapped out shows which fields are more lacking and I can now target my slurry applications more effectively.

"It's also changed my strategy on fertiliser inputs. I used to take a 'cheap and cheerful' approach and just buy straight nitrogen. But soil analyses revealed low potash levels, so I now use a compound to correct the deficiency.

"On my silage fields, the fertiliser formulation includes extra sulphur, as this was in short supply and may have been limiting silage protein levels."

Docks have largely been controlled on the farm. However, last spring silage fields received a maintenance rate of a dock-specific herbicide, to control seedlings. This was completed early to ensure the maximum benefit.

Any reseeding or overseeding of weedy fields is done using grass-only mixtures so dock-free swards can be established first, before adding clover seeds in later.

Another factor in achieving a productive sward is ensuring good aeration of the sward root zone and soil, and ensuring that air and water can move through the soil profile. The initial field inspections revealed soil compaction incurred by machinery and livestock.

Tackling compaction

Edward tackled this issue using a sward-lifter to subsoil the ground, breaking the mineral pan below the surface and improving drainage. The net result is drier ground.

Slitting, at a shallower depth than subsoiling, was also carried out on selected fields to improve the oxygen interchange through the soil.

"The result of aerating the ground this way was very visual - the grass went dark green and grew better – it had a very dramatic effect on clover growth too," adds Edward.

Harrowing is another method of improving air circulation to grass roots to stimulate growth. This has become a routine part of Edward's grassland management routine.

Using a tine harrow, dead material and trash from the bottom of the sward is removed, opening it up and allowing air down to the roots.

He adds: "I used to seed with a fertiliser spreader but this did lead to some uneven sowings, so having a harrow with a seeder on top has saved time and been well worth having."

One field, Leagarth, was overseeded last year - it was first harrowed in two directions to remove dead material and expose areas of the soil onto which seed could land and germinate. The weed-free ley was then oversown with a grass and clover mixture using the seeder and harrow combination, followed by rolling to ensure good soil to seed contact.

Now into his second year of the project, Edward continues to work with the Grassright Group, tailoring slurry applications to soil nutrient status and monitoring weed control.

Clover focus

With soil compaction problems resolved, the focus now is on replenishing the clover levels in established leys. For this Edward will use pelleted clover seed.

This is heavier and larger than natural clover seed and so can be more evenly sown, as well as including a seed treatment to help establishment in the competitive environment of an existing sward.

In addition, Edward has signed up to GrassWatch with EBLEX. He will be monitoring growth using exclusion cages in three fields – an unimproved permanent pasture, an overseeded ley and a 2009 reseeded ley.

Measurements of sward height will also be taken with a platemeter. This will allow an objective comparison of how different leys perform.

For more information see www.grassright.co.uk or e-mail info@grassright.co.uk