The 'weed' that can

Kevin Murphy is embracing clover in his intensive dairy system.

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THE SIGNPOST PROGRAMME

"In the past, my uncle referred to clover as a 'July weed'" says Signpost farmer Kevin Murphy, who now sees clover as an way to help reduce his reliance on purchased fertiliser. Kevin is a participant in a project called 'On farm white clover evaluation'.

The aim of this project is to aid farmers in establishing white clover across the milking platform using a multi-year approach.

This will allow them to reduce their use of chemical fertiliser and target a farmgate nitrogen surplus of 130kg N/ha/year and a nitrogen use efficiency of over 40%.

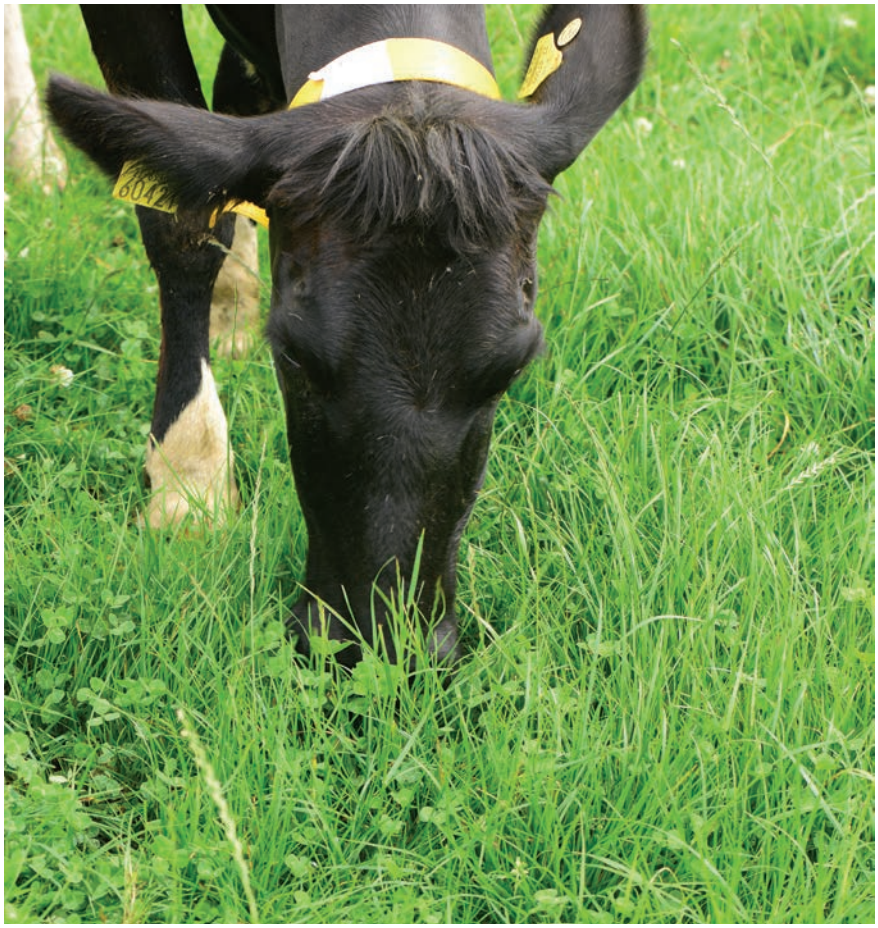
Kevin is farming outside Gorey, Co Wexford, with his wife Ann and Brian Sunderland. They farm a total of 137 ha, of which 55ha is owned. In 2021, they milked 300 cows, with an overall stocking rate of 2.5 LU/ha.

"We are currently using 23 kg N/ha on the grazing platform, but we aim to reduce this by 20% in the next few years," says Kevin.

"The grazing platform is 88ha and heavily stocked at 3.4 cows/ha. We know that if we want to continue to farm at this stocking rate, we will need to produce the grass with less chemical nitrogen."

Why? Kevin cites cost saving, protecting waterways and reducing their greenhouse gas emissions.

The target for Kevin's farm is to have 100% of the grazing paddocks with an average of 20% white clover in the sward in the next four years. On a year-to-year basis, Kevin is planning 12 months ahead, identifying the fields for reseeding and oversowing in advance.



"If we achieve this, there is potential to reduce our chemical N use enormously," says Kevin.

Sward clover content was assessed at the end of year one and 30% of the milking platform area averaged 21% white clover.

The plan for this farm and other farms in the project is to achieve this level of clover across the area over four years, through a process of reseeding and over-sowing suitable paddocks (those with the correct soil fertility, low weed levels, high perennial ryegrass etc).

Blueprint for establishing white clover on-farm

- Put a clear plan in place.
- Select paddocks that are best suited due to their soil fertility/ryegrass content/weed content.
- Take a multi-year approach;
- **Year 1** – reseed ≈10%, over-sow ≈20%.
- **Year 2 –** reseed ≈10%, over-sow ≈20%.
- **Year 3 –** reseed ≈10%, over-sow ≈20%.
- **Year 4** – reseed ≈10%, over-sow any paddocks with poor/low levels of clover.
- Ongoing process to maintain white clover in swards.
- Use small/medium leaf varieties (recommended list).

"In 2021, I reseeded 9ha on 19 May," says Kevin.

"Prior to this, the ground was sprayed off and seven days later, grass was mowed and baled. The seed was direct drilled using an earth drill and the seed mixture was 12.5kg/ac of Nashota (tetraploid) and 1.6kg/ac of Buddy (medium leaf clover).

"We rolled the seed bed and applied 2t of lime and three bags of 18-6-12. The reseed was sprayed six weeks post-sowing with Clovermax (2-4 DB) clover safe spray.

"We grazed the paddocks 14 days post-spraying, at a cover of 900kg DM/ha, to allow light to get into the

save you a fortune

Kevin Murphy.

base of the sward and increase tillering and clover branching.

"It was grazed a total of five times in 2021, at a maximum cover of 1,200kg DM/ha, to ensure the light got at the clover to help it establish. The species mix was measured again in November and it was good at 25% clover."

In June, Kevin sprayed off another 5ha. However, due to dry weather conditions, sowing had to be delayed for three weeks, so it was sprayed again and sown on 12 August. The seed mixture was 12.5kg/ac of Astonenergy (tetraploid) and 1.6 kg/ac of Coolfin (small leaf clover).

The same fertiliser application – three bags of 18-6-12 and 2t of lime – and grazing strategy were applied (grazing a low covers). These paddocks were grazed three times before the end of the year. Again, grazing was tight to allow light to reach the clover plant.

"Soil fertility on this farm is very good, with the majority of the farm in index 3 for P and K," says Kevin.

"Fortunately, we are also optimum for pH, with the overall pH of the farm at 6.1 (average pH of soil samples taken from the milking platform). This has helped the clover get established and I wouldn't attempt to establish clover in a paddock unless fertility is good."

Taking account the clover established in 2021, Kevin now has 30% of the grazing paddocks with an average clover content of 21%. He plans to apply 150kg N/ha in 2022 on paddocks with over 20% clover (30% of the area) and maintain similar levels of N on non-clover paddocks.

"In 2021, we spread 235kg N/ha. If we can achieve the reduction in N anticipated, it will result in a total reduction of 15% N across the farm in 2022 compared to 2021 and I hope to continue to reduce this over the coming years," adds Kevin.

So how will this be achieved? Kevin says he will continue to spread fertiliser as normal in the spring, but from May onwards he will reduce chemical N use by half. Instead of 38kg N/ha (30 units/ac) per month, he will spread 18kg N/ha (15 units/ac) per month. The decision to cut back will be made in April, based on clover content and weather conditions.

"We may need to adjust our plans, but I see the decision to drop the chemical N application rate as a no brainer when you consider fertiliser cost. I trust that clover will do its job. We certainly don't see it as a weed anymore!"

Clover management tips

- Graze tight in the first year to 4cm residuals.
- Ensure soil pH is greater than 6.5 and at least P and K index 3.
- Make sure the pasture is relatively weed-free before establishing clover. In a full reseed, the timing of the post-emergence clover-safe spray is critical.
- Spring growth can be lower than for an exclusively ryegrass sward. It helps to have high-quality silage available for spring supplementation.