

'Circular' approach starts with soil health

One Hampshire-based unit is working towards achieving 2050's net-zero target by optimising its use of natural resources. We spoke to the two brothers at helm to find out more.

TEXT EVA FEATHERSTON

With increasing pressure to set net-zero targets and account for carbon, producers are faced with looking at how they can reduce their carbon footprint.

Will and Jamie Butler, who manage a 400-cow herd in Hampshire, are no exception, and have been experimenting to find ways to optimise inputs and achieve greater profits that go hand in hand with environmental gains and reducing carbon emissions across their entire farming enterprise.

The brothers are second-generation producers and their business, based at Whitewool Farm in East Meon, also produces 240 hectares of combinable crops and there are several diversifications including: glamping, fly fishing, corporate days, clay shooting, and self-storage.

Jamie Butler:

“We take every opportunity to ‘build biology’ on the farm”



The autumn-calving herd, which is currently averaging 10,000 litres, at 4.0% butterfat and 3.2% protein, is managed by Jamie, and Will looks after the arable side of the business. Both enterprises work hand-in-hand, through growing forage crops, managing soils, slurry and fertiliser, and ensuring the overall business is focused on being the most productive farm in the UK. Jamie and Will leaned more towards a sustainable approach when their non-farming businesses demanded it. They then realised that, if done right, there were huge savings to be made by focusing on sustainability and are now adopting this approach across the whole farm.

Natural resources

With a focus on increasing productivity from natural resources, the Butlers are working hard to be more sustainable and in turn reducing their business' carbon footprint. As an AHDB strategic farm, the brothers are well on their way and making good inroads for other producer to learn from.

“Our vision is to be the most productive farm in the UK – naturally. We are working towards this by enhancing assets, optimising inputs, and delivering for our cows,

staff, and our milk buyer. We want to run a well-rounded business that supports the environment with everything we do,” says Will.

Jamie and Will are four years into their regenerative journey and are spreading a lot more slurry on crops, using foliar fertiliser that's absorbed through the leaf to help reduce potential pollution, and growing cover crops during the winter.

Slurry use

“One of the most valuable assets we have is slurry and manure,” says Jamie. “We are now enhancing the value of slurry by adding ‘effective microbes’ to ferment it. This means that it retains nutrients for longer and releases them more slowly. We’re also careful to apply slurry are at the correct rate and at the right time. With the help of Portsmouth Water, Natural England and ADAS the brothers have investigated water pathway management and looked at their slurry-handling infrastructure, investing heavily in additional storage capacity and more efficient umbilical spreading equipment.

They take every opportunity to ‘build biology’ on the farm and one way is experimenting with a new method of intensively building fungi and microbes, called a Johnson-Su bioreactor. This is a simple system that, during a 12-month period, builds a microbial-rich substrate that can be applied as a soil stimulant, either as a seed dressing or by using a sprayer. Early experimentation has seen a noticeable difference in tillering and plant vigour in wheat.

The bioreactors are created by filling IBC containers with woodchip, muck, silage, and worms to provide a rich base on which beneficial microorganisms can grow. Regular monitoring is required and then there is a process to extract the substrate in a form that can go through a sprayer or be applied as a seed dressing. “Only a few UK units have adopted this approach so far, but with the biological gain in the soil and the

subsequent benefits that come from building soil health, I think more will start their own bioreactor within the next few years,” says Jamie.

The pair are certainly invested in a sustainable approach and keen to adopt new technology. But do they believe that the dairy industry achieve net zero by 2050?

Jamie is unsure and says that a significant issue is that in the current set of measuring tools. “The enormous amount of carbon being drawn down through photosynthesis is not accounted for and this is where cows get most of their carbon from.

“In other words, most of the carbon emitted by enteric fermentation was in the atmosphere just a few short months before. If this photosynthetic drawdown was accounted for, I believe that the calculations would show that many dairy systems would be close to net zero now.”

Carbon efficient

Longer term, he says that building ‘circular’ dairy systems to reduce the reliance on geologically extracted carbon, such as fuel and fertiliser, would make milk production even more carbon efficient.

“This can be done with all the usual recommendations that producers are already striving to do, such as better use of slurry, building soil health, and increasing biodiversity within crops. These will all increase dairy businesses’ resilience and, ultimately, profitability. To further support their focus on the future and sustainability, the Butlers will continue to conduct trials to improve the productivity and sustainability of their herd and unit. For example, during the next 12 months, they plan to add herbal leys and clover to their entire grazing platform. “We hope this will further maximise soil health and optimise feed value for the herd,” adds Jamie.

The Butlers’ official AHDB Strategic Dairy Farm launch is on March 20, 2024. To find out more visit: ahdb.org.uk/events.



Slurry management: the Butlers has invested heavily in additional storage capacity