

## CASE STUDY: RICK DAVIES, NORTHAMPTONSHIRE

Rick Davies at Newton Lodge Farm, Northamptonshire, has adopted numerous tactics to increase his soil biology over the past eight years.

The AHDB Monitor Farmer's primary driver has been drier weather conditions and a need to rectify years of heavy cultivations which had degraded the land.

"I wanted to increase soil biology to enhance soil moisture capacity - and it's working," he says.

Soil testing his problem fields annually, Mr Davies tries to understand the issues and is starting to see the benefits from the work being put in.

### Chopped straw

"We chop all our straw now, to improve compaction by eliminating the heavy machinery and cultivations it would involve to bale it." He has also been composting to increase organic matter and is noticing the difference.

"I have been testing the organic matter for six years now, and it has lifted by two percentage points across some fields. It is between 4% and 9% on the Ignition test across different fields - I'm pleased with the numbers of earthworms too."

He has also been direct drilling with a Claydon drill for eight years. "Our soils have really improved, they're easier to work and more friable. I managed to drill everything I needed to, even when it was really wet - I started with a 3m Claydon drill and I have now moved to a 4.8m with the same horsepower - I



Rick Davies says improved soil has let him go from a 3m drill to a 4.8m with the same horsepower

think that speaks volumes."

Last year was a testament to the techniques he has employed. After eight weeks without rain his crops were looking dreadful in places and potentially a disaster - but it turned out to be his second-best harvest.

"It just goes to show how resilient the crops were and how the system is coming into its own.

"People have now realised we have got to change the way we farm - I feel we are moving towards a position where in the dry periods plants are staying greener for longer."

### FARM FACTS

*Newton Lodge Farm, Northamptonshire*

- 170ha owned, 239ha tenanted on FBT
- 255ha wheat, 57ha spring beans, 38ha spring barley and 54ha pasture
- Soil type: Sandy gravel and silt over gravel on flood plains plus brash, clay loam and sandy clay loams on the rest
- 25 Red Poll cattle
- 2019 harvest: First wheat; 11.17t/ha, second and third wheat; 10.04t/ha, spring barley; 8.12t/ha, spring beans; 4.5t/ha
- Seven-year average: First wheat; 10.2t/ha, second wheat; 9.7t/ha, spring barley; 7.6t/ha, spring beans; 4.5t/ha

## MAKING YOUR OWN COMPOST

Rick Davies has been composting for the past 18 months in a bid to further improve soil resilience.

"It has really high organic matter content, consisting of woodchip, cow and horse muck," he says.

Although he originally planned to turn the muck with a forklift he found a second-hand composting machine which chops the material and conveys it into a windrow while aerating it. Then he turns the windrow two to three weeks later.

Turning it reduces the temperature and stops it from going anaerobic, explains Mr Davies. "I try to turn it five to six times over a four-month period and spread it in September."

The system makes the nutrients and organic matter more available. "When you spread farmyard manure (FYM), it

could take a year to break down and become useful, whereas the compost is already broken down."

It's also cheaper in terms of contracting - due to its denser, more compact nature - but more expensive to make, says Mr Davies. "I have it NPK tested, and that informs the application rate - 10t/ha is adequate. If it was FYM it would be double that rate.

"However, the benefits outweigh any added cost - because I know it's right thing for the soil."

So what are his tips to other farmers looking to compost? "Don't allow it to get too dry as this can prevent bacteria and worms reaching optimum levels," he says.

"Turn as many times as is practical and cost effective - something I struggle to do for lack of time."



A second-hand compost machine simplifies the task of turning windrows