

# MACHINERY USER STORY

Not just for arable farmers, variable rate fertiliser can also help boost returns from grass, as one dairy farm is finding out. **Jane Carley** reports.

## Varying P and K to get more from grass

**A**iming to get more out of their grass, a young dairy farming partnership is looking to improve efficiency by using variable rate fertiliser, a practice more commonly associated with growing cereal crops.

With 360 milking cows on a grazing-based system, Weavian Farms seeks to maximise results from forage.

Husband and wife team Ian and Cath Ratcliffe have 118 hectares (290 acres) of grazeable land near Bideford in Devon and aim to grow as much grass as possible.

Mr Ratcliffe says: "It can be a challenge as we are on mainly light land where it is hard to retain

nutrients and there are plenty of banks."

When the time came to change the fertiliser spreader in 2017, the Ratcliffes began to look into the possibilities of applying nutrients variably.

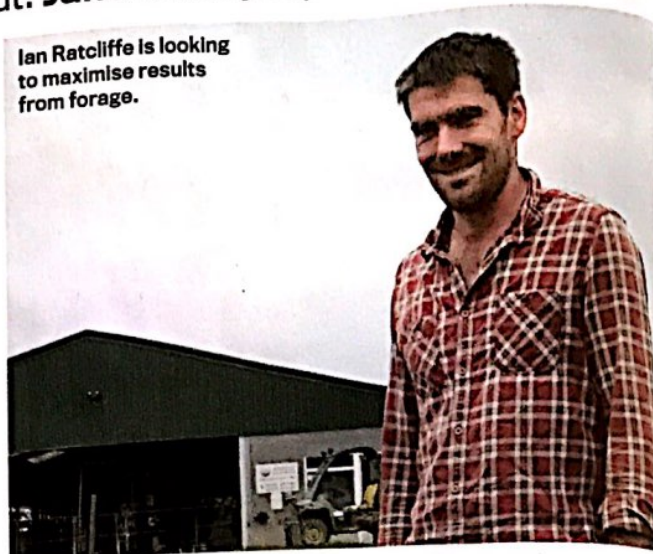
### Variations

Mrs Ratcliffe says: "The farm was mapped by Soyl in 2017 to help us verify the variations in nutrient status which we have observed.

"The fields have lots of slopes and flat areas and the cattle tend to graze off the banks but lie and muck on the flat spots, and as there have been cows on this farm for a long time, we realised this must have an impact on soil fertility. We have certainly noticed less growth on the banked areas in the second half of the season."

Phosphate (P) and potassium (K) were already being supplemented

Ian Ratcliffe is looking to maximise results from forage.



by slurry applications on a blanket basis but Soyl took the standard one sample/hectare plus additional samples in areas pinpointed by the Ratcliffes for good and poorer growth, and using GPS positioning, created a soil map.

"On the silage ground, Soyl then prepared the files for our lime spreading contractor so we could see how the variable rate applications worked. In 2018, we will apply all our P and K variably, using a fertiliser plan devised by Soyl," says Mrs Ratcliffe.

The couple are also in talks with the mapping firm about the

use of variable rate nitrogen, and its benefits.

Boosting grass yields by applying N where it is most needed is one goal – grass growth is measured in summer using a plate meter, and 2017 saw yields rise by 1.8 tonnes/ha (0.7t/acre) on the previous year.

"However, there are also limiting factors which need to be considered when looking at variable rate N, such as drainage, field topography, soil type, pH and other nutrient indices," she adds.

Having got on well with his previous Kuhn spreader, Mr Ratcliffe specified a Kuhn Axis 40.2 HEMC

### Specifications

- **Drive:** Hydraulic
- **Spread width:** 18–42 metres
- **Capacity:** 1,400 litres or 3,200 litres (max)
- **Control:** IsoBus via Kuhn CCI or VT50 or tractor terminal



Ian and Cath Ratcliffe are making use of the Kuhn Axis' ability to apply P and K variably.



# MACHINERY



Kuhn's CCI 200 IsoBus terminal uses data from variable rate maps.

W model, which is hydraulically driven.

"On these banks, hydraulic drive gives a consistent spread pattern as the oil keeps on pumping, whereas a pto-driven machine would be affected by the revs dropping as the tractor went up and down the slope," he explains.

Electronic shutter control works with GPS auto shut off so the

spreader can work according to field maps and cut off the flow of fertiliser in irregularly shaped fields, avoiding overlaps or misses.

"It is a higher tech machine than we have been used to, but hopefully this also makes it future-ready and gives the ability to record applications so we know exactly what has gone on the field," says Mr Ratcliffe.

"Actually, it is a really easy ma-

chine to use – once you have input the required rate it takes care of the rest. This is important – we are a young team and happy to embrace tech, but it is beneficial if someone can jump on a tractor and use the spreader without being a machinery expert."

## Fertiliser

The Axis 40.2 spreader holds four bags of fertiliser which, he points out, is useful to boost work-rates when working on some of the more distant land.

"We need to get in and get fertiliser on quickly once the chopper is out of the field, so a high output is essential."

The Ratcliffes mow and ted for silage, but leave the chopping to local contractor Richard Hookway, with the aim being for five cuts with 30 to 35 days between each.

"We are looking for quality silage, so we meet with the contractor in April and agree a payment forecast which is reviewed in autumn. We have a good relationship with Richard which allows us to mow when a weather window arises so he can come and put 28-30ha in the clamp in the evening," explains Mr Ratcliffe.

## Farm facts

- **Location:** Bideford, Devon
- **Farm type:** Dairy
- **Farm size:** 118 hectares (290 acres)
- **Herd size:** 360 milking cows

"We got on well with our previous Kuhn spreader and the build quality of the new machine suggests we can spread the cost over 10 years if we look after it."

The purchase was 40 per cent funded under the Leader grant scheme as a fertiliser efficiency project.

Mrs Ratcliffe comments that while the technology may seem daunting, Soyl provides plenty of support along with advice on fine-tuning the fertiliser plan.

"When the files come through it is just a matter of putting them on a dongle which goes straight into the controller on the spreader. Our aim is to grow more grass in a more efficient way which may also see us saving fertiliser. The use of such technology may still be relatively rare in dairy farming but we believe that grass should be managed as well as arable land."