Reducing Johne's disease is all about percentage gains for James Smith, winner of the National Milk Record's 2018 Herdwise award which recognises best practice in Johne's control. Hannah Park visited him to find out more.

Holstein herd rewarded for Johne’s control practices

For herdman James Smith, reducing Johne’s disease burden across the 240-head organic Holstein Friesian herd in Chippenham, Wiltshire, has become a central goal since he joined the team at T.W.F. Hawking’s Oldfield Farm three-and-a-half years ago.

Although still in the early days, this focus has allowed Mr Smith to see reductions in Johne’s positive cows from 35 per cent of the herd to 15 per cent in two years.

Mr Smith says: “To us, it has always been about percentages with Johne’s.

“If we can do something which is going to reduce its presence by any margin, we will consider it.”

Since June 2016, this has included the introduction of several herd management practices and the installation of a pasteuriser, used for colostrum and milk fed to calves.

Testing
Johne’s testing on the farm is done quarterly via milk samples taken as part of the Herdwise Johne’s screening scheme.

The test is a milk antibody enzyme linked immunosorbent assay (ELISA), which measures animal’s antibody levels.

Cows with a positive test result, more than 30 per cent indirect ELISA, are red tagged and given a leg band to distinguish them from the rest of the herd.

Once a cow is deemed ‘red’, it remains so regardless of any future test results.

If a cow has a positive result above 60 per cent, it is culled at the end of that lactation. Cows with very high readings, often termed ‘super shedders’, are culled as soon as possible.

“The reading at which a cow is considered significantly high will come down,” says Mr Smith.

“But it is not viable to cull out all the Johne’s positive cows in one hit, so we have been keeping as many heifer replacements as we can to offset losses from those culled to speed up the process.

“The long-term goal is to eliminate Johne’s completely, but realistically this will take several years, so it is vital we have the management strategies in place to achieve this.”

Separated
Red tagged Johne’s positive animals run with the rest of the herd, but are served to a beef bull each year and separated from non-tagged cows during calving, explains Mr Smith.

“If a cow calves with a dairy heifer calf having had a positive milk test since being served, this calf will be red tagged, reared separately until weaning and treated as a Johne’s positive animal for the rest of its life,” he explains.

“Even if it were to have a consistent run of clear milk readings of its own, the initial Johne’s contact has taken place.”

Calves are put into hutches straight after birth, where heifer calves receive six litres of pasteurised colostrum via a stomach tube, fed over two feeds within eight hours.

“Colostrum is collected from Johne’s negative cows only and is pasteurised at the end of every milking to try and eliminate any possible spread through milk,” says Mr Smith.

“Bull calves, beef calves and any heifers born to Johne’s positive cows are given the same treatment.

JAMES SMITH
but are kept in a separate area away from heifer calves.”

Bull calves and beef crosses are sold privately at three weeks old.

The farm runs 160 replacements calving at 24 months, with heifer calves weaned at about 10 to 12 weeks of age, after which they remain in their hutsches for another two to three weeks before being moved into larger replacement groups.

Everything is artificially inseminated in the first instance, with semen used on the heifers as well as some first-time calvers this year.

**Milkling**

A Hereford stock bull is used as a pusher on any heifers which have not got in calf to semen after two services and the herd achieved a pregnancy rate above 30 per cent this year, with a calving index of 376 days.

Milkling is done twice daily in a 23/46 Waikato parlour, producing an average milk yield of 9,200 litres at 4 per cent butterfat and 3.2 per cent protein.

The herd goes through the parlour as one group but is split, roughly half and half, into higher and lower yielding groups for feeding indoors via a shedding gate after milking. Each group is fed a specific TMR.

“Low yielders are turned out to graze as early in the year as possible, which is normally around the

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**Farm facts**

- 240-cow all-year-round calving organic Holstein Friesian herd
- 405 hectares (1,000 acres) in total, growing 162ha (400 acres) of wheat, barley and oats annually alongside 243ha (600 acres) of grassland used for grazing and silage
- Annual milk yield of 9,200 litres at 4 per cent butterfat and 3.2 per cent protein
- Began target Johe’s control programme in June 2016
- Johe’s testing on the farm is done quarterly via milk samples

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JAMES SMITH
The farm is currently running 160 replacement heifers.

end of March and those in the high yielding group will follow by mid-April," Mr Smith adds.

"Grazing is done across a paddock system, run on a variable three-week rotation across 20, two-hectare paddocks spread over 40ha.

"The acreage will increase later in the year as some of the silage ground is brought back into the grazing system."

Mr Smith says grass growth is usually strong at the end of the season, so lows will continue grazing outside until early November and highs will typically begin to stay indoors at night from mid-October.

Dry cows also graze during the summer months, coming indoors three weeks before calving where they are split into calving groups of six or seven, with Johnes’ positive and negative cows kept apart.

First cut silage is typically taken at the beginning of May, with second cut a month later and third cut in early July if it is needed.

Mr Smith says: “Our aim is to produce as much quality first cut as we can. Being organic means we do not get massive yields, so we focus on doing a number of very good quality cuts to save, where possible, buying-in expensive organic feed.

“In a normal year we would cut 28ha of wholecrop alongside, but that did not go in this year due to the wet weather.”

Mr Smith says it is still too early to definitively say whether the measures the team has put in place have reduced Johnes across the herd.

"But calves are healthier and disease presence is generally down, so it is a move in the right direction,” he adds.

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JAMES SMITH

Forage

Mr Smith explains paddocks are also pre-mown when required, which helps with weed control on the organic system and re-growth, as well as increasing average forage intake across the herd.

Buffer feed is offered all year-round, but with the farm typically getting good quality grass growth from April, the lows are fed on grass alone until July when the buffer is re-introduced to the whole herd.

The highs remain on the buffer ration to keep them milking at a consistent rate, says Mr Smith.