Safesil on maize delivers the perfect finish

Beef producer, David Bowen, had to be convinced to make the change to top-of-the-range products for his maize silage. But now he has done so, he says he would not switch back.

Monmouthshire farmer, David Bowen, had always used maize silage for growing and finishing beef on Pen-y-Lan Farm at The Hendre, near Monmouth. Like many producers, he found it to be an excellent way of raising the energy content of his rations with home-grown feeds.

As a former dairy farmer, he had over 25 years' experience of growing and preserving maize, so he was familiar with the measures which should be taken to achieve the best possible outcome. An early maturing variety was always chosen for his marginal site, and he personally ensured compaction of the clamp was undertaken thoroughly and meticulously, and that the sides as well as the top were sheeted and closed with envelope seals.

So, it was a huge frustration that aerobic spoilage at the open clamp face was a recurring problem every year and that whatever additive was chosen seemed to give no improvement.

"We managed the problem reasonably well when we were in dairying as we were moving through the clamp more quickly," says Mr Bowen. "But when we switched to beef we didn't use the silage so rapidly and also had to feed it out through the summer, which made the spoilage at the face even worse."

Over many years, a variety of silage inoculants containing live bacteria were tried but nothing seemed to have any impact on the problem.

"We even tried cutting the face in half in an attempt to avoid the aerobic spoilage, and we also used salt on the top of the forage before it was sealed," he says. "But although this halved the width of the face and we could move back quicker, we then found we had spoilage all along the cut edge."

Above: The face of the maize clamp on David Bowen's Monmouthshire farm.
Below right: David examines the quality of his Safsil-treated maize silage.

With nothing making any impact and simply adding hassle to the process, Mr Bowen could not help but be interested when he saw a stone-cold silage sample – which had been treated with the preservative, Safesil – on the Kelvin Cave Ltd stand at last year's Royal Welsh Show.

"I spoke to Andy Strzelecki (Kelvin Cave Ltd's technical director) who said that if we used Safesil, we would be able to leave the whole face open without getting any spoilage," he says.

"I didn't really believe him but thought I would give it a go," he says. "I also spoke to one or two other people who had used the product and all of them said it worked."

Using Safesil on his maize silage for the first time in 2015, he says that he immediately noticed the improvement.

"For the first time in over 25 years, absolutely everything that has come into the clamp has gone out and been eaten," he says. "I haven't had to clean a single trough, there is no wastage at the shoulders, and you can really smell the difference – and the cattle can obviously detect this too.

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"Andy also convinced me to try the double layered O_2 Barrier 2in1 sheeting, and – as with the preservative – I questioned spending the extra money," he says.

"I hadn't realised before that you could buy a two-layered product which incorporated film and in the past, we have found film on its own to be difficult to use, especially when it's breezy," he says.

Again deciding to take the plunge with the sheeting, he says: "I found the product to be much better quality than we had used before and much easier to use."

With around 100 steers on the farm, either Angus or continental cross dairy, reared and finished on behalf of Blade Farming, he admits he had hesitated to add the extra cost of the two top-of-the-range products.

"I reckon we were spending about £1 per tonne on additives and sheeting products before and, at the recommended additive concentration, knew the total cost would go up to about £2.30 per tonne," he says.

"We make about 300 tonnes of maize silage from 20 acres, so the total extra cost is between £300 and £400," he says.

Reflecting on what has been achieved since he introduced the two new products, he describes this extra investment as 'completely incidental' and adds: "That's about the cost of 1.5 tonnes of concentrates.

"But there are several other things to consider – for example, there is very little if any waste and nothing gets rejected by the cattle. And although I don't weigh and evaluate them regularly, I can tell you they are achieving good weights and grades."

With most of the continental x dairy steers achieving R grade and the Angus x dairy grading O, he says all come in at fat classes of 3 and 4L.

"We have cut back the use of bought-in concentrates and for the first time ever, even have usable silage left at the end of the year," he says.

Furthermore, he says the Safesil-treated silage has stayed cool with the temperature recorded at the open face at 12.4°C.

Above: Part of David Bowen's beef herd.

Left: The results of good maize silage processing and preservation speak for themselves.

"This tells me that the silage is stable and we are not wasting energy through heat, which you could always feel in the past when you put your hand on the silage," he says.

Proposing to break down the maize silage left from last year in the clamp, he says he will push it into a wedge shape and place the 2016 maize harvest on top of last year's crop.

"I've found the Safesil-treated maize silage to be really easy to work with and it has still remained stable when I have had to move it around," he says.

Poised for the 2016 harvest in the next few weeks, he says: "I have ordered Safesil again for this year's maize and will definitely be using O_2 Barrier 2in1 again."

Preserving silage using a human food-grade product

The key ingredients in the silage preservative, Safesil – sodium nitrite, sodium benzoate and potassium sorbate – are commonly used in human food preservation and act by killing harmful bacteria, yeasts and moulds. This modern approach to silage preservation is unlike that of either the traditional acids or the bacterial-based inoculants.

Today, acids have been widely superseded because of their corrosive nature while bacterial inoculants also have limitations. Depending on the bacteria they contain, they can improve aerobic stability but may also increase dry matter losses.

When benzoic, sorbic and nitrite salts are included in a preservative in the right proportions – as in Safesil – they will consistently promote a clean and controlled lactic fermentation which retains more sugar and dry matter in the clamp and produces a cool and stable silage, even on exposure to air.