

Top quality silage in the Grampian foothills

Making high quality silage in the foothills of the Grampians is always going to be a challenge. Farm manager, Donald Barrie, has done it so well for the past three years that he has been able to reduce his silage ground by 20 per cent.

Farm manager, Donald Barrie, has an embarrassment of riches in his silage clamp at Glensaugh, the James Hutton Institute's farm at Laurencekirk, Aberdeenshire. For three consecutive seasons he has preserved forage of such a high standard that he has covered each year's surplus with the following season's crop, feeding it to the stock – comprising 900 ewes, 50 suckler cows and 100 breeding hinds – up to three years after it was made.

Farming 2,500 acres (1,000 hectares) of largely acid moorland at an altitude of 180 metres (600 feet) in the foothills of the Grampians, making good silage is not a foregone conclusion.

In fact, previous years have seen many disappointments as contractors and staff have battled with wet weather and difficult conditions.

"In the past we have sometimes struggled to make stable silage, and losses in the pit have tended to increase as the winter has progressed," he says.

"By spring time the silage fed has sometimes been of a poor quality as it has been exposed to the air for so long.

"Silage fed in May has often been at its worst, which is exactly when we need nutrition to be good as it's when our cows go to the bull," he says.

However, 2016 sees a completely different picture as Donald faces silage-making with his biggest surplus and highest quality yet of silage in the clamp.



Describing the 2015 crop as having 'the best aerobic stability I have ever seen with absolutely no wastage at the shoulders or face and staying cold to the touch all year', he says that he has to find a way of using it up.

With a metabolisable energy (ME) of 12.1 MJ/kg DM and exceptional digestibility (D value 76), he says he is able to use the silage across many classes of stock.

"This year, we've used it to fatten lambs, to grow on suckled calves and to feed our breeding stock," he says. "In fact, the quality has been so high that we've been able to use it to replace our barley blend which also has an ME of about 12.

"Silage in the past may have fallen down on digestibility, but with a D value of 76, that's not a problem and at the beginning of this winter, we fed silage without the barley blend at all with no ill effects," he says.

The lack of waste at the clamp has also allowed Donald to reduce his cutting area, which has been pared back from 54 acres [22ha] in 2013 to 42 acres [17ha] today – representing a reduction

in area of over 20 per cent. Donald says the farm's silage-making turned the corner after a meeting with Kelvin Cave.

"We were introduced to the idea of using the silage preservative Safesil, rather than a bacterial inoculant, which we found stabilised our forage from the moment it was clamped," he says.

"We used the preservative for the first time in 2013 and noticed the silage lasted very well. So, it was when we came to ensile the 2014 crop that we broke down what remained in the pit, ramped it up and put the new crop on top," he says. "This was a completely new experience for me and although it may not be recommended practice, it has worked very well and we repeated the same process with an even bigger surplus in 2015.

"I certainly wasn't worried about the quality of what remained in the pit as you could see and smell how stable it was."

Main picture: A frosty morning in the Grampian foothills but not a trace of heat at the shoulders or face of the silage clamp.



Kelvin explains how the silage preservative Safesil works, and says its ingredients are the same as those used in human food preservation.

“These ingredients include sodium nitrite which kills harmful bacteria, and sodium benzoate and potassium sorbate, which are the only commonly used preservatives proven to eliminate the activity of moulds without compromising fermentation,” he says.

“This has been demonstrated to be a far more consistent and effective approach than using a bacterial product where results from year to year can be variable,” he says.

Donald says he concurs with these observations but says it’s also important to be meticulous with the whole silage-making process.

“Our entire winter feeding regime depends on having fodder of a consistent quality, so we have no option but to get it right,” he says.

“We operate in a fairly precarious environment here where weather windows are short and few,” he says. “Last year we cut at the end of June, which is early for Glensaugh, and reduced the length of our wilt because of the catchy weather.

“The crop was teded out to speed up the wilt, and rowed up just before chopping,” he says.

“The contractor, DM Carnegie, did a really good job and brought the silage in and pitted it quickly, with everything completed within 24 hours.

“However, I dug my heels in and insisted on waiting to cut in the afternoon which I’m certain helped get sugar levels up. I also delayed chopping until the afternoon to raise dry matter and minimise effluent loss,” he says.

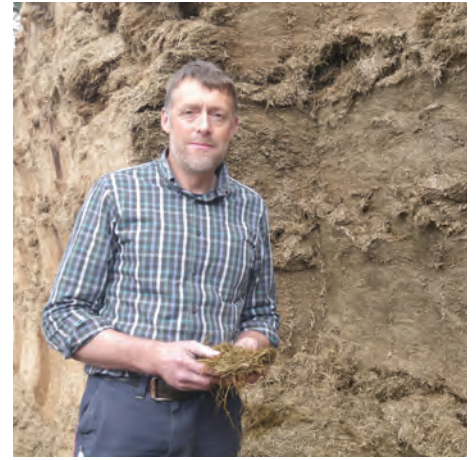
“Compacting the silage is also vital so we put two tractors on the clamp and made sure they compacted the shoulders, because if you get settlement here the air will get in,” he says.

“Sheeting is also a skilled job and we cover with the double layered O2 Barrier 2in1, and manage the jointing process properly,” he says.

“Everything is much more controlled than before and as little as possible is left to chance.

“But of all the changes we have made, Safesil has definitely made the biggest difference although it took me a couple of years to build confidence in the product,” he says. “In fact, I was concerned about the cost at the outset as I was recommending to our Institute’s management that we actually used one of the most expensive products.

“But this has turned into an overwhelmingly good news story and it chimes very well with the Institute’s belief in the conservation of resources,” he says. “The payback has been environmental as well as financial as we are burning less diesel, using less fertiliser and have taken out a huge inefficiency which was the amount of material we quietly lost after the pit was opened or thrown away at the end of the season.”



Top: Donald Barrie shows the consistent quality of silage across the clamp face.

Middle: High quality silage being taken from the clamp.

Bottom: Late June, and a new season’s crop is being teded to speed up wilt.

