

Silage - Protect your investment

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Have you ever wondered what difference a season can make to your silage? Of course not – you know the answer. Have you ever wondered what difference your management can make to your silage? Of course not – you also know the answer. Purely for the Brits who emigrated for a better life I want to pass on some advice to help you get more from your forage.

Ensiling / Baling. The aim in any forage preservation is always to get as much air out as possible of either the stack or the bale in order to speed up the fermentation. The fermentation bacteria (irrespective of whether you have used an inoculant or not) can only convert plant sugar to lactic acid once the entrapped oxygen has been burned off by the recycling bacteria. The less oxygen we entrap the better and key to this is density. Good density of the stack is achieved by constant rolling of the stack as the forage is being brought in in thin layers. Good density of the bale is similarly achieved by packing as much forage into the bale as possible – don't worry about the net wrap, it is strong enough to take the pressure with break strengths constantly increasing (up to 300Kg with some brands). When we ensile forage into a bunker we know that the shorter chop length forage is easier to compact than long chop length, but the same is true for bales. Incorporating knives increases bale density by up to 20%, and this extra forage replaces air in the bale ensuring a faster fermentation and lower losses by way of quality and quantity.

So the silage is made and it is just left to sheet it / wrap it. It can wait until tomorrow – it's been a long day and a few hours aren't going to make any difference. Wrong. Very wrong! Spoilage organisms replicate every 30 – 60 minutes in the presence of air, and they are burning off feed value, D, ME each time they replicate. A starting count of 1,000 yeast at ensiling / baling can increase to 13,000,000 within 18 hours in the presence of air – this spoilage outgrowth reduces feed value and quantity, but also leads to heating when the silage is fed out. The silage **must** be sheeted / wrapped at the earliest possible opportunity to keep air out and to speed up the fermentation.

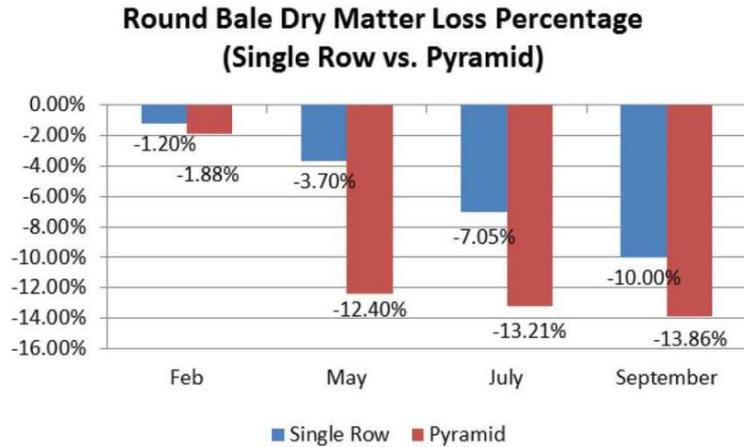


Specifically on bales...we Brits like to stack our bales in pyramids – it maximises usage of space but we should look to our Australian neighbours. You have recognised that round bales stacked on top of each other will 'squash' the bale and lose the integrity of the seal. Similarly, Australian's recognised that using



light coloured plastic would reflect the heat away from the bale and reduce the microbial activity beneath the plastic. Stacking and using dark plastic dramatically increases the feed losses and decreases the quality of the silage that is left.

Storage losses are dramatically increased on bales during the warmer months (the data in the graph below is from USA so the months need changing to Jan, Feb, March) because the yeast and mould are more active with the warmer temperature, and the oxygen allows for their continued growth and increase in numbers in the bale.



Source: poet-dsm.com, 13 August 2014

So what of treatment of the stack or the bale? Well, there are no magic bullets. There are good products in the market and there are 'not so good' products in the market. Inoculant role is to out-compete the spoilage / recycling organisms but it requires good management of the forage on farm. Good products do work and deliver considerable benefit when used appropriately but be realistic in your expectations.

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