

KNOWLEDGE ABOUT **SILAGE CHALLENGED**

by **Jacques Claassen**

Photographs by Jacques Claassen.

At a farmer's day in Humansdorp, hosted by Rhino Plastics, the attendees' knowledge about silage film, bale wrap, as well as silage inoculants and additives was challenged.

INOCULANTS AND PROBIOTICS

"The whole problem of the world is that fools and fanatics are so certain of themselves, yet wiser people so full of doubts." Gavin Olsen, from Bio Pro, used this quote from British philosopher, Bertrand Russell, to kick off his presentation and grab the attendees' attention. In order to fight pathogens, which occur naturally on silage crops, Rhino AgriVantage, under the name of Bio Pro, manufactures inoculants containing sufficient quantities of live microbes and probiotics.

According to Olsen, the function of these ingredients is to dominate and create a beneficial milieu, which renders the pathogens inactive and inefficient. Bio Pro claims that silage made with its inoculants and probiotics will increase absorption by the cow and lead to economic gains through enhanced milk yields. The company also manufactures probiotics for dry and liquid feed; its products are distributed by Rhino Plastics and Rhino Manufacturing, who manufacture and import silage films, silage bale-wrap, and grain or silage bags.

SILAGE FERMENTATION

Brendan Kelly, a director at Rhino Plastics, and Roger Jackson, sales manager at United Kingdom (UK)-based BPI Agriculture (the company that invented bale wrap), point out that silage needs good crop sugars, moisture, and anaerobic conditions. If one component is missing, mould will grow on the silage. The correct crop, wilting, and timing will all maximise grass sugars. The younger and greener the crops, the better the sugar and moisture levels.

Silage wrapped in bales on a Southern Cape farm.



Storing silage in bunkers requires a good density and cover to use up the remaining oxygen to prevent mould and spoilage.

Fermentation, which must occur during storage for good preservation of forage, comprises the following:

1. Bacteria acts on grass and crop sugars, producing lactic acid.
2. This lowers the acidity level (pH) of forage to an ideal of four to five.
3. The remaining oxygen is used up, preventing development of mould and spoilage organisms.

Good density means there will be less oxygen.

NEW TRENDS

In South Africa, silage is mostly stored in bunkers or above ground under silage film. Some farmers also wrap silage in bales. While silage film has been getting wider yet thinner due to technological advances, bales being wrapped as silage have also become bigger and heavier, requiring a high-quality bale wrap to protect and offer the best silage.

“In South Africa, silage is mostly stored in bunkers or above ground under silage film.”



Brendan Kelly, a director at Rhino Plastics, photographed with Roger Jackson (right), a sales manager from BPI agriculture in the United Kingdom.

CORRECT SILAGE PROTECTION

The correct use of quality silage film in bunkers or bale stretch-wrap during baling is vital for creating anaerobic conditions. Rhino Plastics import specialised silage film from Plastika Kritis in Greece. The new 115 micron black or white silage film, the Combi Silage™, and Silo2block™ are stronger films with less oxygen permeability using seven-layer film technology. Rhino Plastics also import ®Silotite bale wrap from BPI. BPI was previously part of a bigger holding company called RPC. However, BPI has recently been incorporated into Berry Global.

“We advise farmers to use six layers when wrapping bales. A farmer needs to prevent wrap-breakage, as well as stone or bird damage. South



New, stronger film with less oxygen permeability using seven-layer film technology is now available in South Africa.



Bran to which beneficial microbes are added.

African farmers must take heed of extreme heat, ultra violet, and dust levels, all of which might jeopardise the making of quality silage. It's not advisable to push boundaries by wrapping only four layers in an attempt to save costs in adverse economic conditions," says Jackson.

RECYCLING PLASTIC

®Silotite, as well as the other silage film supplied by Rhino Plastics, are all recyclable. BPI claims to be one of Europe's largest recyclers of used bale-wrap. "In the UK, 920 000 roles of bale wrap are sold annually, but only 25% of all agricultural plastic film is recycled. The remainder poses a terrible problem. Recycling from farms is a worldwide problem and requires solutions. In the UK, we can make black bin bags, artificial wooden products known as Plaswood, and damp course for buildings from old bale wrap," says Jackson. Rhino Plastics is investigating economical ways to establish recycling depots at co-operative branches. It already recycles agricultural film and other waste streams that are

used to produce irrigation pipes, damp course for buildings, and other agricultural film like mulch film.

IN CONCLUSION

Since the concept of wrapping bales emerged for the first time in 1982 in Tasmania, balers and wrappers have continued to evolve. For bale wrapping, make a point to clean the baler's rollers once or twice per week to prevent tack build-up. Moreover, it's advisable to calibrate the baler's required number of turns, maintain the wrapper properly for optimum film application, align the film carefully with the bale's centre, and check the film for correct stretch and neck-down. When using silage film, select a product that is mechanically strong and has the best oxygen barrier in order to produce the best quality silage with the least amount of wastage, thereby maximising more milk per cow on a daily basis.

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