



### **Animal Health & Nutrition Specialists!**

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## **Conserved Fodder**

Forage is conserved for a number of reasons including saving excess feed in good seasons, insuring against drought and maximising production for a given area by reducing trampling. Hay and silage are the main methods of conserving fodder. Hay is conserved by drying while silage is preserved by natural fermentation under anaerobic conditions to pickle it in organic acids. The quality of the conserved feed is determined by the preservation method, damage during harvest and the quality of the crop conserved.

The best method of forage preservation will depend on a number of factors. Silage is best suited to bulk handling but is expensive to freight and requires machinery to handle. Silage is not well suited to feeding out in small amounts due to aerobic spoilage. As silage requires higher moisture and plant sugar levels, it is not suited to some crops. Hay making and feeding can be a labour intensive operation.

Hay is most susceptible to weather damage during preservation as it can take a few days to dry down enough to bale. Retention of leaf is also an important consideration in hay making as the leaf is generally more digestible and has a higher protein content. Moisture content, storage conditions and the quality of the feed baled are the main factors that affect the quality of the hay produced.

Producing silage requires a crop with a high enough sugar content to ferment quickly. The crop must be chopped fine enough and compacted to remove any air. It is then covered or wrapped in plastic. Once the air is removed bacteria on the crop ferment available sugars into lactic acid. Extra bacteria can be added in the form of silage inoculants to speed up or alter this fermentation. The silage will become acidic which prevents the growth of any bacteria which preserves the silage. Soil contamination will spoil the crop by introducing a large number of detrimental bacteria. It is important to remove as much air as possible and ensure that the silage remains air tight as this will prevent other bacteria using the sugars which can hinder the acidifying process. This will cause the silage to either spoil or lose some of its feed value. Silage generally retains more of the nutritional value of the crop compared to hay. Silage needs to be fed out properly as it is susceptible to spoilage when exposed to air on feeding out. Minimising the amount of silage exposed to air when taking it from the pit and only taking as much as is needed can help reduce wastage. Improperly made silage can be totally useless due to spoilage.

When looking at the feed value of conserved fodder one of the first considerations is the dry matter content. Hay is typically around 80% to 90% dry matter while silage can range from 25% to 40%. When looking at feeding stock a set amount of dry matter this means having to feed 3 to 4 times as much silage as hay. Feed tests are certainly worthwhile when buying or using a large amount conserved fodder. Variation in dry matter contents and nutritional value can greatly affect the costs and effectiveness of any feeding program.

Another method of conserving feed is standing feed over in the paddock. While this is the cheapest option the quality of conserved feed is low and will require some supplementation. Other methods include haylage and alkalage. Haylage is a drier form of silage while alkalage involves adding a strong base to preserve feed. Alkalage is a method well suited to conserving failed cereal crops or straw.