PIONEER SILAGE BULLETIN

Grass Silage 2010

Throughout the UK and Ireland grass silage remains a very significant proportion of winter forage. The success of the silaging operation is critical to the winter profitability on livestock farms. Grass silage faces a wider range of challenges than either maize or wholecrop and therefore needs different types of inoculants to deal with these challenges and opportunities.

Challenges

1. Wet, low sugar grass is not uncommon, especially during first cut. The difficulties with this type of grass are often further compounded by the low numbers of naturally occurring lactic bacteria, (Prof. Pahlow, JKI Braunschweig, Germany). Grass ensiled under these conditions can often have a slow, inefficient and sometimes incomplete fermentation. This can lead to a butyric fermentation characterised by high ammonia and poor intakes.

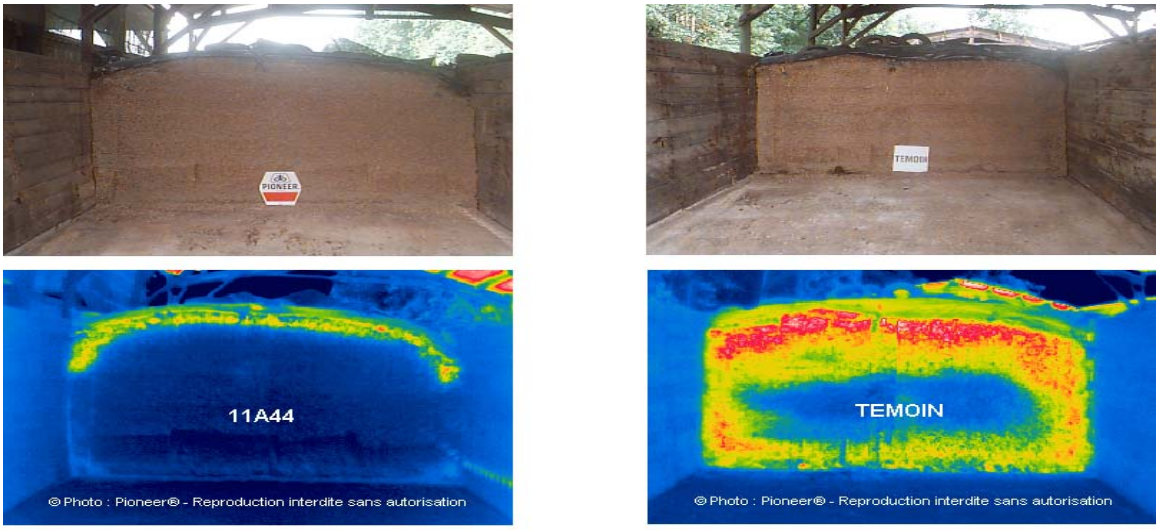
2. Dry, stemmy grass gives a very different problem to wet grass. Poor consolidation and air exclusion can often lead to high incidence of aerobic spoilage (heating and moulds). Silages which heat are literally burning up energy. Mouldy silage reduces palatability and therefore intake as well as increasing the risk of mycotoxins.

Pioneer Hi-Bred has a range of inoculants, which can be classed as either problem solvers or improvers.

Problem Solvers

PIONEER® 1188 is aimed at grass silage < 25 % dry matter. PIONEER® 1188 contains four strains of *Lactobacillus plantarum* and two strains of *Enterococcus faecium*. This blend of species and strains work together very effectively to drop the pH quickly and can utilise a wider range of sugars than some single strain inoculants. This fast efficient drop in pH leads to a 46 % reduction in ammonia.

PIONEER® 11A44 is comprised of a propriety strain of *Lactobacillus buchneri* that has been proven to dramatically reduce heating in higher dry matter silages. The thermal image photos (see reverse side) clearly show how effective the Pioneer strain of *L. buchneri* is in reducing heating when the untreated silage is under considerable aerobic pressure.



Source : PIONEER SEMENCES, INRA du PIN et INFRAROUGE RECHERCHES INTERNATIONAL, non publiée

Improvers

PIONEER® 11GFT (grass fibre technology).
PIONEER® 11GFT is one of a new generation of silage inoculants with the unique mode of action to improve the feed value of silage. Recent trials from Germany have shown an increase of 1.4 litres per day with the same intake as untreated silage. This equates to 70 litres more milk per tonne of silage fed.
The unique strain of *Lactobacillus buchneri* in PIONEER® 11GFT releases enzymes (picture 1) that are able to decouple the lignified bonds that hold the fibre components of the cell wall together (picture 2). The “pre-digested“ fibre that remains has a higher level of cell wall digestibility thereby making it significantly more available to rumen microorganisms (picture 3).

Improved cell wall digestibility!
Increased feed intake and more milk from roughage feed.

Drop in pH!
Fast fermentation leading to improved acid profile.

Preservation success is secured!*
Controlled release of acetic acid without increased fermentation losses.

Improved aerobic stability!*
Lower dry matter losses due to heating.

* In all situations it is assumed the grass being ensiled is at least 20 % dry matter, free from soil contamination, surplus nitrogen and has adequate sugar levels to complete the fermentation - when considered in terms of its dry matter percentage.

PIONEER®
A DuPont Business

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