

# ADVANCE

## CROP SPECIFIC SILAGE INOCULANTS

### Products:

ADVANCE - Grass

ADVANCE - Legume

ADVANCE - Maize

ADVANCE - Whole Crop Cereals

### Ingredients:

ADVANCE is a Silage Additive, being a PREMIXTURE of Technological Feed Additives.

All ADVANCE product formulations contain:

Pediococcus pentosaceus, Lactobacillus plantarum and Lactobacillus brevis;

Xylanase, Mannanase and Cellulase;

Carriers: dextrose, manganese sulphate and silicon dioxide.

### Directions:

Each 150g jar is sufficient to treat 50 tonnes of fresh forage crop.

Add contents of each jar to 50L of fresh, clean water and mix thoroughly.

Apply the solution at 1 litre per tonne of fresh forage.

Can also be applied through all low volume application systems at manufacturer's recommended rates.

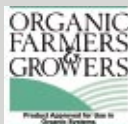
### Storage:

CONTAINS LIVE MICROORGANISMS AND ACTIVE ENZYMES.

Store in original sealed packaging in a cool, dry place below 10°C.

For more information on the ADVANCE range of crop specific silage inoculants and all other Micron products and programs please visit our comprehensive site at:

[www.micronbio-systems.co.uk](http://www.micronbio-systems.co.uk)



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Micron's **ADVANCE** range of silage inoculants is formulated for individual crop treatments, with each of the four variants containing four common components.

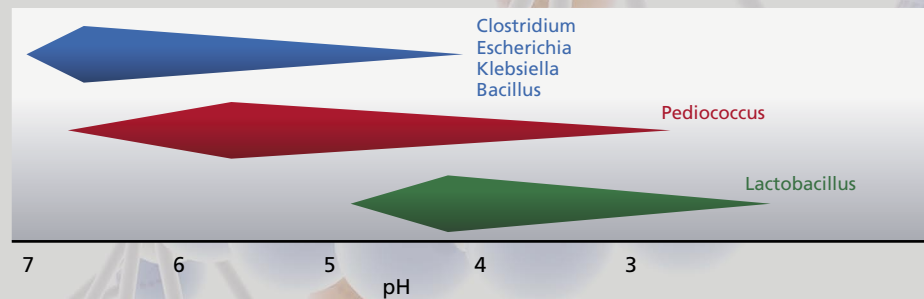
These four key components are then formulated at specific levels and in particular ratios to achieve the optimum effect for the forage type treated.



### Role of Lactic Acid Bacteria

The production of the best quality silage depends upon the action of lactic acid bacteria rapidly converting sugar in the crop into lactic acid. The strains of lactic acid bacteria in **ADVANCE** have been selected to grow over the entire ensiling pH range.

**ADVANCE** formulations contain a two strain mix, proprietary to Micron, comprising a **Pediococcus** which dominates the upper pH range together with a **Lactobacillus** to drive the pH drop to completion. Together they rapidly ferment a wide range of sugars into lactic acid to drop the pH of the crop. As the pH falls below 5, this stops the growth of spoilage bacteria and also inhibits the plant's natural protein degrading enzymes. This results in a stable silage with minimum nutrient loss.



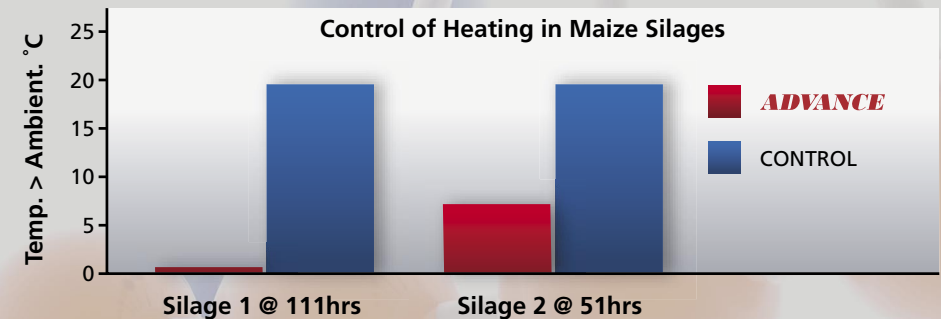
### Role of Microbial Stimulants

Freeze dried bacteria are present in a dormant state in silage inoculants and can be slow to become active when added to silage. **ADVANCE** inoculants contain specific components which stimulate the bacteria to ensure maximum activity once rehydrated.

### Role of Acetic Acid Bacteria

One of the major losses that occurs in forage preservation is the spoilage and loss of dry matter that happens when a silage clamp is opened. While it was closed, oxygen was excluded from the forage and therefore aerobic spoilage organisms were inhibited. Now open, ingress of oxygen either at the face, or more dramatically when mixing a TMR, activates these organisms which rapidly proliferate. Initially yeasts, and subsequently moulds, utilise the lactic acid as a food source producing heat, feed value losses, palatability problems and ultimately limits on animal production.

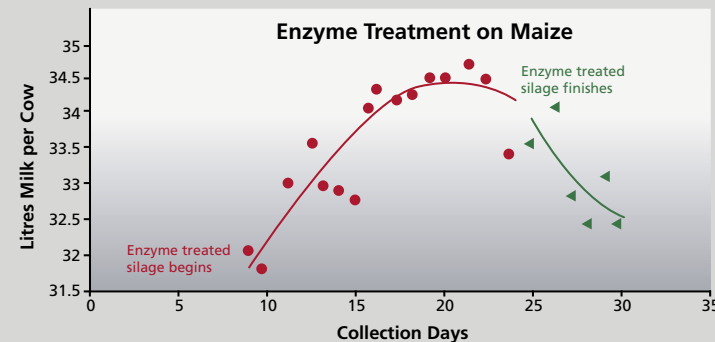
**ADVANCE** products contain **Lactobacillus brevis** which produces acetic acid to retard the growth of spoilage yeasts and moulds to give greater stability to silage crops and the TMR rations that they comprise.



### Role of Enzymes

Micron's R & D program has identified new and more effective enzymes for use in silage inoculants. Working in conjunction with the University of Edinburgh, this research has determined what the correct combination of enzymes should be and the optimum amount of enzyme that should be used for different forage types.

These breakthrough enzyme formulations have shown significant increases in the digestibility of treated forages with improvements of up to 20%. This has been achieved because these enzymes are effectively able to separate the carbohydrate from the lignin in the fibre, which fully translates into animal performance data.



### Triple G Farms

Milk production increased when **ADVANCE** treated silage was added to the ration and then declined when the treated silage was replaced with untreated silage.