

# SILAGE AROMAS

Preserved forages have different aromas depending on how well they have been preserved. The most desirable acid for forage preservation is lactic acid. Lactic acid has NO AROMA.



## Acetic Acid

Typical smell of heterolactic fermentation such as *Lactobacillus Buchneri* or *Lactobacillus Brevis*. If this smell is associated with heating silage, then it is due to acetobacter activity.

Origin: Heterofermentative LAB or Acetobacter.

Efficiency: 87.5%



## Sharp Acid

This smell is synonymous of a lactic fermentation. It leads to good silage intake and milk production. This kind of silage could suffer from heating. This is why good face management is required.

Origin: homolactic fermentation

Efficiency: 100%



## Alcohol

Growth of yeast during ensiling and storage (poor compaction and ongoing air entry).

Origin: yeast development.

Efficiency: 49%

## or Acetate /Acetyl alcohol

Alcohol smell is also associated with enterobacteria when converting glucose to acetoin. Lactic acid bacteria can also produce Acetate/ alcohol/diacetyl when glucose is silage is limited.

Origin: enterobacteria or limited glucose.

Efficiency: Variable depending on reason



## 'Fizzy to taste red/orange

Typical of silage gas production as the pH falls during ensiling (NO<sub>2</sub>). As gas attempts to escape, it is adsorbed into the silage moisture.

Origin: High residual nitrogen in plant (can make corn yellow colored).

Efficiency: Variable depending on reason



## Tobacco

It is the consequence of high level of heating. Likely pH remains high with low energy content though intake can remain high.

Origin: High ensiled air/low compaction facilitating yeast and acetobacter development.

Efficiency: 49%



## Butyric

Clostridia growth can have many explanation: it could be due to limited sugar, soil contamination, excess buffering, excessive compaction of wet silage or high ensiling temperature killing Lactic acid bacterias.

Clostridia

