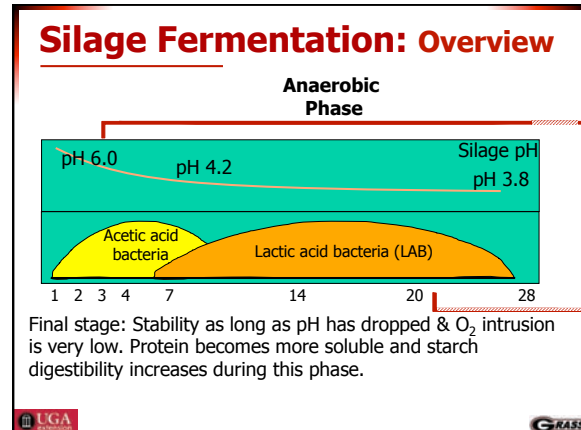



Feeding Baleage

Dr. Dennis Hancock,
State Forage Extension Specialist
Crop and Soil Sciences – UGA



Timing of Feeding

- Ensiling process takes 3-6 weeks. At essentially any point, the forage can be fed
 - Should only be done in an emergency.
 - Partially-ensiled product will heat and spoil very quickly.
- Feed w/in 9 months of wrapping.

UGA GRASS

Does it Pass the Smell Test?

- Organic acids give off a silage smell
- Good silage is characterized by being high in lactic and propionic acids relative to acetic acid
 - Lac:Ac of 3-7:1

UGA GRASS

Does it Pass the Smell Test?

- Lactic acid has minimal smell
- Propionic smells sweet

UGA GRASS

Does it Pass the Smell Test?

Off-smells:

- Acetic acid has a slight sour or vinegary smell.
 - May be less palatable (lower intake rates)
 - Safe to feed


UGA GRASS



Does it Pass the Smell Test?

Off-smells:



- Butyric acid has a foul, rancid or putrid smell
 - Indicative of very poor fermentation.
 - May have undergone a secondary fermentation
 - Lactic acid can be decomposed to butyric acid
 - When excessively wet, this secondary fermentation can result in botulism poisoning



Moldy Baleage

White mold



- Usually baled too dry to ferment well, but it can occur even if baled at the proper moisture level.
- Most often on the flat sides of the bale or just under small holes in the plastic.
- Harmless yeast (*Mucor* or *Monilia* spp)
 - Mold spores too large to cause respiratory issues
 - No known mycotoxins.
- Livestock often will push this moldy material out of the way or consume it.

Moldy Baleage

Green, blue, yellow, or red molds are bad



- Baleage bales with any of these three mold colors should not be fed to livestock as there is a risk of mycotoxins
- Red or red with a white edge is probably *Monascus ruber*
- Yellow/green mold is *Aspergillus fumigatus*
- Blue/green is *Penicillium roqueforti*.

Moldy Baleage

If it is black, ...

- You've got compost!





Effects of Plastic Layers and Storage Side on Mold Coverage

Plastic Layers	Store Position	Surface Mold Coverage (%)		
		Side	End	Total
4	End	4.5	26.0	12.6
4	Side	27.7	5.1	19.2
6	End	6.7	6.8	6.7
6	Side	20.1	0.0	12.6

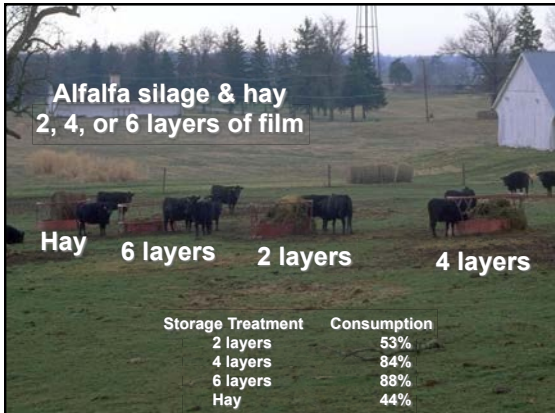
* P < 0.01; ** P < 0.001

Bisaglia et al. (2011): Bales consisted of half Italian Ryegrass, half Lucerne; storage period 180 days



Alfalfa silage & hay

2, 4, or 6 layers of film



Storage Treatment	Consumption
2 layers	53%
4 layers	84%
6 layers	88%
Hay	44%

Do not force animals to eat waste or refused silage, as it may be spoilage and can lead to poor performance or animal health issues.

Inoculants May Reduce Mold Risks

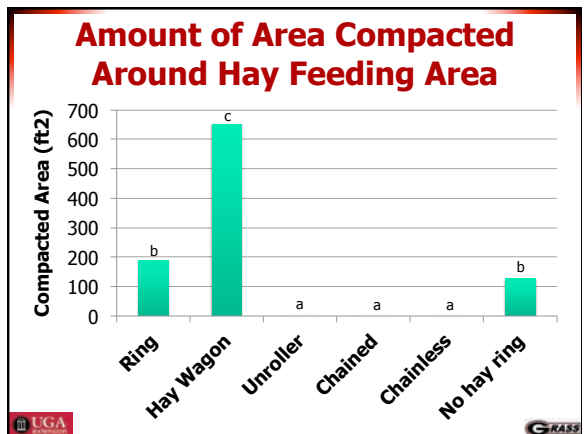
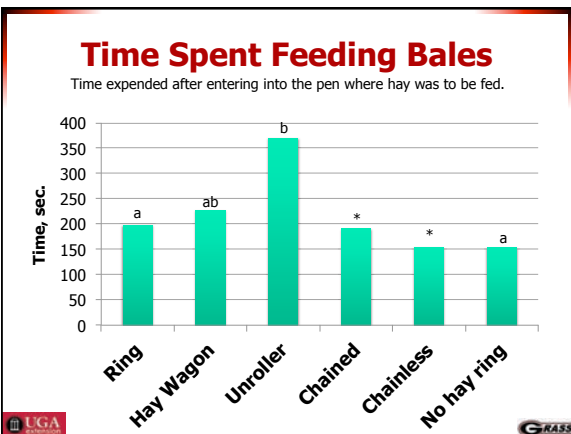
Untreated Homofermentative Inoculant Homofermentative and Heterofermentative Inoculant

Options for Feeding Hay/Baleage Bales

Feeding Losses

Feeding Method	Period (days)	Loss (% of DM)
Bale feeder/unroller	< 1	2-6%
Cone hay ring	1-3	2-6%
Hay ring	1-3	4-8%
Hay trailer	1-3	10-15%
Hay cradle	1-3	15-20%
Bale, no protection	1-3	20%+
Bale, unrolled	4+	20%+

Adapted from: Southern Forages (4th ed.) and Buskirk et al., 2003. J. Anim. Sci. 81:109-115



**2019 Baleage and Silage Short Course:
Feeding Baleage**

Dr. Dennis Hancock
UGA Extension Forage Agronomist

