





## CUTTING AND WILTING FOR BALEAGE

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### Baled Silage or “Baleage”

- Harvest forage ensiled at a moisture content of less than 60% (generally 40-60% moisture)
  - Target 55-65%
- Also known as:
  - Low Moisture Silage
  - Round Bale Silage
  - High Moisture Forage Products



### When to consider Baleage:

- When timely harvest of forage is limited by optimal drying conditions
  - Late Winter/Spring Harvests of Winter Annuals
  - Early season harvests of Legume Mixtures
- When trying to make use of some forage that otherwise wouldn't work
  - Forages that are difficult to dry down
- When weather and drying time are extremely confounding factors to successful hay harvest
  - LIKE 2018!!


### Advantages:

Improved

- Harvesting efficiency
- Forage quality
- Storage

Decreased

- Curing time (from cutting to baling)
- Mechanical handling reduces leaf loss
- Weather effect



### Quality is a Function of:




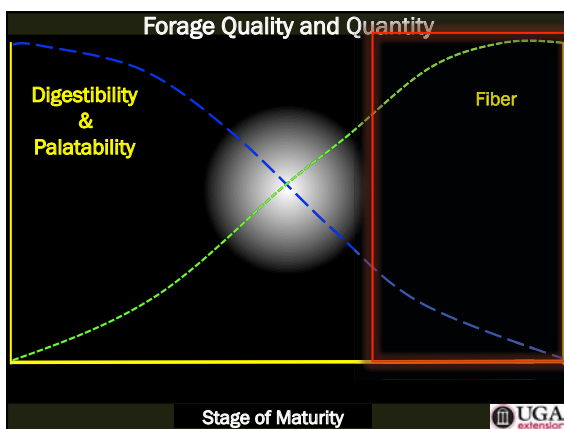
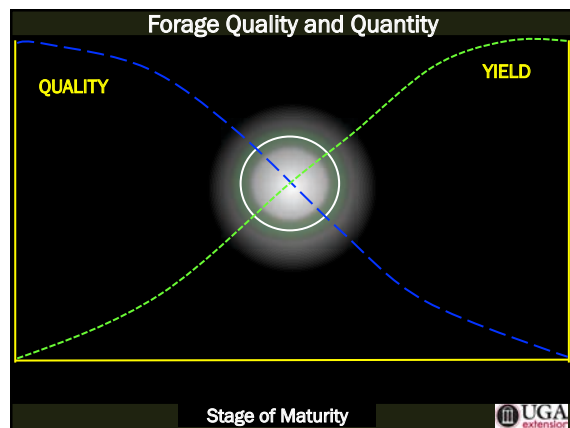
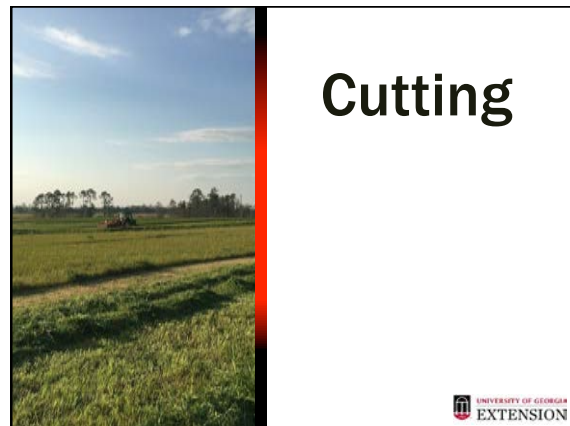
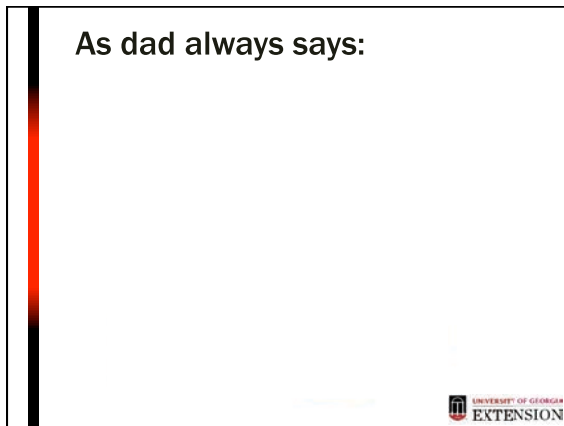


Ensiling forage will NOT improve forage quality

Quality is only as good as the forage you start with

8 week old bermudagrass, harvested and wrapped as “baleage”, is still poor quality 8 week old bermudagrass.



When to cut:

Crop	Stage of Maturity
Legumes	10% bloom
Perennial Grasses	Boot to early head stage
Summer Annual Grasses	Boot to early head stage
Winter Annual Grasses	Just before boot stage



## Timing is Everything!

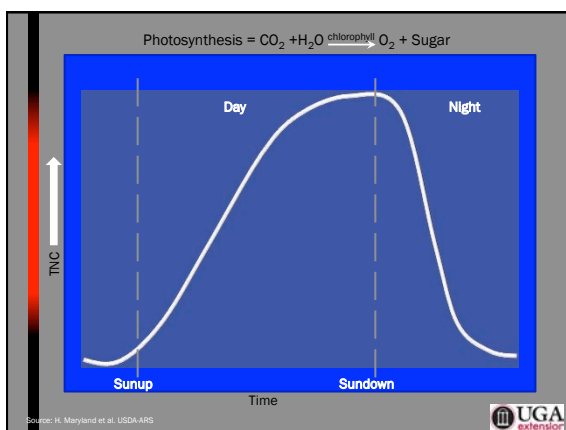
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  - When plant is at the right stage of growth
  - When weather conditions are favorable




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- Morning or evening?





## Timing is Everything!


- When to cut?
  - When plant is at the right stage of growth
  - When weather conditions are favorable
- Morning or evening?
  - Morning - the forage is wetter but you get a full day of drying time
  - Evening - the forage is dryer, but the energy level may be greater due to increased carbohydrate concentrations in the plant material



## How much to cut:

- Wrapping is the "Bottleneck" in the process

# Only Cut What You Can Handle!




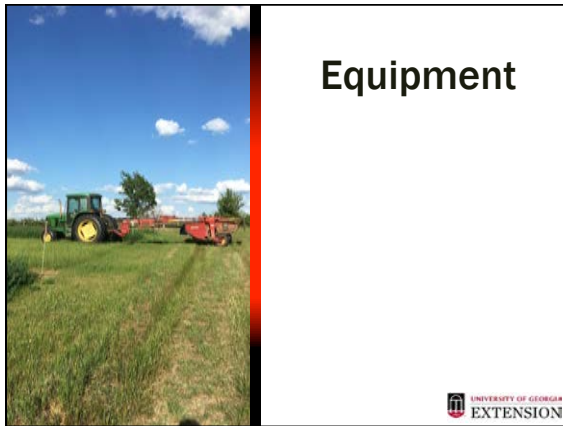
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### Only Cut What You Can Handle!

- Do not cut more forage than you can bale and wrap within the proper moisture window
  - Wrapping should occur within 4 hours of baling
- Calculate amount to cut by working backwards:
  - Determine how much you can effectively and efficiently bale, haul, and wrap in **ONE AFTERNOON**





## Equipment



### Using hay crimpers or crushers (conditioners) leads to reduced:

- Dry matter loss
- Curing time in the swath
- Exposure to the weather
- Leaf shattering and respiration losses

Crushing Stems (conditioning) at mowing will cause stems to dry at nearly the same rate as leaves!

Other mowers can be used – MoCo is just the ideal piece of equipment

Source: J. Henning, Making and Storing Quality Hay

### Conditioner Styles

Impeller (flail)

Fine stemmed grass

Source: D Hancock

Roller (crimper)

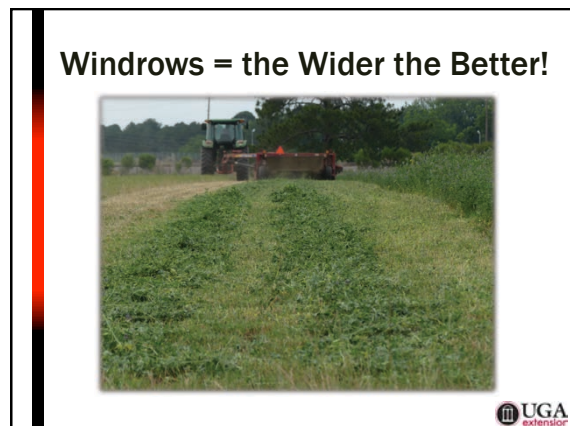
Thick stemmed grass and Leafy (legumes)



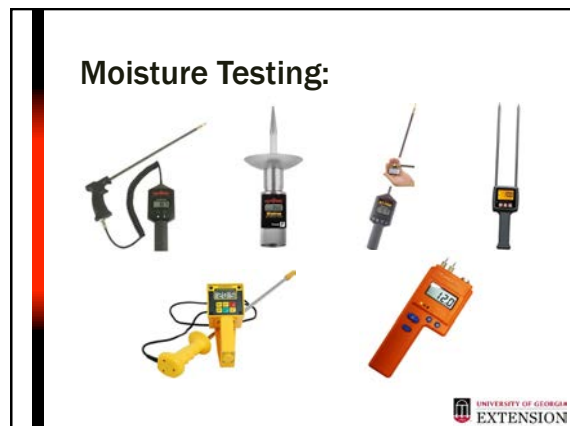
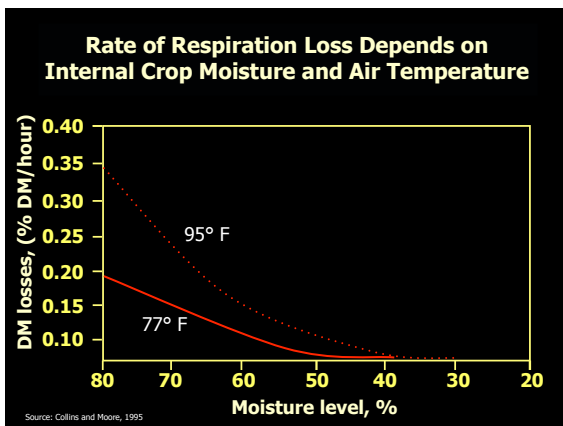
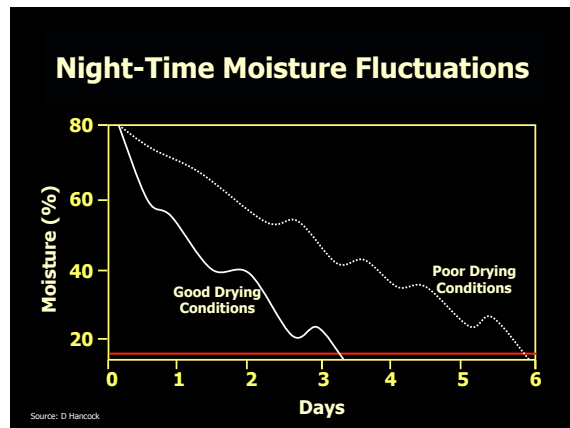
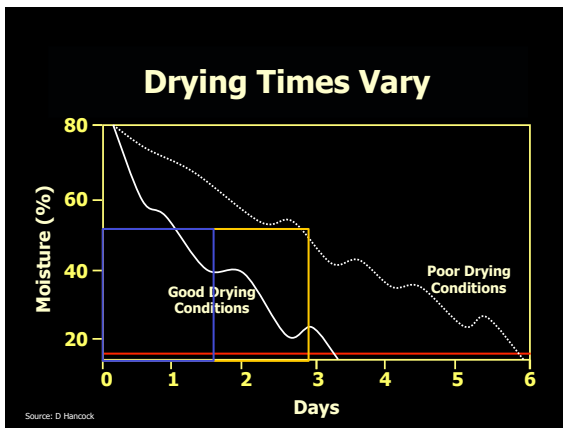
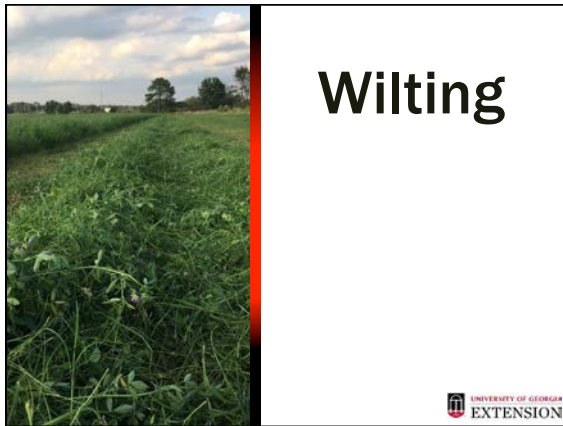
### Cross Section of Crop Stem

- Stems have a waxy surface called cutin
- Conditioning should scratch or crack the stem surface for faster drying


Source: D Hancock








### Moisture Testing



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### Moisture Testing:




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Moistures  
right?  
Time to rake,  
bale, and  
wrap...  
just like that!

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- Parallel bar rake
  - The lowest amount of hay loss, particularly with legumes.
  - Usually ground drive system.
- Rotary rakes
  - Some are dual function (rake or ted).
- Wheel rakes
  - Operated at a higher speed (saves time)
  - Tend to leave more in the field.



Source: D Hancock

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extension

### Bale Immediately!



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### Questions?



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