



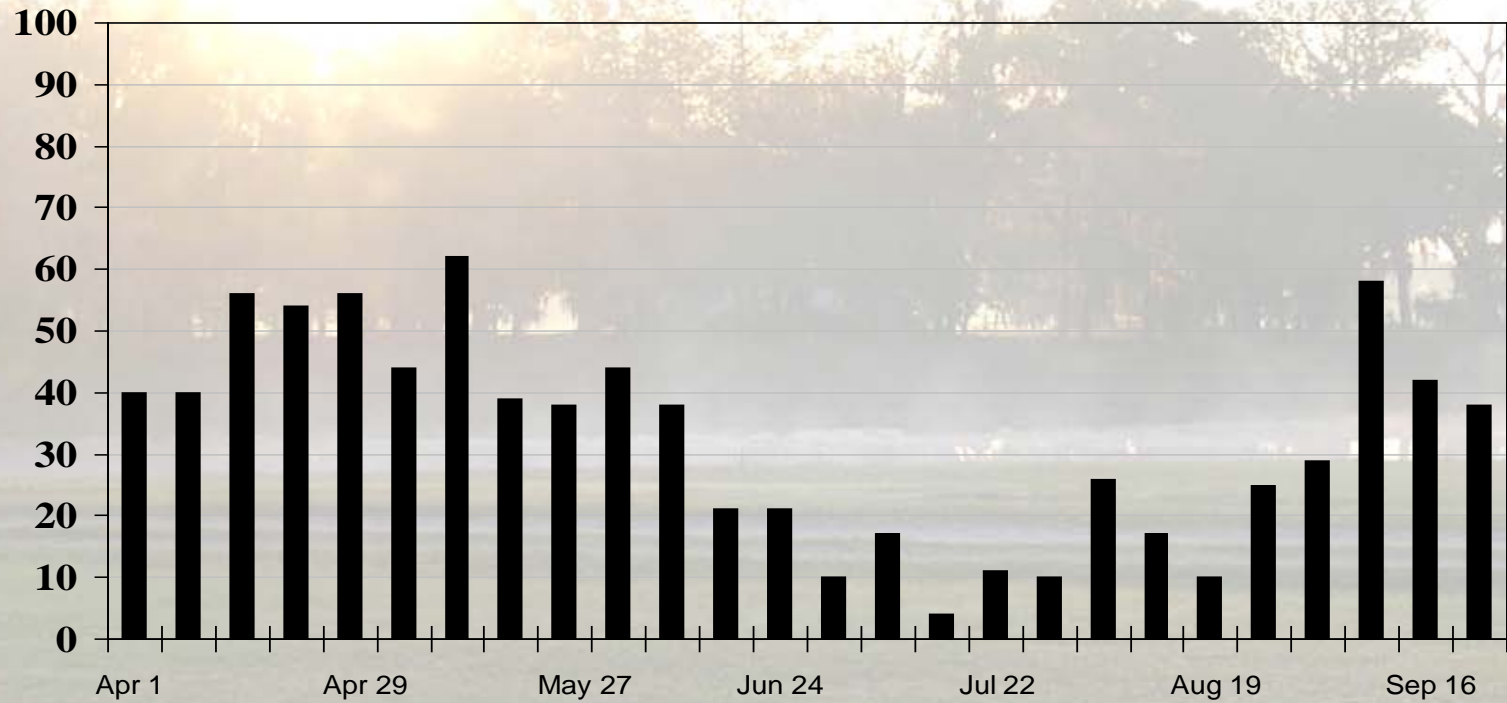
# Haylage Production & Utilization in Florida

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# *Rational for Haylage*

- Conservation of forages for later feeding is limited by a number of challenges.
- The timely harvest of forage in Florida for hay production is often limited by optimal drying conditions.
- Alternative methods of forage conservation need to be examined.
- Round bale silage (RBS) offers an alternative forage harvesting and storage system
- The use of RBS may be an attractive compliment to traditional hay harvest system by overcoming several of the challenges to hay production in the Southeast.

# Probability of three consecutive dry days each week during spring and summer in Florida



Bates et al., 1989

# *Making Round Bale Silage*

## *General Recommendations*

- Harvest forage at optimum quality, 4-5 wks re-growth.
- Cut and condition the forage as normal for hay making.
- Wilt forage to 50-60% dry matter, 2.5 to 4 hours during good drying conditions.
- Bale with normal hay baling equipment.
- Make well-shaped dense bales of appropriate weight.
- Use untreated sisal or plastic twine, or net-wrap

# *Wrapping Round Bale Silage*

- Wrapping should occur the same day as baling, but can be delayed up to 48 hours.
- Choose a quality, sunlight (UV) stable stretch wrap.
- Four wraps of plastic minimum, six layers plastic likely the optimum.
- Additional labor associated with wrapping may be similar to labor associated with hay making.
- Cost of round bale silage may be offset by reduction in field losses of nutrients and potential yield of poor hay making.
- Bale quality is dependent on excluding air from the bale storage system.

# *Storage of Round Bale Silage*

- Choose storage location carefully.
  - Avoid sharp gravel, sticks, etc.
- Holes in the wrap will occur.
  - Patch with special tape
  - Consider feeding damaged bales first to reduce spoilage
- Stacking round bale silage bales has been tried but is not recommended.
- Distortion of bale shape leads to air leakage

# *Feeding Round Bake Silage*

- Handle like regular round hay bales.
  - Requires chopping/grinding for incorporation into TMR
  - Moisture content requires sharp, clean blades???
- Feeds mostly like hay, but consider it's similarity to silage.
  - Limited aerobic stability
  - White, pink, gray, and blue mold have not been harmful to cattle
  - Mold effect on milk yield and quality is not known



# COMPARING HAY AND RBS PRODUCTION

## Effect of conservation method on Bermudagrass forage quality

Item	Hay	RBS
Mean Bale		
Wet weight, lb*	824	1,556
Dry matter, %*	92.5	41.3
Crude protein, %*	10.4	13.1
TDN, %*	54.1	57.2
Dry matter, lbs*	769	638
Crude protein, lbs	77.9	82.8
TDN, lbs*	415.8	365.2

\* Bale types are different ( $P < 0.05$ ).

## Effect of Bermudagrass forage system on production and quality

Item	Hay	Hay-RBS
# of Cuttings	3	5
# of Bales	259	479
Total harvest, lbs wet	219,123	709,131
Total harvest, lbs dry	202,743	312,728
Mean Bale		
Wet weight, lb*	847	1,470
Dry matter, %*	95.5	46.8
Crude protein, %*	10.1	12.9
TDN, %*	53.8	57.1
Dry matter, lbs*	786	645
Crude protein, lbs	78.6	82.0
TDN, lbs*	418.4	369.2

\* Production systems are different ( $P < 0.05$ ).

# *Utilizing Round Bale Silage*

- Quality of RBS will only be as good as the forage that is started with
  - fermentation does not improve forage quality.
- Acceptable, good quality alternative for hay or silage.
- May allow for additional cuttings because a regular harvest schedule can be maintained.
- Feeds mostly like hay but consider its similarity to silage—
  - Needs adequate time to ferment
  - Aerobic stability of offered bales during long feed-out periods
- Acceptable forage for mature cows, developing heifers, and growing calves.

# *UF Animal Science RBS Applications*

- Developing heifer RBS with dried distillers grains
  - High-quality with DDG and SBM
  - Low-moderate quality with DDG and program feeding
  - High quality with DDG and program feeding
- Two-year old cows with DDG or WBG
  - Intake-digestion trial
- Steer RBS with DDG adaptation trial
- Developing heifer RBS with level of DDG
  - Intake-digestion RBS level of supplement

# *RBS Forages*

- Tifton-85 bermudagrass
- Coastal bermudagrass
- Bahiagrass
- Sorghum-sudan
- Forage soybean

# *RBS Forage Quality*

<b>Forage</b>	<b>DM</b>	<b>CP</b>	<b>TDN</b>	<b>RFQ</b>
Tift 85 RBS-07	45.6	8.6	59	106
Tift 85 RBS-08	51.1	8.4	57	99
Tift 85 RBS-09	53.2	12.0	57	RFV=88
Coastal RBS-08	53.5	15	61	120

# Additional Round Bale Silage Resources

- [http://www.animal.ifas.ufl.edu/extension/beef/beef\\_cattle\\_report/2007/Forage3.pdf](http://www.animal.ifas.ufl.edu/extension/beef/beef_cattle_report/2007/Forage3.pdf)
- <http://edis.ifas.ufl.edu/AN145>
- <http://www.animal.ufl.edu/extension/beef/documents/SHORT89/Bates.htm>
- [http://www.uaex.edu/Other\\_Areas/publications/PDF/FSA-3051.pdf](http://www.uaex.edu/Other_Areas/publications/PDF/FSA-3051.pdf)



**Questions...**

**Comments...**

**Discussion...**