2008 Hay Production School
Recommendations in selecting and establishing a hay crop

Overview
- Selecting the best species and variety for your needs or the needs of your market
  - Species/variety selection
- Establishment techniques
  - Sprigging hybrid bermudagrass
  - Planting alfalfa
  - Planting cool-season species

Selecting the Right Species

Selecting the appropriate species.

1. Acceptable to the market
   A. Supreme quality demands?
      i. Good-fair quality hay
         - bermudagrass, tall fescue*, orchardgrass*
      ii. Premium quality hay
         - bermudagrass, orchardgrass*, annual ryegrass, alfalfa, perennial peanut**
      iii. Supreme quality hay
         - Tifton 85 bermudagrass, annual ryegrass, alfalfa, perennial peanut**
   B. Other concerns:
      i. Palatability
      ii. Health concerns (real or perceived)

2. Agronomically acceptable
   A. Tolerant of climatic conditions
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Regional Possibilities
- Orchardgrass (1, but risky)
- Tall Fescue (1, risky in 2, 3)
- Bermudagrass (all, with right variety)
- Alfalfa (all, best w/ irrigation)
- Perennial peanut (5, risky in 4)

Rainfall Distributions

Selecting the appropriate species.
2. Agronomically acceptable
   A. Tolerant of climatic conditions
      i. tall fescue (not in S. Piedmont, Coastal Plain)
      ii. perennial peanut (not in Upper Coastal Plain or N)
   B. High yields
   C. Performance under irrigation
   D. Vigorous establishment
   E. Soil fertility demands
      i. Especially high in alfalfa and bermudagrass
   F. Appropriate to your management

Selecting the appropriate variety.
Choosing the right variety is a critical decision.
- Yields
  - Total Yields (multi-year)
  - Quality
  - Winter Hardiness
  - Persistence
  - Yields in 3rd or 4th year
  - Stand ratings
  - Disease resistance

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Variety Trial Comparisons

Hybrid Bermudagrass Yields at Calhoun 2003-2005

Selecting the appropriate species.

Varieties labeled with the same letter were not significantly different (α=0.05).

Palatability of Bermudagrasses

Drying Rate of Bermudagrasses

Selecting the Right Alfalfa Variety

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Selecting the Right Perennial Peanut Variety

- Disease resistance:
  - Peanut Stunt Virus – all are susceptible.

- Varieties: Florigraze > Arbrook
  - Florigraze is more cold-hardy and responsive to irrigation.
  - Arbrook is slightly faster to establish, but is slower to spread laterally.
  - Stem size: Arbrook > Florigraze.

Establishment

Thou Shalt Soil Test

- The #1 cause of poor stands at establishment - poor soil fertility or low soil pH.

Prepared Seedbed

- “Well-prepared” seedbed
  - Plow/disc/finish at least 2-4 wks prior to sprigging
  - Incorporate lime, phosphorus, and potassium.
  - Incorporate PPI herbicide.
  - Allow time to settle or firm with cultipacker/roller.

- Seedbed should be firm
  - Boot tracks should be ~1/4 in. deep
  - If too fluffy, the soil will dry very quickly (sandy soils)

Minimum Till (“No-till”) – Acceptable for vegetative establishment (sprigging), at least in Piedmont.

- PPI weed control?
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“No-till”
- Best when terrain is rolling or soil is at risk of erosion.
- Primarily used for seeding or interseeding
- Not feasible for vegetative establishment (sprigging).

Establishing Hybrid Bermudagrass
Best methods:
1) Dormant sprigs (rhizomes) - 40-50 bu/A
   - Dec. to early Mar.
2) Sprigs with green tops - 30-50 bu/A
   - Spring (after last freeze) to early Aug.
3) Tops/green stems - 50-60 bu/A
   - Not recommended for Tifton 44
- Best if seedbed is well-prepared

How Much is a Bushel of Sprigs?
Using Two 5-gallon Buckets
- Line at 4 in.
- Sprigs
- 1 bu
- 50 lb weight

Planting Alfalfa
Best methods: Coastal Plain
1) Well-prepared, very firm seedbed
   - Pack-plant-pack method
     - Broadcast or Drilled
     - Cultipacking seeder (Brillion)
2) (Distant) No-till into suppressed sod
   - Acceptable if interseeding into bermudagrass sod
- Timing: mid-October - early December

Planting Alfalfa
Best methods: Piedmont
1) Well-prepared, very firm seedbed
   - Pack-plant-pack method
     - Cultipacking seeder (Brillion)
     - Broadcast
     - (Distant 3rd) Drilled
2) No-till into suppressed sod
- Timing: mid-September to late-October

Seed Placement

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Drilling Depth

- Watch cutting coulter depth in wet ground
- Coulters should cut about twice depth of seed’s size
- Seeding too deep is major cause of establishment failures!

Seedling Emergence: Hypocotyl Arch


Seeding Rates

<table>
<thead>
<tr>
<th>Species</th>
<th>Seeding Rate</th>
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</thead>
<tbody>
<tr>
<td>Alfalfa</td>
<td>18 – 25 lbs PLS/A</td>
</tr>
<tr>
<td>Red clover</td>
<td>12 – 15</td>
</tr>
<tr>
<td>White clover</td>
<td>2 – 3</td>
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</tbody>
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Seed Quality Concerns

- Alfalfa seed crop is currently relatively poor quality
  - Poor germination
  - Purity is low

- Pure Live Seed (PLS)
  - Germ x Purity
  - Maybe < 80% PLS

Thou Shalt Use Certified Seed

Use Certified Seed

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Inoculate with appropriate strain:
Alfalfa group (Rhizobium meliloti)
Clover Group (Rhizobium trifolii)

Establishing Perennial Peanut
Best method
1) Dormant sprigs (rhizomes)
   - January to early March

   - Seedbed should be well-prepared well in advance.

   - Sprigging rate
     - If purchased, 80 bu/acre
     - If own or cheap, 100 – 120 bu/acre

Resources on CD: Bermudagrass
Bermudagrasses in Georgia

How many live Bermudagrass sprigs in a bundle?
Steve A. Barone
As a buyer of a bushel of bermudagrass sprigs, I would like an answer to this question. As a spriger who plants sprigs on a system basis, I need that answer.

Resources on CD: Alfalfa
Alfalfa Production and Use in Georgia
Dennis W. Hancock, Forage Extension Specialist
Department of Crop and Soil Sciences
University of Georgia, Athens, GA

Resources on CD: Perennial Peanut

QUESTIONS?
www.georgiaforages.com

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