Goals: Discussion/Group Learning
Objectives

• Identify what matters in alfalfa/grass system

• Outline approaches to successful production

• Discuss real production scenarios
History/Background

• Not a “new” idea
  – NY….85% of acres alf/grass mixes
  – Beef producers traditionally
  – Many “old” fields converted to this
    • Quackgrass, bromegrass, bluegrass, annual grass weeds

• Newer concept in Midwest dairys
• Newer in idea of maximum production
Alfalfa Growth and Development

Stage Number

0 = Early Veg.  stems <6” no buds
1 = Mid Veg.   stems 6-12” no buds
2 = Late Veg.  stems >12” no buds
3 = Early Bud  1:2 nodes with buds
4 = Late Bud   >3 nodes with buds
5 = Early Flower 1 node with flower
6 = Late Flower >2 nodes with flowers
7 = Early Seed 1:3 nodes with green pods
8 = Late Seed >4 nodes with green pods
9 = Ripe Seed Nodes with mostly brown pods
Grasses Growth and Development

Germination/Emergence

- 1. Vegetative
- 2. Late vegetative (jointing)
- 3. Boot
- 4. Early bloom 25% headed
- 5. Midbloom pollen shed (75% headed)
- 6. Full bloom (100% heads)
- 7. Milk
- 8. Dough
- 9. Mature

- Crown is plant “heart”
- Needs photosynthetic material to regrow
Mixture Advantages

- Yield
- Drying Rate
- Persistence
- Feeding Value
- Natural Weed Suppression
- Insect/Disease Management
- Manure Applications/Traffic
- Erosion Control
- Bloat Management
- Livestock Genetics/Soils History
Mixture Focal Points (differences)

- Seeding
  - Drill, seed, %,
- Fertility
  - N and S additionally
- Cutting height
- Herbicides
  - Carryover and post emerge
- Genetic events
Alfalfa Variety Selection

• Same as your pure stands
  – Tonnage
  – Fall Dormancy and Winterhardiness
  – Quality
  – Disease Resistance
  – Insect Resistance
Grass Species Selection
Secondary Criteria

- Orchardgrass (32)
- Tall Fescue (18)
- Meadow Brome (4)
- Timothy (19)
- Festulolium (TF+R) (5)
- Perennial Rye (26)
- Smooth Broom (4)
- Reed Canarygrass (3)
- Italian Ryegrass (32)
- Annual Ryegrass (?)
Grass Variety Section
Most Important to Success

- Tonnage
  - Distributions of yield
- Maturity/Paletability
  - Matching with alfalfa
- Disease Resistance
- Longevity
- Cost
- Seed Availability
Alfalfa/Grass Seeding Rates

Target is plants/ft² not #/A

- Alfalfa: 7-10#/A
- Reed Canary: 5-7#/A
- Smooth Broom: 6-10#/A
- Timothy: 2-5#/A
- Orchard: 2-5#/A
- Tall Fescue: 4-8#/A
- Festulolium: 4-8#/A
- Perennial Rye: 4-8#/A
Planting

- Late summer and/or spring
- Desired mixture
- Alfalfa and grasses stabilize population at first season’s end
- Target = 60-75 seeds/ft² with stand of 30-35 plants/ft²
- Seeding method
  - Drill, no-till, broadcast
Getting a Good Forage Stand

- 3 common mistakes 90%)
  - Soil pH and drainage
  - Loose soil
  - Seeding Depth

- Scouting
  - Seedbed prior to seeding
  - Seed to soil and depth
  - Seeds on surface
Alfalfa Problem
Alfalfa Weevils
Armyworms
Alfalfa Problem
Orchardgrass
Harvesting

• First Cutting Timing
  – Managing tonnage and quality
• Harvest intervals
• Cutting Height
• Cutting Frequency
  – Research/Field Production
• Windrow widths/drying time
• Wheel traffic
Fertility

• Need to address legume and grass needs
  – Alfalfa = P and K
  – Grasses = N and S

• Timing
  – Fall, Spring, post 1st cut, manuring

• Amounts
  – Soil sampling and goals (maintain/build/deplete)
Other Considerations

• Insecticides and labels
• Stand longevity
• Nitrogen credits (rotation)
• Allelopathy (plant back)
• Interseeding/frost seeding
2014-2015
Winter Effects on Forages

Dormancy period

Cold temperatures

No snow cover

December thaw

Wind

Rain events

Weather still coming
Spring Stand Evaluations

• Stand counts……No, use plants to evaluate winter injury
• Stem counts over 3-4” ht (much more accurate)
  – greater than 55/ft2
    • Stems not limiting
    • Yield same as previous year
  – 40-55/ft2
    • Some yield reduction expected
  – Less than 39/ft2
    • Consider replacing stand
• ***Must also evaluate root health to be reliable
Spring Stand Evaluation
Alfalfa+Grasses
Spring Stand Evaluation
Alfalfa + Grasses
Alfalfa Grass Advantages Revisited

- Yield
- Drying Rate
- Persistence
- Feeding Value
- Natural Weed Suppression
- Insect/Disease Management
- Manure Applications/Traffic
- Erosion Control
- Bloat Management
- Livestock Genetics/Soils History
Discussion and Questions