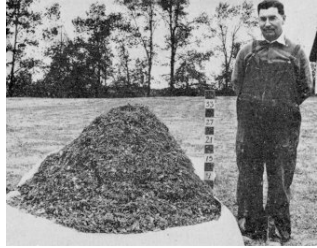


# Tall Fescue Workshop

## Novel Endophyte Tall Fescue Options and Experiences

Novel Endophyte Tall Fescue:  
17 Years of Market Experience



Tall Fescue Workshops Feb. 16: Athens | Mar. 22: Blairsville | Mar. 23: Rock Springs

Chris Agee – Forage Agronomist **PENNINGTON**

The Trials and Tribulations of Introducing  
Forage Technology Where None Existed



### Forage Technology

Technology - the practical application of knowledge especially in a particular area

#### Advances in Utilization and Production

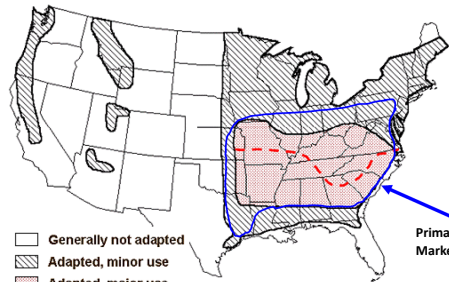
- Fertilizer
- Planters
- Haying equipment
- Fencing
- Water sources
- Feeders
- Grazing Management

#### Actual Forage Advances

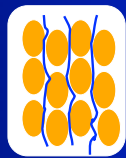
- Inoculant Improvement
- Forage Varietal improvements – some yield, disease and insect resistance;
- Some grazing tolerance

In contrast, 50% of the gain in wheat production over the past century has been due to breeding. The average rate of genetic improvement in winter wheat yield potential since 1959 - 1.1% per year.

Tall fescue represented the greatest opportunity for improvement through technology.  
Discovery of the novel tall fescue endophyte made this possible.



### 1980's Technology Remove the Endophyte



Toxic Endophyte

Remove Endophyte  
(Storage or fungicide)

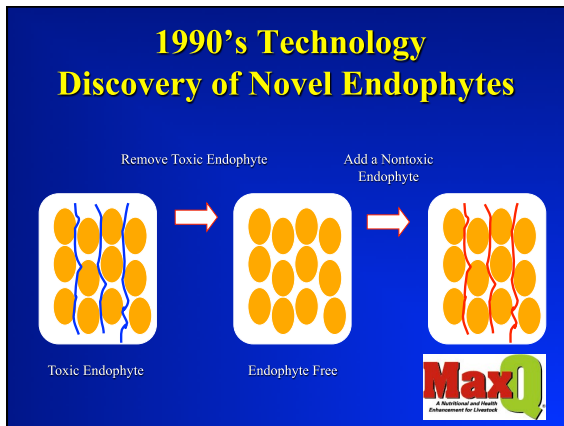


Endophyte Free



# Tall Fescue Workshop

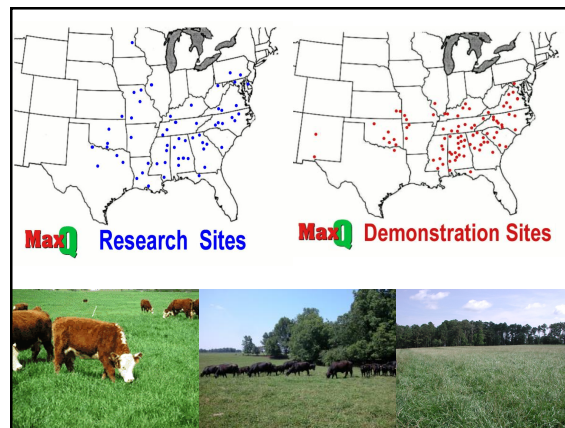
## Novel Endophyte Tall Fescue Options and Experiences



Jesup MaxQ is the most tested forage variety and represents the largest technological advance in modern forage agriculture.



CRITERIA	Jesup MaxQ
<b>Safety to Livestock</b>	
a. Ergot alkaloids	No ergovaline / ergot alkaloid secreted
b. Safety trials	Sheep, beef cattle, horses, goats
<b>Seed:</b>	
a. Certified seed	Yes – produced in Oregon
b. Seed purity analysis	Yes
c. Proven fescue variety	Yes
<b>On farm demo program</b>	155 locations in 27 states
<b>Stocker gains studies</b>	14 locations in 9 states
<b>Cow/calf studies</b>	At 4 locations in 3 states
<b>Feedlot study</b>	Studies in GA, IA, MS and OK
<b>Dairy milk studies</b>	At 2 locations in 2 states
<b>Replacement heifer study</b>	In MS and TN
<b>Horse studies</b>	At 2 locations in 2 states - pregnant mares in KY and MS
<b>Sheep studies</b>	At 4 locations in 4 states - in AR, OH, OK and GA
<b>Goat study</b>	1 location in NC
<b>University plot grazing tests</b>	At locations in 22 states
<b>University plot clipping tests</b>	At locations in 18 states



**After extensive testing of Jesup MaxQ, the task remained to bring the novel endophyte technology to market.**

- 1) Annually deliver hundreds of thousands of pounds of Jesup MaxQ seed to market with 75%+ viable endophyte.
- 2) Educate seed growers on successfully maintaining highly endophyte infected tall fescue (fungicides, growth regulators).
- 3) Maintain crop integrity throughout seed harvest, cleaning and bagging.
- 4) Bag must reduce fluctuations in temperature and humidity to protect endophyte viability.
- 5) Sample seed lots for endophyte viability and "off-types".
- 6) Educate the consumer regarding benefits, establishment protocol, and management.
- 7) Ensure "old" Jesup MaxQ seed is removed from dealers by May of the year immediately after seed harvest.
- 8) Follow-up with customers on any establishment/ management issues.

**Educate dealers and consumers regarding the costs, benefits, establishment protocol, and management.**



# Tall Fescue Workshop

## Novel Endophyte Tall Fescue Options and Experiences

**XP820 POUNDS & PROFITS**  
 11 studies over 16 weeks show an average increased calf weaning weight of **52.4 MORE POUNDS** when cows were tagged. Based on \$1.25/lb selling price this means **\$65.50 MORE PROFIT!**

**MADE IN THE USA**

**DECTOMAX**

**4,000% ROI\***

For most cattlemen their comfort zone is with the animal

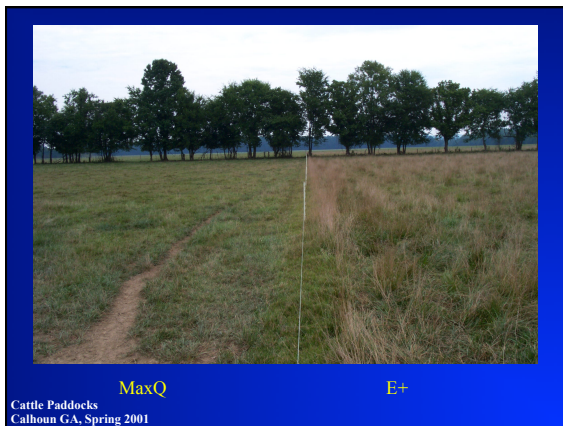
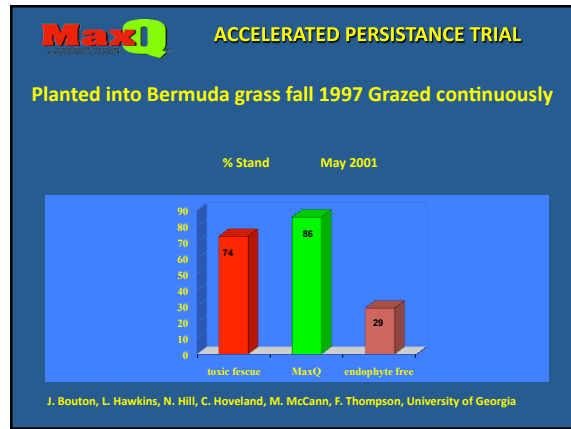
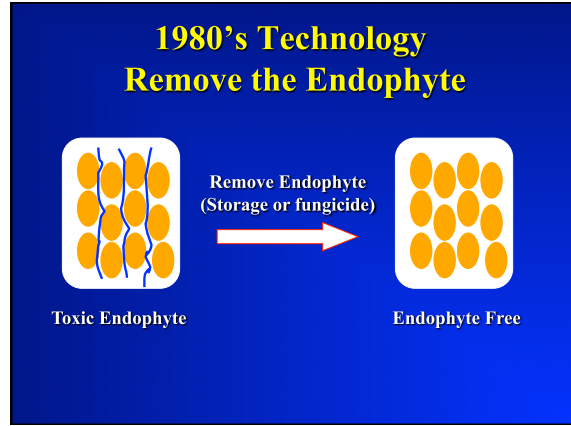
LIVE PROFESSIONAL STEER WRESTLER MATT BEVES  
**DECTOMAX IS UP TO THE CHALLENGE.**  
**IN STOCKER TRIALS, DECTOMAX CONTROLLED PARASITES TO CUTGAIN THE COMPETITION BY UP TO 26 POUNDS!**

Moody Working Horsemen: **2 + 2 = 5**  
 All in with it... not in it if it's not in the ground underneath.

HETEROGISA IS YOUR KEY TO PROFITABILITY!

For every \$1 you spend on Hagepro, you get \$40 back!

Pennington Seed Company



The MaxQ seed bag has management instructions

To Successfully Replace Toxic Fungus Fescue Pastures

PLANTING DATES: September to November in southern states, 15 March-April in northern states. Fall and Spring are preferred. Soil temperature should be above 55° at planting.

**During Spring, Prior to Fall Planting**

- Control weeds before planting.
- Apply fungicide to thoroughly kill existing toxic fescue prior to bloom.
- Use less, apply fungicide and less as recommended.
- Fall summer annuals (e.g., soybean, cowpea) are good allies. They will provide summer forage and act as a smother crop for emerging toxic fescue.
- Do not feed toxic fescue hay in these paddocks.

**During Fall, Just Prior to Planting**

- Clear debris or harrow the summer annual for hay.
- Apply fungicide as recommended.
- MaxQ will MaxQ seed into stubble or into killed seedbed. Remember to firm the soil with a roller or subsoiler before and after seeding the field soil.
- Do not plant seed deeper than 1/2".
- Do not plant seed deeper than 1/2".
- Do not plant seed deeper than 1/2".

**During Winter, After Seeding**

- Control weeds before planting.
- Do not feed toxic fescue hay in these paddocks.

**During Spring, New Seedling Management**

- Apply fungicide before weeds dominate.
- Control weeds as recommended.
- High quality forage should be available in 60-90 days or earlier and freely accepted.
- High quality forage should be available in 60-90 days or earlier and freely accepted.
- Do not plant seed deeper than 1/2".
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**Summer Management**

- Do not feed toxic fescue during the summer months.
- Do not feed toxic fescue during the summer months.
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**Grazing Management**

- Apply fungicide, annually as recommended. Apply area nitrogen in late winter.
- Keep forage high by grazing heavily or clipping to ensure high quality.
- Apply extra nitrogen when grazing periods are short and drought stress.
- Apply extra nitrogen when grazing periods are short and drought stress.
- Apply extra nitrogen when grazing periods are short and drought stress.

NET WT. 25 LBS. (11.34 kg)

For Customer Service, Call Toll Free 1-800-255-SEED  
 www.penningtonseed.com

# Tall Fescue Workshop

## Novel Endophyte Tall Fescue Options and Experiences

### Tall Fescue Pasture Establishment

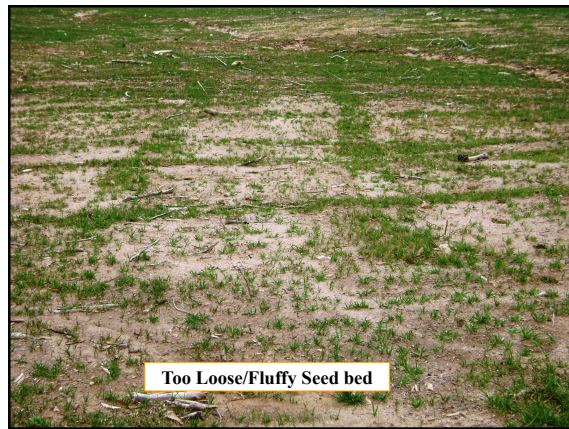
- Eliminate any existing toxic tall fescue
- Seed early spring, late summer/early fall
- Seed 15-20 lbs/acre drilled 20-25 lbs/acre broadcast
- Nurse/companion crop not needed.
- Drill into a prepared seedbed; no-till drill into sod or broadcast-cultipack. Plant no deeper than 1/2".
- Good seed/soil contact equals success



Smooth / firm  
Seed bed



Too Loose/Fluffy Seed bed



Too Loose/Fluffy Seed bed



MaxQ and Durana clover planted  
together/No companion crop needed



Sometimes companion crops volunteer -ryegrass

# Tall Fescue Workshop

## Novel Endophyte Tall Fescue Options and Experiences



MaxQ planted into Durana clover




Too much residue/Poor seed soil contact



Tall Fescue Pasture Establishment

### Tall Fescue Pasture Management

- Good management results in large quantities of high-quality forage, rapid regrowth, and long-lived stands.
- Keep in vegetative state as long as possible.
- At 6 to 8" , graze to 2" , allow rest for regrowth.
- Adequate regrowth may occur in 14 to 21 days or may require more than 40 days, depending on grazing period, temperature, and moisture.




Jesup MaxQ 15 Year Old Stand – Maxwell Farm Iola, KS

**GUIDE TO SUCCESSFULLY REPLACING TOXIC FESCUE PASTURES WITH JESUP MAXQ® TALL FESCUE**

**OPTION A: SNAAC-SINAC-SINAC-PLANT**

**In Spring Prior to Fall Planting**

- Prevent toxic fescue plants from becoming the chief grazing, haying, or clipping.
- Remove livestock and spray a non-selective herbicide such as Glyphosate to chemically kill existing toxic fescue prior to flowering. Apply fertilizer and lime as recommended by a soil test.
- Plant summer annual forage, i.e. southern millets or pearl millet to provide summer forage and to act as a summer crop for any toxic fescue seedlings that may emerge.
- Do not feed toxic fescue hay in fields to be planted.

**In Fall Just Prior to Planting**

- Closely graze or harvest the summer annual for hay.
- Remove livestock and apply a non-selective herbicide to kill the summer annual and any emergent broadleaf weeds and grasses.
- Apply fertilizer as recommended for fescue establishment.
- Soil till (Mach) and use subsoiler or tillage implement.
- Plant seed 1/4" deep. Seed planted deeper may result in poor emergence.
- Do not plant a competitive warm crop with MaxQ.
- Recommended seeding rate is 20 lbs./acre drilled – 25 lbs./acre broadcast.
- Planting dates: September to November 1<sup>st</sup> in southern states or August 1<sup>st</sup> to October 1<sup>st</sup> in midwestern and northeastern states.

**OPTION B: SNAAC-SINAC-PLANT**

**In Spring & Summer Prior to Fall Planting**

- Prevent toxic fescue plants from becoming the chief grazing, haying, or clipping.
- Apply fertilizer and lime as recommended by a soil test.
- Use pasture as normal for grazing and/or hay.
- Do not feed toxic fescue hay in fields to be planted.

**In Late Summer Prior to Planting**

- Closely graze or harvest existing toxic fescue hay.
- Remove livestock and apply 1.5 qt./acre "Roundup WeatherMAX" herbicide to an existing toxic fescue stand to kill existing toxic fescue.

**In Fall Just Prior to Planting**

- To kill any seed and grass escapes from the toxic fescue stand to which you apply an additional 1.5 qt./acre "Roundup WeatherMAX" herbicide prior to just after so-ill drilling MaxQ tall fescue. Apply fertilizer as recommended for fescue establishment.
- Soil till (Mach) and use subsoiler or tillage implement.
- Plant seed 1/4" deep. Deeper planted seed may result in poor emergence.
- Do not plant a competitive warm crop with MaxQ.
- Recommended seeding rate is 20 lbs./acre drilled – 25 lbs./acre broadcast.
- Planting dates: September to November 1<sup>st</sup> in southern states or August 1<sup>st</sup> to October 1<sup>st</sup> in midwestern and northeastern states.

**MaxQ**

Read the label of the herbicide used to kill existing toxic fescue, weeds and other grasses for grain-back times for horses. Observe all safety precautions and restrictions as described on the pesticide label.

# Tall Fescue Workshop

## Novel Endophyte Tall Fescue Options and Experiences

