



Estancia Tall Fescue

with ArkShield® Technology

Mountain View Seeds has an outstanding reputation for bringing high quality seeds with the latest technology to the marketplace. Estancia with ArkShield® is the latest generation forage tall fescue with the addition of a beneficial endophyte.

What is Estancia Tall Fescue

Estancia tall fescue is the result of years of laboratory and field research by the University of Arkansas in cooperation with the University of Missouri now commercialized by Mountain View Seeds. Estancia is a medium maturing, high yielding tall fescue with excellent seedling vigor.



What is ArkShield®

ArkShield® is a patented* smart endophytic fungus that lives inside certain grass plants in a mutualistic (mutually beneficial) relationship that improves grass resistance to some disease and insects. ArkShield® is all natural and desirable in forage grasses and will not have negative effect on the grass growth or livestock feeding on it.

While living in Estancia tall fescue, ArkShield® produces defensive alkaloids that help protect against certain pathogenic nematodes and insects. This shield of protection allows the Estancia plants to grow healthy and free of damage.

Plants containing ArkShield® survive environmental stresses like heat and drought. This increased stress tolerance means more thick, lush, productive and profitable forage.

The Complete Package

The variety Estancia forage tall fescue was inoculated with ArkShield® to create this exciting and profitable new product. Estancia with ArkShield® gives you all the benefit of improved forage tall fescue including high quality and high dry matter production now with the added benefits of improved persistence, heat and drought tolerance.

Estancia with ArkShield® technology is one of Mountain View's recent products to be released. Estancia with ArkShield® provides better tolerance to environmental stress while not harming livestock or other grazing animals.

*ArkShield Technology is protected by US patent No.7,465,855 B2 & No. 7,553,654 B2.



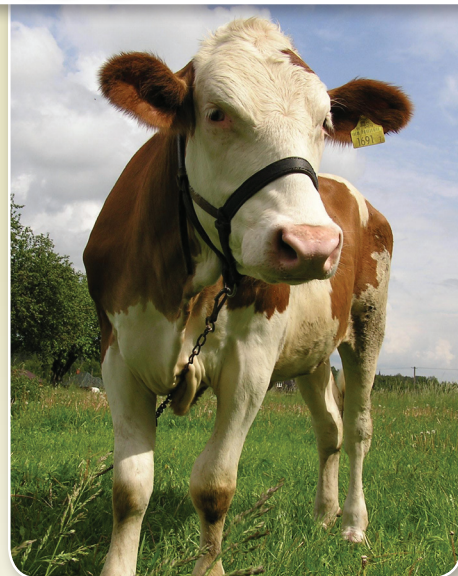
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Users Guide:

Year 1: Planting Estancia

- Closely graze or harvest existing toxic fescue.
- Spray stubble with a non-selective herbicide. 100% kill is vital.
- Test soil and follow soil test recommendations
- Plant a break-crop (Americas Alfalfa, summer annual forage, Vivant brassica, Italian ryegrass)
- Graze/Harvest break-crop (don't transfer toxic fescue seeds in manure to break-crop forage)
- After useful life of the break-crop, spray out with a non-selective herbicide.
- No-Till Drill Estancia in September to November in the Southern states and August to September or March to May in the Midwest and Northeast states.
- Seed Estancia at 20-25lbs per acre
- Fertilize as recommended
- Estancia can be planted with other species such as red or white clover, grasses and forage chicory
- Don't graze or harvest seedling pasture the first winter
- Be sure not to feed toxic fescue hay in newly established Estancia pasture (or transfer toxic seed via manure)



Year 2: Spring

- Fertilize as recommended
- Graze or harvest when Estancia is 8"-10" high and firmly anchored. Graze down to 3"-4" the first time. BE CAREFUL NOT TO OVER GRAZE.
- Cut for hay at early boot stage for best forage quality.
- Maintain Estancia height at 3"-10"
- No-till drill in legume seed in the Northern States.
- In order to prevent transfer of toxic fescue into new Estancia pasture, graze or feed another forage for 3 to 4 days between toxic fescue and new pasture.

Summer

- Care should be taken to not overgraze fescue pastures during summer heat, including Estancia.
- Graze lightly (down to 4"-5") and allow to regrow.

Fall

- Stockpile pasture by allowing Estancia to grow to 10".
- No-till drill in legume seed in the Southern States.
- Apply recommended fertilizer after initial rains.

Winter

- Graze or harvest Estancia to maintain a height at 3"-10".
- Remove animals if ground becomes very wet.
- Be sure not to feed toxic fescue hay in newly established Estancia pasture (or transfer toxic seed via manure).

When Compared to Toxic Tall Fescue:

Estancia with ArkShield® Increases:

Life of the forage stand, Animal Performance, Drought Tolerance, Hay Production, Conception Rates, Daily Weight Gain, Forage Production, PROFIT\$

Estancia with ArkShield® Decrease:

Veterinarian Expenses, Abortion Rates, Hay & Feed Costs, Labor & Management Cost, Loss of Revenue due to fescue toxicity.

Fescue Variety Yields- Northern Piedmont AREC, Orange, Va., September 2002 Seeding

Variety	2003	2004	03-04 Avg
Yields (ton dry matter/acre)			
Highest	5.37	6.03	5.70
Jesup Max Q	4.83	5.91	5.37
Estancia	4.87	5.63	5.25
KY 31-	4.93	5.40	5.17
Barcel	4.51	5.37	4.94
Select	5.13	4.68	4.91
Barolex	4.57	5.20	4.89
Lowest	2.18	3.21	2.70
LSD (0.05)			0.39

*for complete trial data visit www.ext.vt.edu

Effect of Cultivar on Grazing and Subsequent Performance of Steers Grazing Tall Fescue Pastures, Southeast Agricultural Research Center, KSU, 2004

Tall Fescue Cultivar High Endophyte			
Item	K-31	Estancia	MaxQ
Grazing Phase (257 days)			
No. of Head	16	16	16
Initial wt., lb	513	513	512
Ending wt., lb	756	911	890
Gain, lb	243	399	377
Daily gain, lb	0.94	1.55	1.47
Gain/acre, lb	194	319	302
Finishing Phase (112 days)			
Daily gain, lb	4.44	4.26	3.53
Yield grade	2.8	3.3	2.7
Percent Choice, %	69	94	69

Effect of Cultivar on Stand Density of Tall Fescue Pastures, Southeast Agricultural Research Center, KSU 2004 to 2007

Tall Fescue Cultivar			
	High Endophyte		
Date	K-31	Estancia	MaxQ
11.29.07	95%	88%	80%

Percent stand and seedling vigor, September 19, 2002 in a cattle grazing tolerance study at Lexington, Kentucky.

Variety	Percent Stand			
	24-Mar-03	30-Oct-03	26-Mar-03	8-Nov-04
Estancia	89	81	94	88
Select	90	83	95	87
Jesup MaxQ	90	81	95	85
KY31+	90	81	95	78

*for complete trial data visit www.uky.edu/ag/foragevarietytrials.htm

Dry matter yields (tons/acre) and maturity rating of tall fescue varieties sown September 25th, 2002 at Princeton, Kentucky

	Maturity	Yield (tons/acre)		
Variety	May 10th, 2004	Total 2003	Total 2004	Total 2-yr
Estancia	60.0	4.73	3.76	8.49
Select	59.5	4.56	3.58	8.14
Jesup MaxQ	59.5	4.7	3.18	7.88

maturity rating scale: 37= flag leaf emergence, 45= boot swollen, 50= beginning of inflorescence emergence, 58= complete emergence of inflorescence, 62= beginning of pollen shedding

If you would like complete trial information please call us at 1.503.588.7333. We will be happy to send it to you.



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Effect of Cultivar on Grazing and Subsequent Performance of Steers Grazing Tall Fescue Pastures, Southeast Agricultural Research Center, KSU, 2004-2007			
	Estancia	K-31+	MaxQ
2004-2007 avg. Daily gain, lb	2.45	2.12	2.40
	\$1.10	\$1.10	\$1.10
Daily Financial Difference (based on \$1.10/lb beef)			
	\$2.69	\$2.33	\$2.64
Multiplied by 100 Steers	\$269.23	\$232.65	\$264.00
Multiplied by 90 days	\$24,230.70	\$20,938.50	\$23,760.00
Estancia Difference	\$0.00	\$3,292.20	\$470.70
*based on \$110/cwt live cattle market in June 2011			

How to get the most from Estancia with ArkShield

- Be sure to have 100% kill of toxic fescue pasture
- Do not plant too deep (1/4" is recommended)
- Apply lime when recommended by soil testing
- Apply fertilizer according to soil test and management needs
- All seed needs sufficient moisture to germinate and establish
- Rotationally graze for highest forage quality and stand performance
- Do not overgraze Estancia in the first year or hot summer months
- Be sure not to feed toxic fescue hay in newly established Estancia pasture (or transfer toxic seed via manure).
- Renovate using Estancia with ArkShield seed only (check seed for "sow by date")

