High Cost of "Cheap Seed"

David Hunsberger
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King's AgriSeeds Inc.

“Price is what you pay, value is what you get.”

- Warren Buffett

How do we define “cheap” or “low cost”?

1976- 1066 IH Tractor (108 HP)- $21,100
Corn- $2.00/bu.
Milk- $9.40/cwt

2015- Maxxum (105 HP)- $99,500
Corn- $4.00/bu.
Milk- $13.60/cwt

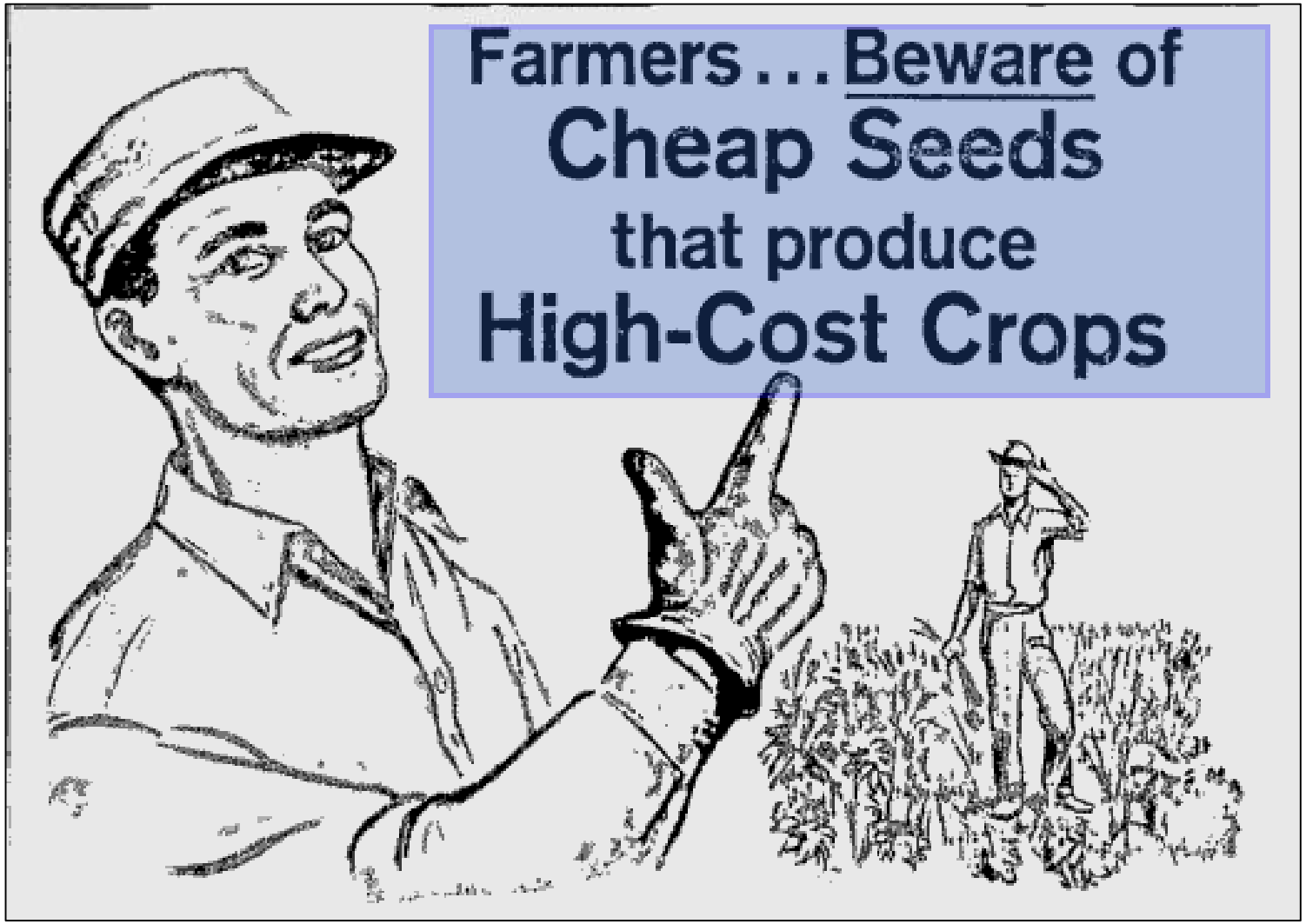
What does this tell us?

Cost/value of commodities & inputs is fluid & the relationships change.

2014- Corn $7/bu

Milk $24/cwt

The Kentucky New Era…..July 9, 1968



To begin, I would like you to consider that in a tight money year, we resist the temptation to seed down the least expensive seed/acre when considering annual forage or perennial forage crops.

Upfront savings can result in long term lost returns.

What makes a seed cheap?

- Older varieties that have very little cost of development left
- High seed yields
- Large inventory of seeds or larger production capacity
- Decreased demand
- Yield production potential of crop planted
- Certified vs Uncertified
- Common or VNS types vs. varietal purity
- Etc.

Factors to Consider…

- Germination %
- Hard Seed
- Yield Potential- .10 tons per cutting can add up over the life a stand.
- Disease resistance- longevity
- Forage quality & animal performance

2016 Farm Production

- Grain - Milk – Forage – Beef – Pork, etc. prices are not at 5 year rolling peak levels, they are under.
- This income side of our ledgers causes us to look at cutting input costs!

Cutting cost per bag…

This results in short term up-front cost savings, but short and long term profitability potentially suffers.

Is there REALLY much difference between varieties???

Is there REALLY much difference between varieties?

Buying cheap seed can come at a high cost

By **DAN UNDERSANDER**

Focus on Forages

I am always amazed by the number of people who buy the cheapest alfalfa or grass seed they can get. That is a little like saying that you want the cheapest cow and don't care whether it's an Angus or Holstein. The difference among alfalfa varieties or grass varieties of any species is greater than the difference between an Angus and Holstein cow.

First, consider that good varieties will help you get a good stand at seeding. Several varieties from one of my trials are shown in the chart. Each variety is a strip 3 feet wide and 20 feet long. Would you rather have the variety in the middle or one of those on either side? We see similar differences with grass varieties.

Further, you should consider the quality of the seed. What is the germination? Good seed will generally have germination above 90%. Lower numbers mean that you are paying for seed that will not contribute to your stand. Also consider the hard seed. Hard seed in alfalfa is not significant as it will all germinate in 30 to 60 days. However, hard seed in the clovers and some of the grasses may take five to 10 years to germinate.

Yield potential

Especially now with high-priced hay, yield potential is the most important consideration in selecting a variety of forage. Most of the production costs of high-yielding forage (except possibly for fertilizer and insecticide) are the same. Even harvesting costs are similar. Engineers tell us that mowing and raking are the same without regard to yield, and baling or chopping twice the yield per acre takes about 15% more energy. So the major harvesting difference for higher-yielding forage is the extra effort to haul the greater yield away.

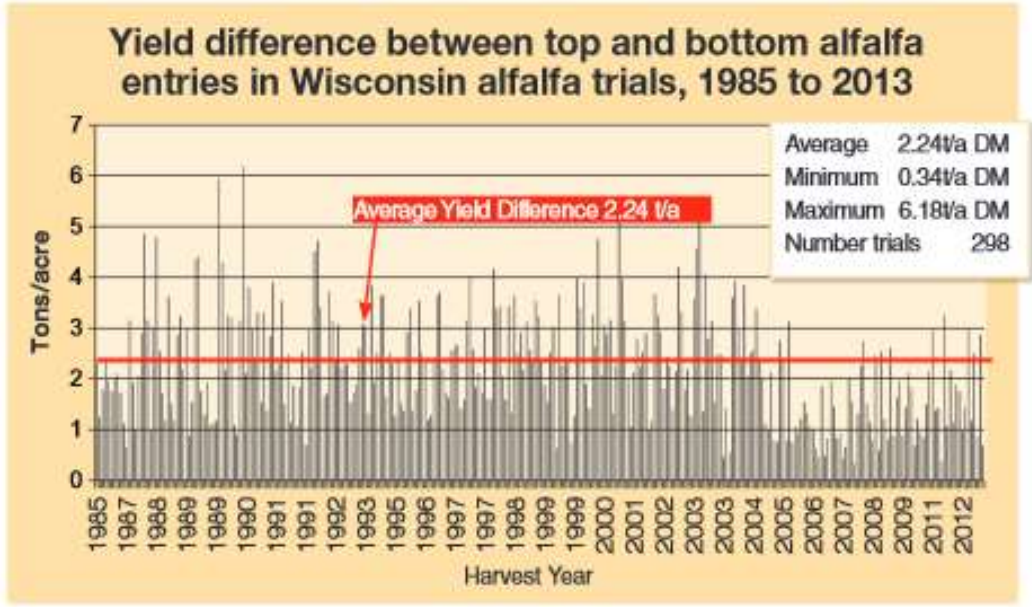
As shown in the chart above, I have run 296 alfalfa variety trials over the last 28 years. The average yield difference between the highest- and lowest-yielding alfalfa variety growing side by side has been 2.24 tons per acre per year. This average is across all of the last 28 years, including a number of drought years (like 2012).

Right now, with greater than 151 RFQ hay (for dairy cows) at $250 per ton or 125 to 150 RFQ hay (for growing animals) at $200 per ton, 2.24 tons more hay means an extra $560 to $448 per acre per year. Paying an extra $20 or $30 per acre for seed of a high-yielding variety can be a very good investment!

We see similar differences for grass varieties, which have yielded as much as 4 tons per acre per year difference between the top- and bottom-yielding variety within the same trial. There are also up to three-week differences in the cool-season grass heading date, which can determine whether the grass heads when the clover or alfalfa is ready to harvest or some time before the legume is ready. Additionally, some grass varieties produce high percentages of yield in first cutting and some varieties have yield more uniformly distributed throughout the growing season. The former are fine for hay, but the latter are better for mixing with legumes for hay or grazing.

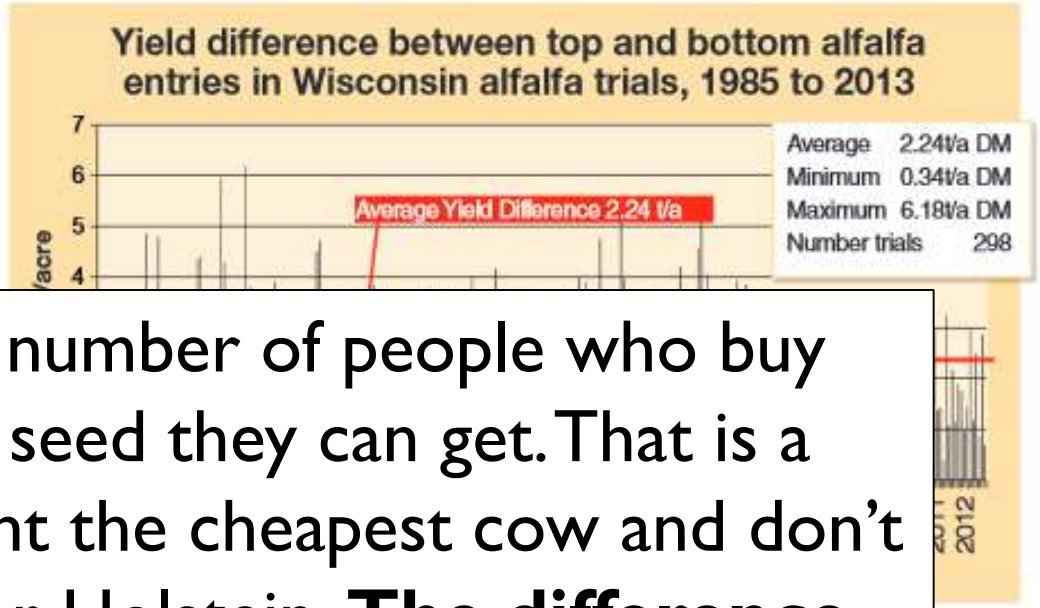
If you figure the total cost of land, taxes, production and harvesting costs, seed cost is often less than 1% of the total production cost, so buying any variety that does not have high yield or the characteristics most beneficial for your management system is being penny wise and pound foolish.

Undersander is a University of Wisconsin-Madison Extension forage agronomist.



Buying cheap seed can come at a high cost

By DAN UND



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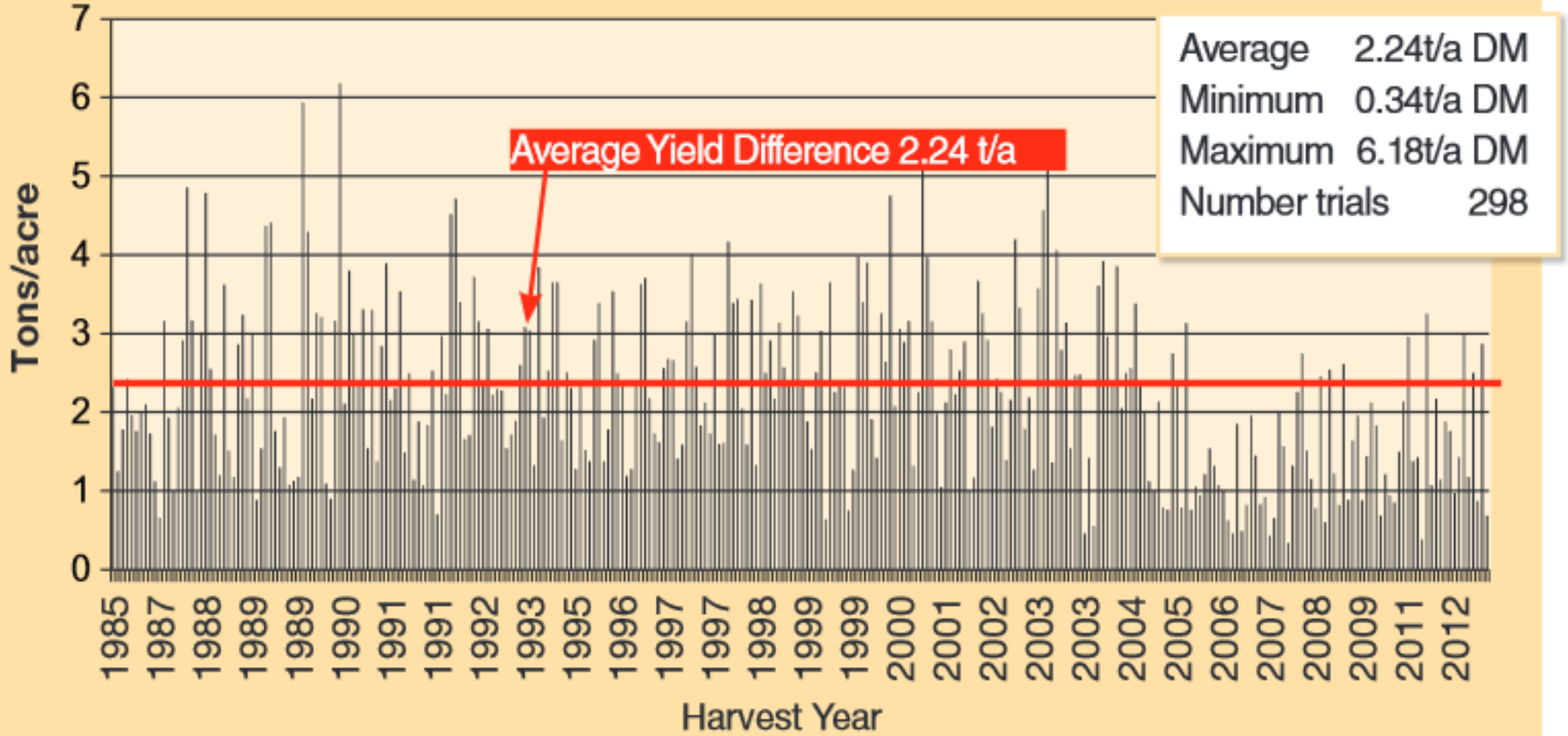
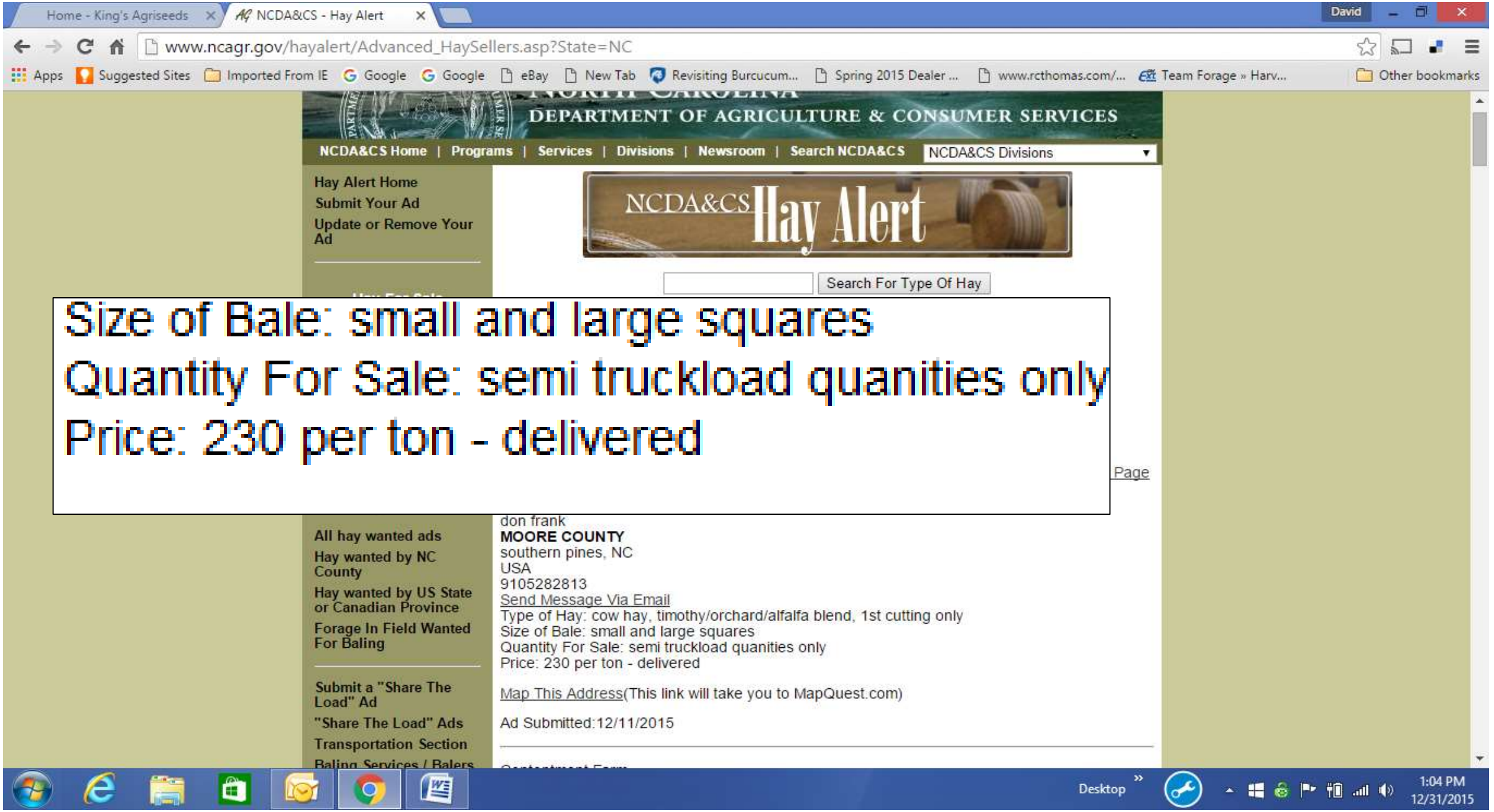
Yield difference between top and bottom alfalfa entries in Wisconsin alfalfa trials, 1985 to 2013

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Hay Alert Home
Submit Your Ad
Update or Remove Your Ad
NCDA&CS Hay Alert
Search For Type Of Hay
Size of Bale: small and large squares
Quantity For Sale: semi truckload quanities only
Price: 230 per ton - delivered
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All hay wanted ads
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Hay wanted by US State or Canadian Province
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Submit a "Share The Load" Ad
"Share The Load" Ads
Transportation Section
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Send Message Via Email
Type of Hay: cow hay, timothy/orchard/alfalfa blend, 1st cutting only
Size of Bale: small and large squares
Quantity For Sale: semi truckload quanities only
Price: 230 per ton - delivered
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"Right now, with greater than 151 RFQ hay (for dairy cows) at $250 per ton or 125 to 150 RFQ hay (for growing animals) at $200 per ton, 2.24 tons more hay means an extra **$560 to $448** per acre per year. Paying an extra **$20 or $30** per acre for seed of a high-yielding variety can be a very good investment!

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Let's do some math…

Average @ 2.24 tons/acre difference

Peak @ 4 tons/acre difference

$230 X 2.24 = $515.00

$230 X 4= $920.00

In the coming season of lower prices an extra hundred per acre in income or reduced expense could have a remarkable effect on the bottom line.

There is a cost for increased yield-

- Higher fertilizer requirements

However, per acre costs for mortgage, rent, mowing, raking and tedding stay the same.

"Engineers tell us that mowing and raking are the same without regard to yield, and baling or chopping twice the yield per acre takes about 15% more energy"

Novel Endophyte
vs.
K-31 Fescue

Let's do some math…

BarOptima +E34- $200.00/50 lbs, $140/Acre

Martin II Protek- $145.00/50 lbs, $101.50/Acre

K-31- $50.00/50 lbs, $35.00/Acre

BarOptima is 300% more expensive than K-31!!!!!

A difference in $105.00/Acre from BarOptima to K31. From our example above, you need 1,000lbs of hay/acre for the 1st year to make up the seed cost difference.

What about nutritional performance?

How the endophyte affects different animal species

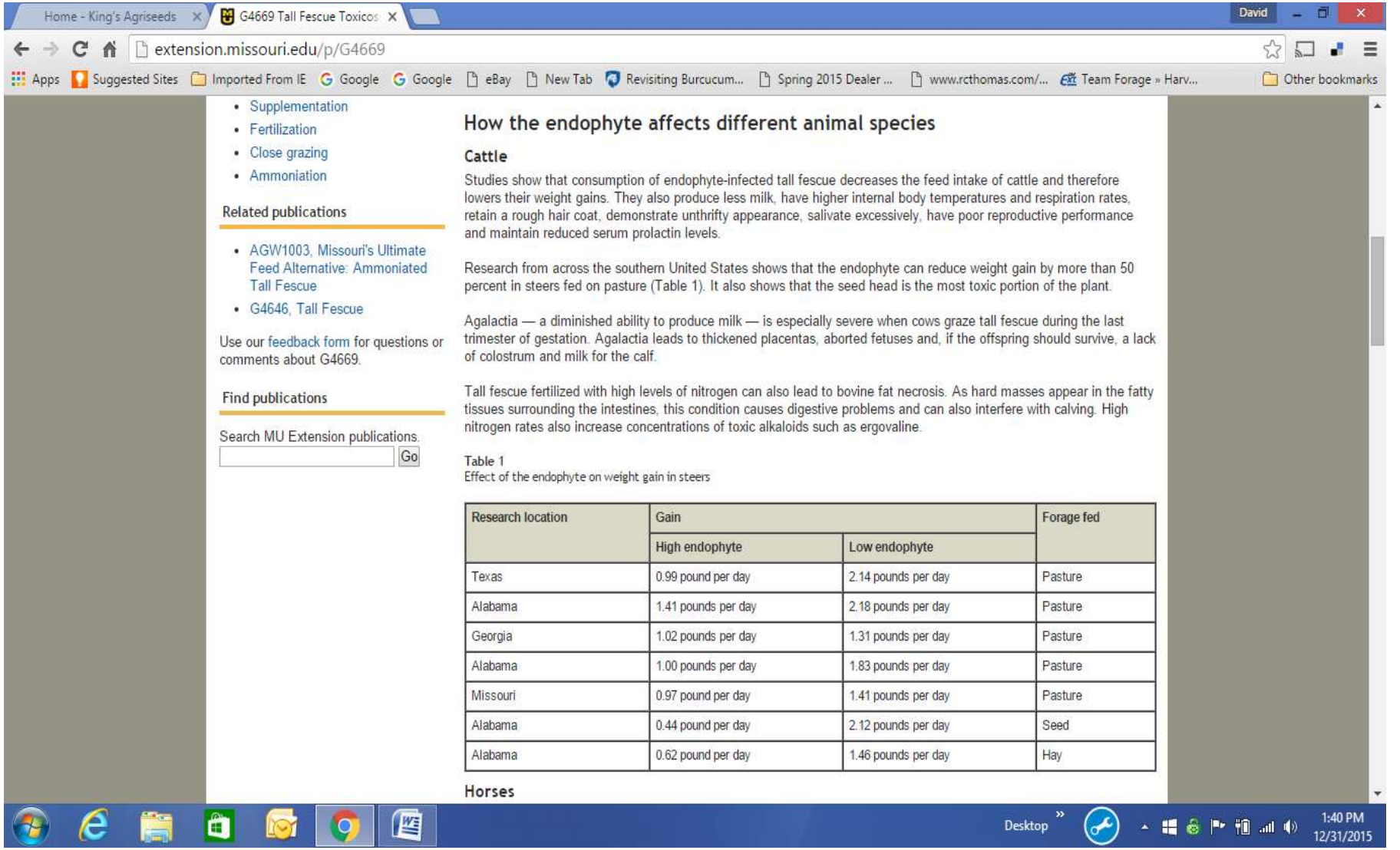
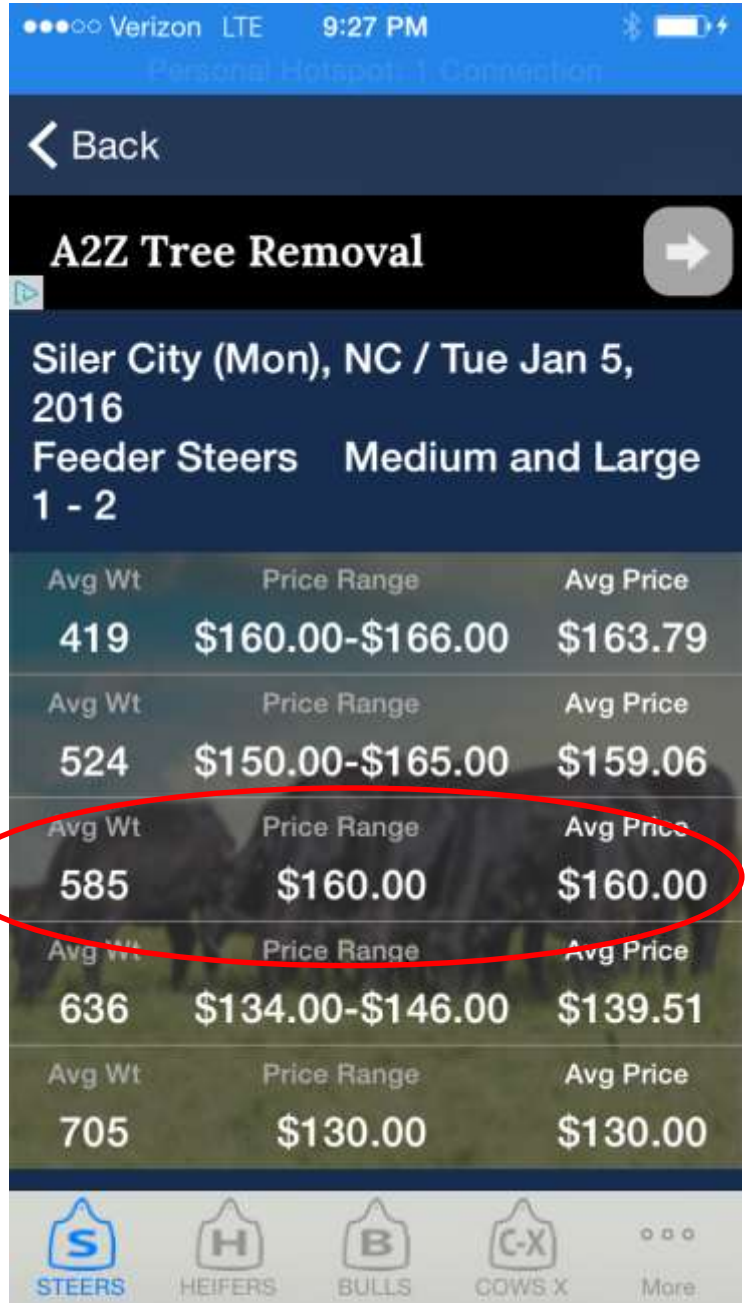


Table 2. Daily gains of steers as affected by low or high incidence of endophyte infection.

Location	Endophyte[1] Low E %	Endophyte[1] High E %	Daily gain Low E lb/day	Daily gain High E lb/day	Feed	Reference
Alabama	2	>90	1.83	0.99	Pasture	Hoveland et al.,1983
Alabama	0	>90	1.46	0.62	Hay	Schmidt et al., 1982
Alabama	0	100	2.12	0.44	Seed	Schmidt et al., 1982
Arkansas	0	81	1.57	1.21	Pasture	Goetsch et al., 1988
Georgia	0	89	2.27	0.81	Pasture	Hoveland et al.,1997
Kentucky	<1	61	1.54	0.99	Pasture	Boling, 1985
Mississippi	NR[2]	NR	1.50	1.01	Pasture	Evans et al., 1989
Missouri	3	83	1.37	0.46	Pasture	Crawford et al.,1989
Oklahoma	<1	76	1.87	1.37	Pasture	McMurphy et al.,1990
Tennessee	2	71	1.48	1.06	Pasture	Chestnut et al.,1991
Texas	8	91	2.14	1.01	Pasture	Read and Camp, 1986
Virginia	0	77	1.43	0.90	Pasture	Tulley et al., 1989

[1] Number of infected tillers per 100 tillers.
[2] Not reported.

Cattle Market Mobile App as of January 5, 2016



With the average difference in ADG considered at $1.29/head/day the difference within a 90 day backgrounding period is astounding.

	Low E	High E		Smithfield Price- 571 lbs $1.60'	
Alabama	1.83	0.99	0.84	$	1.34
Alabama	1.46	0.62	0.84	$	1.34
Alabama	2.12	0.44	1.68	$	2.69
Arkansas	1.57	1.21	0.36	$	0.58
Georgia	2.27	0.81	1.46	$	2.34
Kentucky	1.54	0.99	0.55	$	0.88
Mississippi	1.5	1.01	0.49	$	0.78
Missouri	1.37	0.46	0.91	$	1.46
Oklahoma	1.87	1.37	0.5	$	0.80
Tennessee	1.48	1.06	0.42	$	0.67
Texas	2.14	1.01	1.13	$	1.81
Virginia	1.43	0.9	0.53	$	0.85
Average				**$**	**1.29**
90 Day Background				**$**	**116.52**

Table 3. The effect of tall fescue endophyte status and the use of white clover in the pasture on stocker performance.[†]

	ADG (lbs/hd/d)	Gain (lb/acre)
Toxic Endophyte	1.1	126
Novel Endophyte	1.8	186
Toxic + White Clover	1.6	150
NE + White Clover	2.6	252

[†] Bouton, Andrae, and Hill (unpublished data).

1.1 ADG vs 2.6 ADG= 136% Increase in Production

What if you're retaining ownership or finishing yourself?

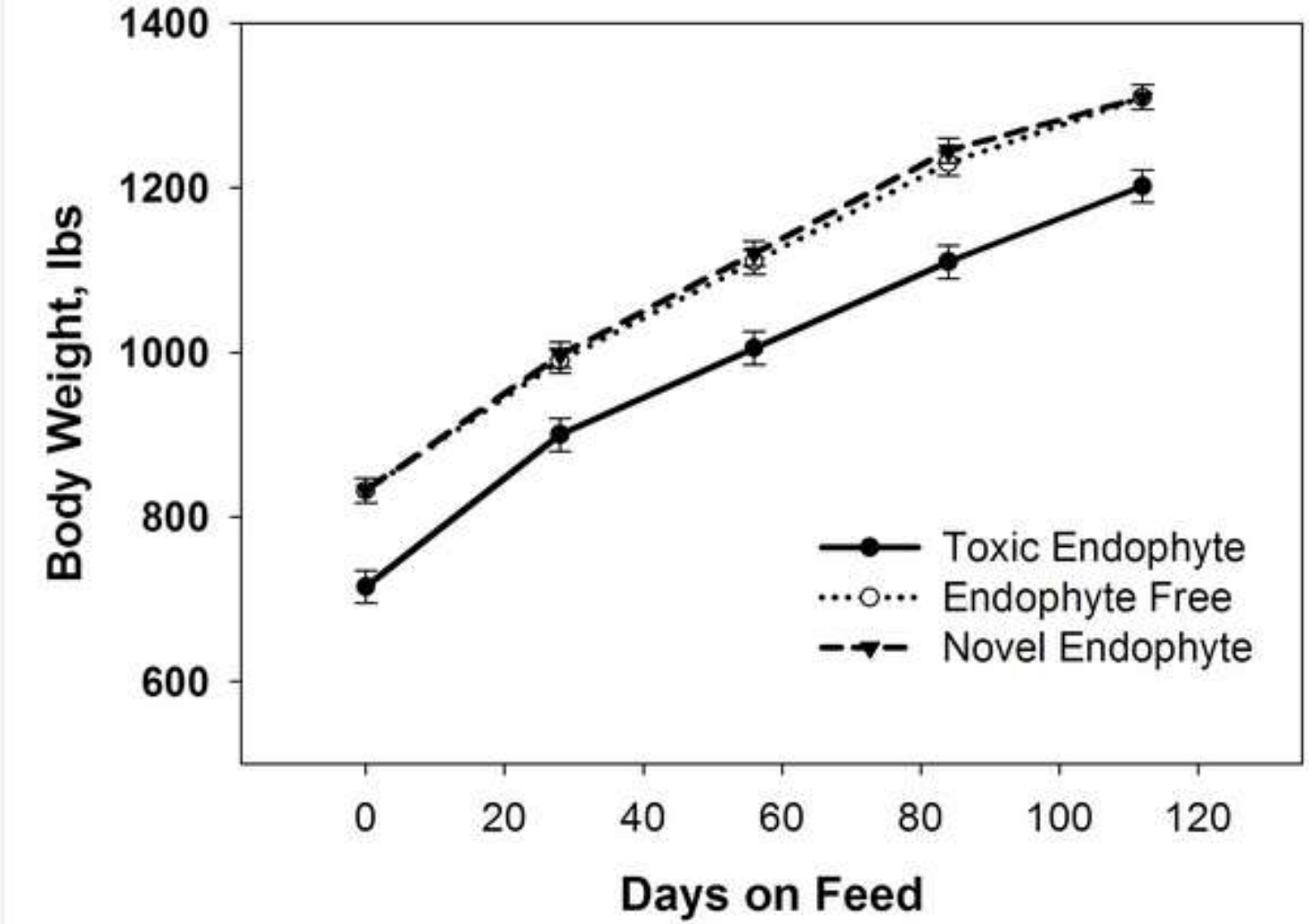


Figure 5. Subsequent feedlot performance of cattle that grazed toxic, endophyte-free, and novel tall fescue during the stocker phase. Cattle originally grazed pastures in Eatonton and Calhoun, Ga., and were finished in Stillwater, Okla. *(Duckett et al., 2001)*.

What about cow performance?

Table 1. Cow-calf performance on toxic or novel endophyte (NE) tall fescue stands.[†]		
	Toxic	**NE**
Cow Performance		
Wt. at end of breeding, lbs.	1110	1236
Wt. at end of weaning, lbs.	1005	1122
BCS at end of breeding[‡]	5.4	5.7
Pregnancy Rate, %	44.7	85.1
Calf Performance		
Actual Weaning Wt., lbs.	461	529
Adj. (205 d) Weaning Wt., lbs.	436	504
ADG (birth to wean), lbs.[§]	1.7	2.1
Replacement Heifers		
Actual Weaning Wt., lbs.	459	498
Calving Rate, %	64.1	90.6

[†] Adapted from University of Arkansas Experiment Station Reports by Coffey et al. (2007 and 2008).

[‡] BCS: Body Condition Score.

[§] ADG: Average Daily Gain.

Key Points

- Considering yield only, 1,000 additional lbs per acre of forage will pay for the additional cost of the Novel Endophyte fescue seed.
- Increase in ADG from Novel Endophyte fescue, considering today's market, can equate to $1.29/Head/Day difference.
- Combining clover with Novel Endophyte fescue can increase production by 136% over straight Endophyte infected stands
- Backgrounding on Novel Endophyte fescue improves feedlot performance and decreases days to finish.
- Novel endophyte fescue can greatly increase conception rates, body condition scores…especially in heifers.

Annual Forages

Cheap Triticale vs. High Value Triticale

- Cheap sells for $5/bag less than higher value triticale
- 3 Bags/Acre- $15 Opportunity cost
- Round figures…use your own numbers.

			Dm Yield tons/acre					First Cutting				
Cereals		**Harvest Dates**	**Cut 1**	**Cut 2**	**Cut 3**	**Total**	**Stand**	**CP %**	**ADF %**	**NDF %**	**NDFd 30**	**RFV**
Huron	Rye	5-16,	3.07			**3.07**	95	21.3	24.0	44.6	80.6	146.0
Trical 141	Triticale	5-16,	2.98			**2.98**	97	14.1	34.1	55.7	75.9	104.0
EXP 4W	Triticale	5-16,	2.97			**2.97**	97	13.6	36.7	58.9	69.5	95.0
Trical 815	Triticale	5-16,	2.90			**2.90**	97	18.0	27.5	49.3	79.8	127.0
EXP 5B	Triticale	5-16,	2.84			**2.84**	96	18.1	31.1	52.3	75.3	115.0
Trical 336	Triticale	5-16,	2.82			**2.82**	96	16.4	31.3	53.8	75.4	112.0
EXP 3H	Triticale	5-16,	2.81			**2.81**	96	16.3	35.5	59.9	70.5	95.0
Fridge	Triticale	5-16,	2.64			**2.64**	94	16.6	29.8	51.0	78.8	120.0
Thunder Cal (EXP 2T)	Triticale	5-16,	2.56			**2.56**	98	15.0	33.1	56.9	71.3	103.0
Valor Barley		5-13,	2.50			**2.50**	94	17.1	32.4	56.6	70.0	105.0
Aroostoock	Rye	5-2,	2.42			**2.42**	97	22.0	29.4	49.7	76.5	124.0
Fridge (EXP 1F)	Triticale	5-2,	2.40			**2.40**	98	15.5	32.8	55.0	75.3	107.0
Malabar Wheat		5-13,	2.00			**2.00**	97	14.1	35.0	59.0	70.8	97.0
Mean			**2.69**			**2.69**	**96**	**16.8**	**31.7**	**54.1**	**74.6**	**111.5**
LSD (.05)			0.28			**0.28**	5.8					
CV (%)			7.20			**7.20**	4.3					

Let's do more math…yield

- Cereal silage is worth $30/ton as fed
  - @ 35% DM, there is 700lbs of DM per ton of as fed silage
  - $30/700lbs = $0.04285/lb DM
  - .34 Ton DM Yield Advantage of 815 vs. Thundercal
  - .34 Tons X 2000lbs = 680lbs extra DM yield/acre
  - **680lbs X $.04285 = $29.13**

- **$50/ton = $48.57 net yield/acre.**
- **$10/ton = $9.71 net yield/acre.**

Let's do more math…protein

- Supplemental protein cost of material
  - 2.9 tons @ 18% CP = 1044 lbs of CP
  - 2.56 tons @ 15% CP = 728 lbs of CP
  - 276 lbs of CP difference per acre
  - 48% Soybean Meal- $312
  - 960 lbs of CP/ton
  - **$.325 X 276 = $89.70 in Protein Cost/ Acre**

Protein and Yield

- $50/ton = $48.57 net yield/acre.
- $.325 X 276 = $89.70 in Protein Cost/ Acre

Total Difference = $138.27/Acre Potential Difference

100 Acres of Winter Forages

$138.27 X 100 = $13,827

Cheap Seed Cost Difference/Acre= $15 X 100= $1500

Net Cost of Cheap Seed= $12,327

What about $50.00 cheaper?

$138.27 X 100 = $13,827

Cheap Seed Cost Difference/Acre= $50 X 100= $5,000

Net Cost of Cheap Seed= $8,827

Non BMR vs. BMR Sorghum Sudan

- Non BMR - $40/Bag
- BMR- $70/Bag
- Difference- $30/Bag
- 1 Bag Per Acre = $30/Acre Difference

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Table 1. Performance of steers grazing non-brown midrib and brown midrib sorghum/sudan hybrids, Texas A&M-Amarillo, 1999-2000.

Evaluation Criteria	Non-BMR	BMR
Average daily gain (ADG), lbs. per head	2.62	2.94
Average gain per acre, total lbs.	300	337

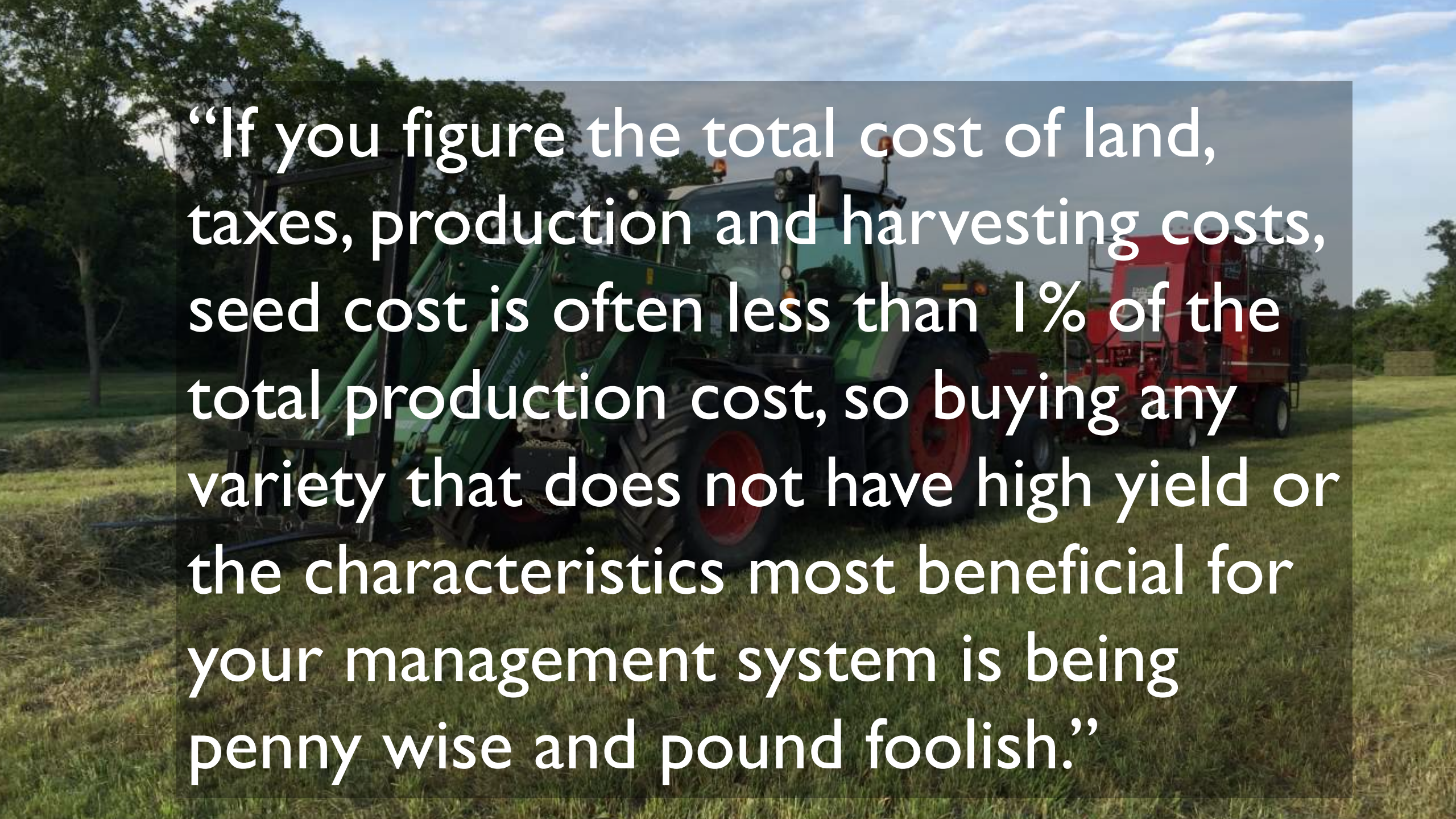
Initial weight, 531 lbs. per head
Grazing cycle, 41 days in '99, 59 days in '00.
Note: The non-BMR is the same genetic hybrid without the BMR gene. Field observations indicated steers more readily grazed the stalks of the midrib plants.

	Days	Gain/Acre	Smithfield	Total	
BMR	41	337	$1.60	$539.20	
Non BMR	41	300	$1.60	$480.00	
Difference				**$59.20**	
	Gain Per Day	**Days**	**Total Gain/Acre**	**Smithfield**	**Total**
BMR	8.22	60	493.2	$1.60	$789.12
Non BMR	7.32	60	439.2	$1.60	$702.72
Difference					**$86.40**

Net Gain of $56.40/Acre in 60 Days

In conclusion I would like you to consider that in a tight money year, we resist the temptation to plant the least expensive seed/acre when considering annual forage or perennial forage crops.

Upfront savings can result in long term lost returns.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Take Home Message

"Cheap seed can never be cheap enough!"

Questions?