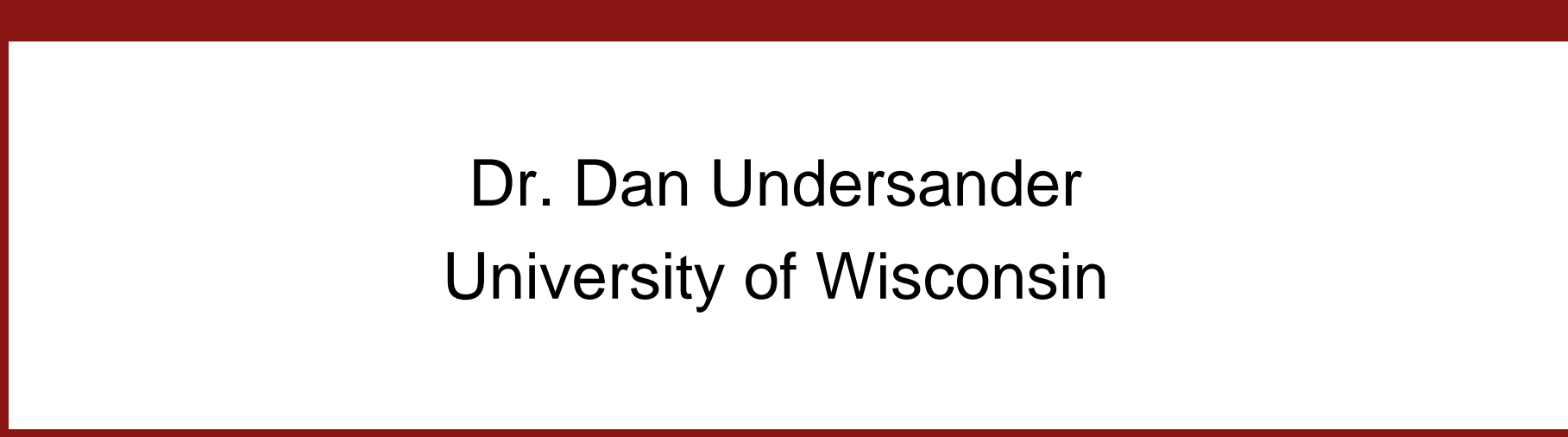


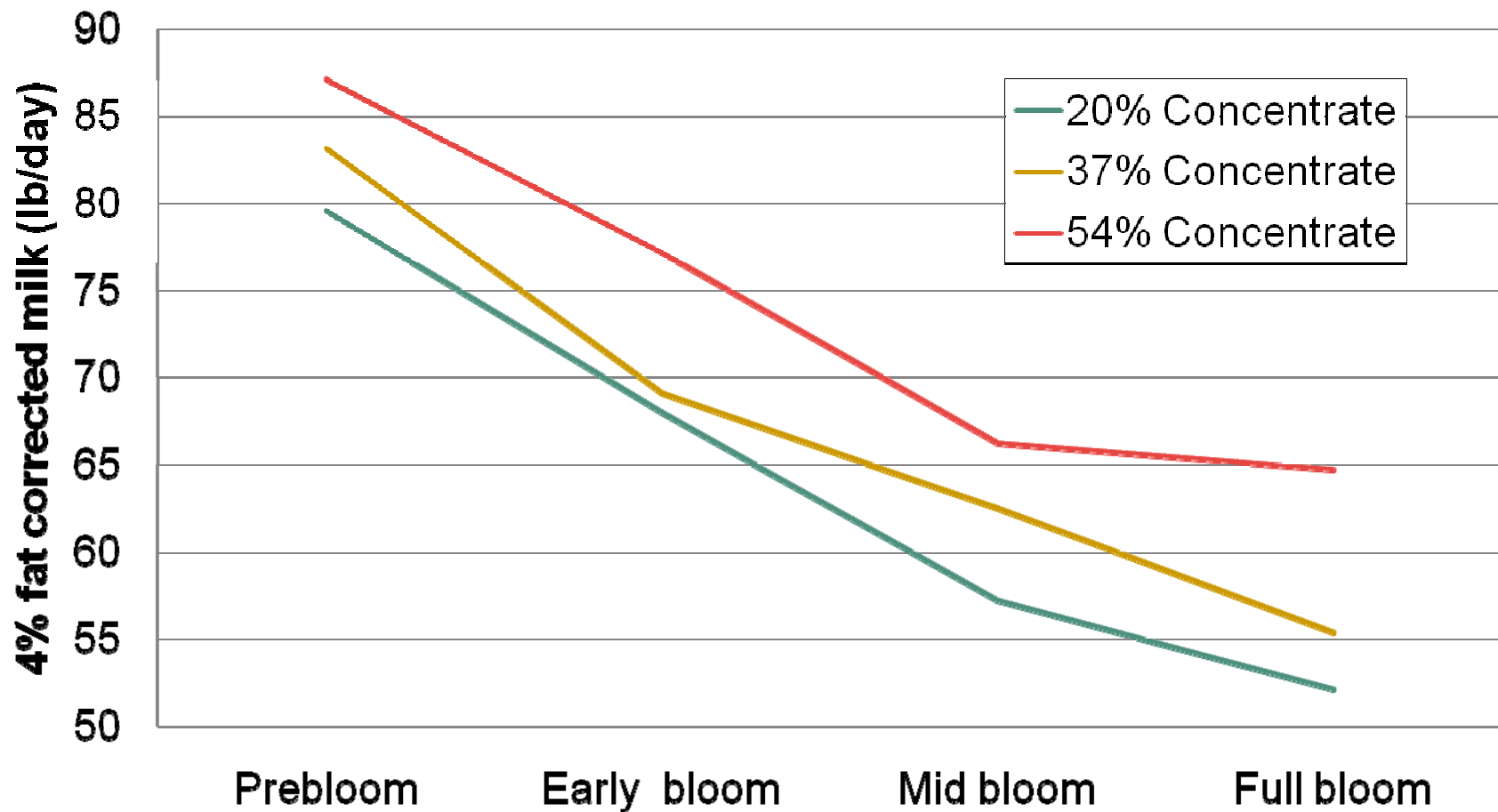


Cost Effective Balancing of Yield and Quality with Forages

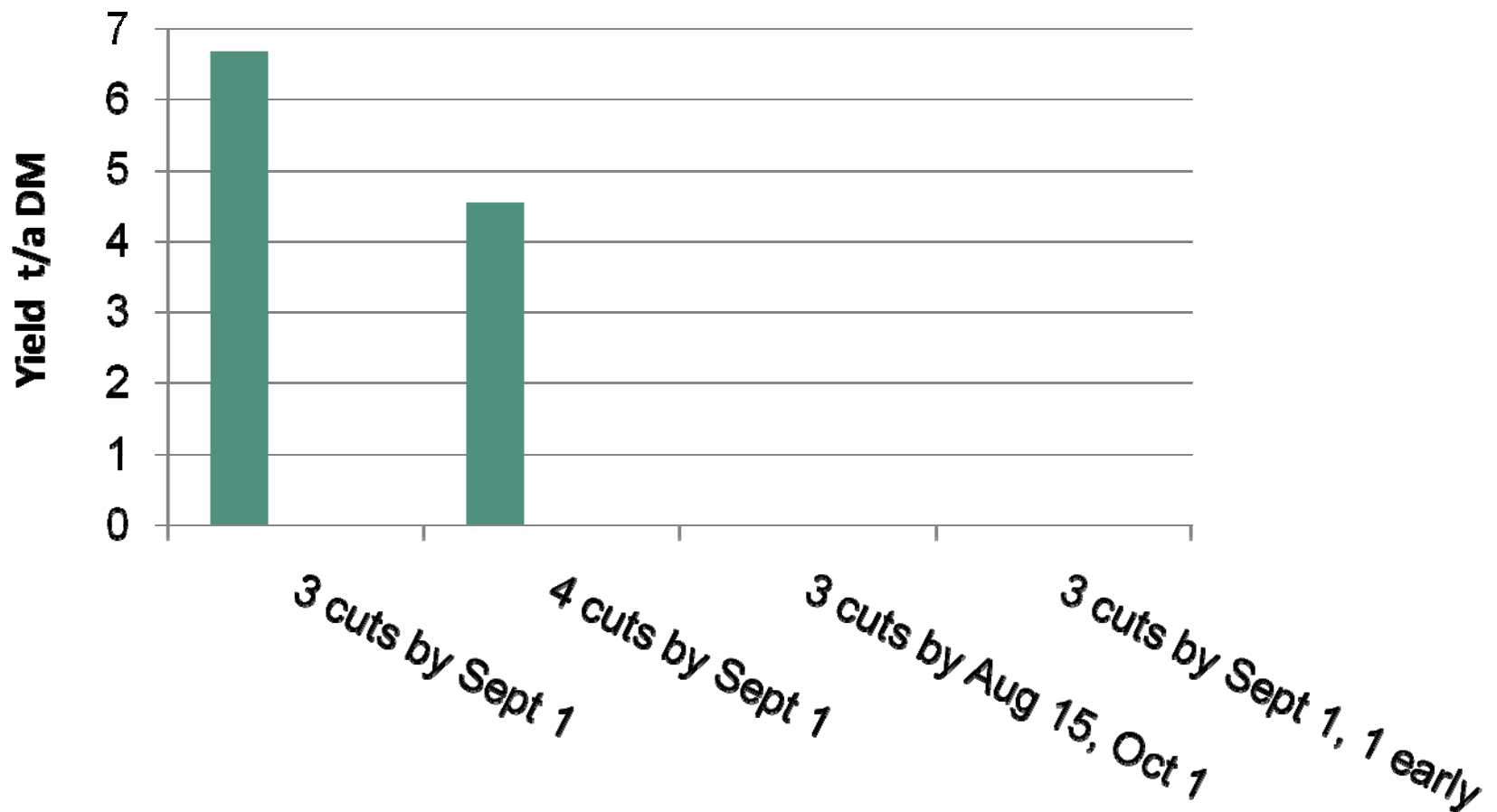


Dr. Dan Undersander
University of Wisconsin

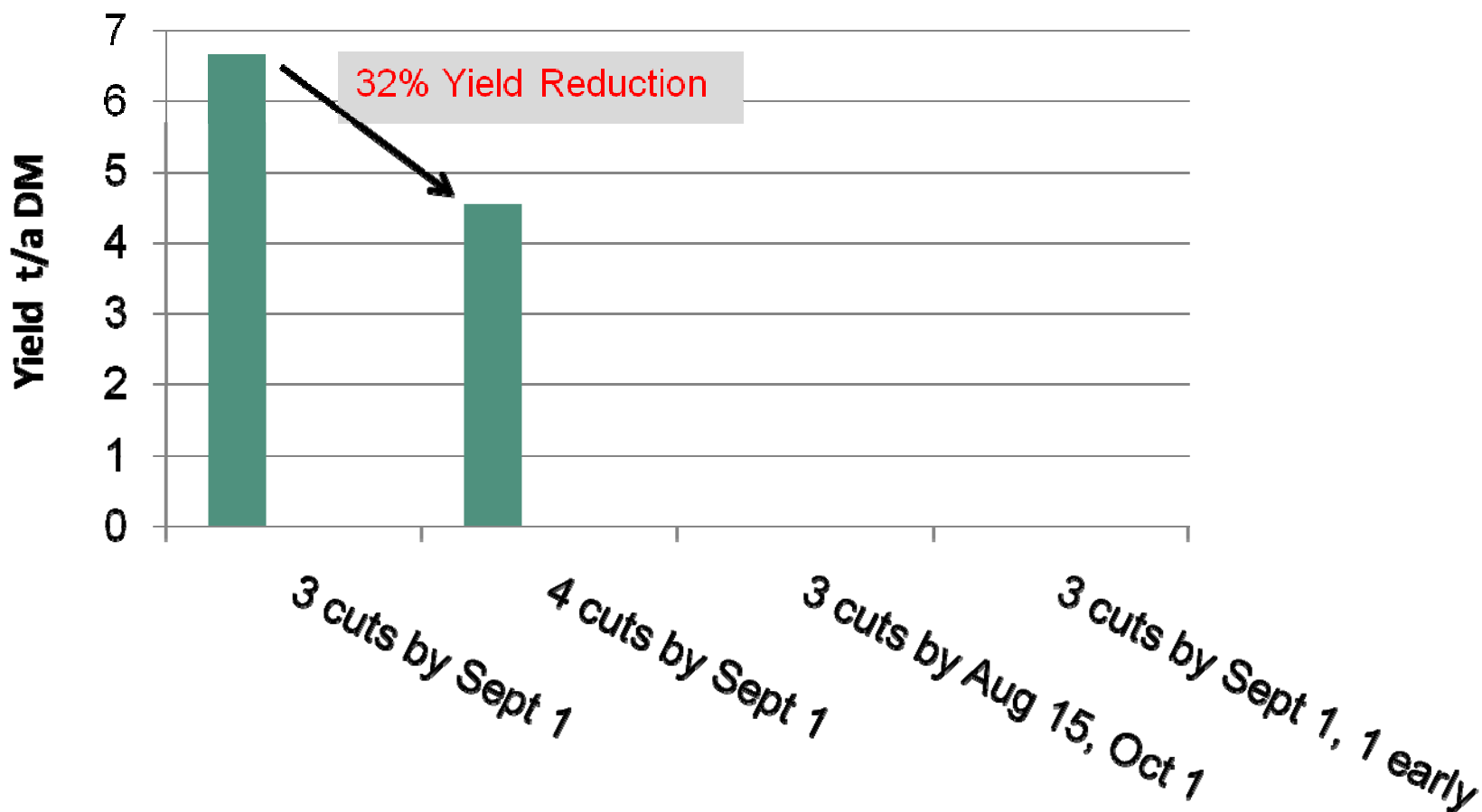
Milk Production with Varying Levels of Grain and Alfalfa Forage Quality



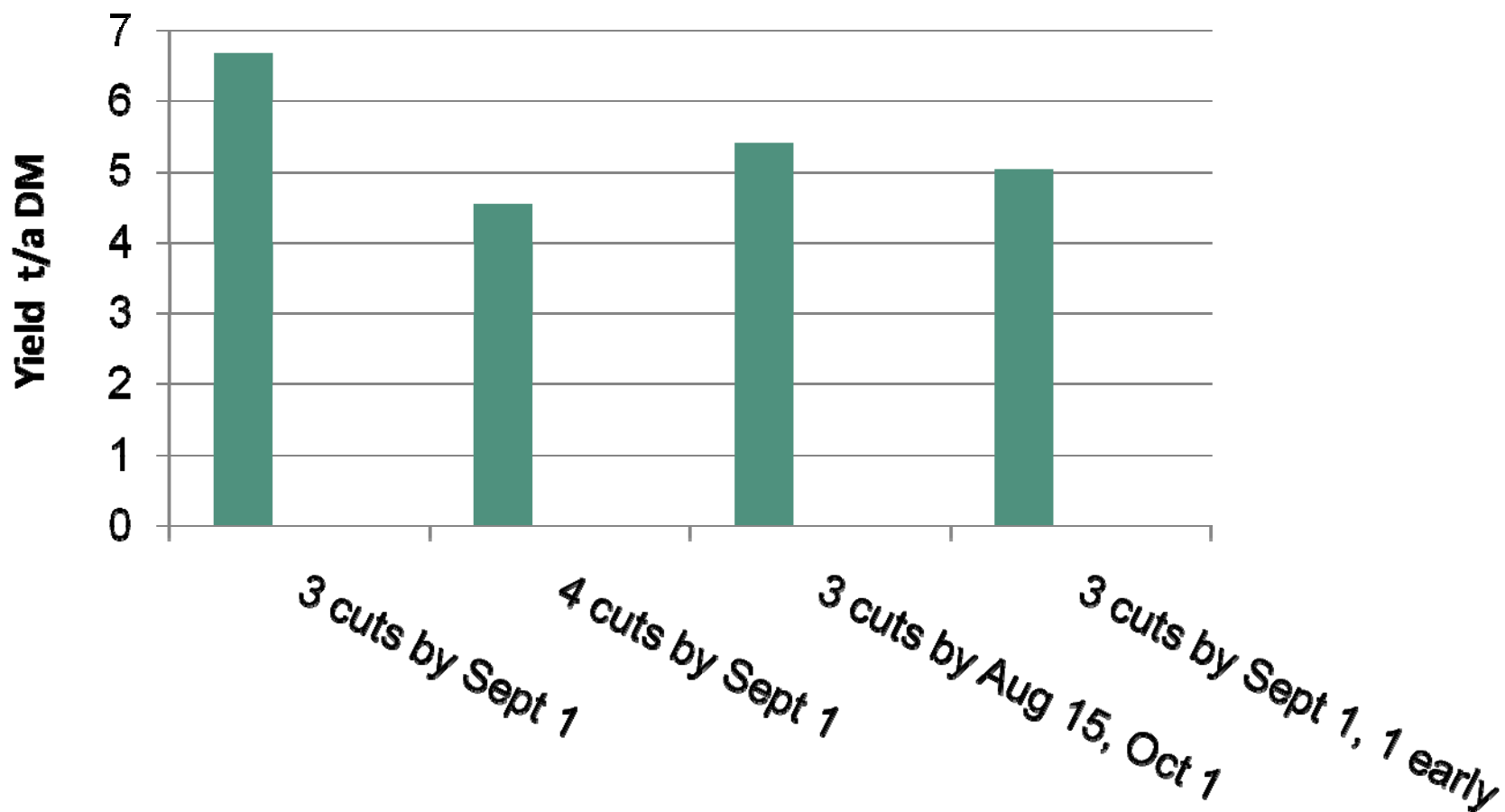
Yield of three vs four cuttings of alfalfa



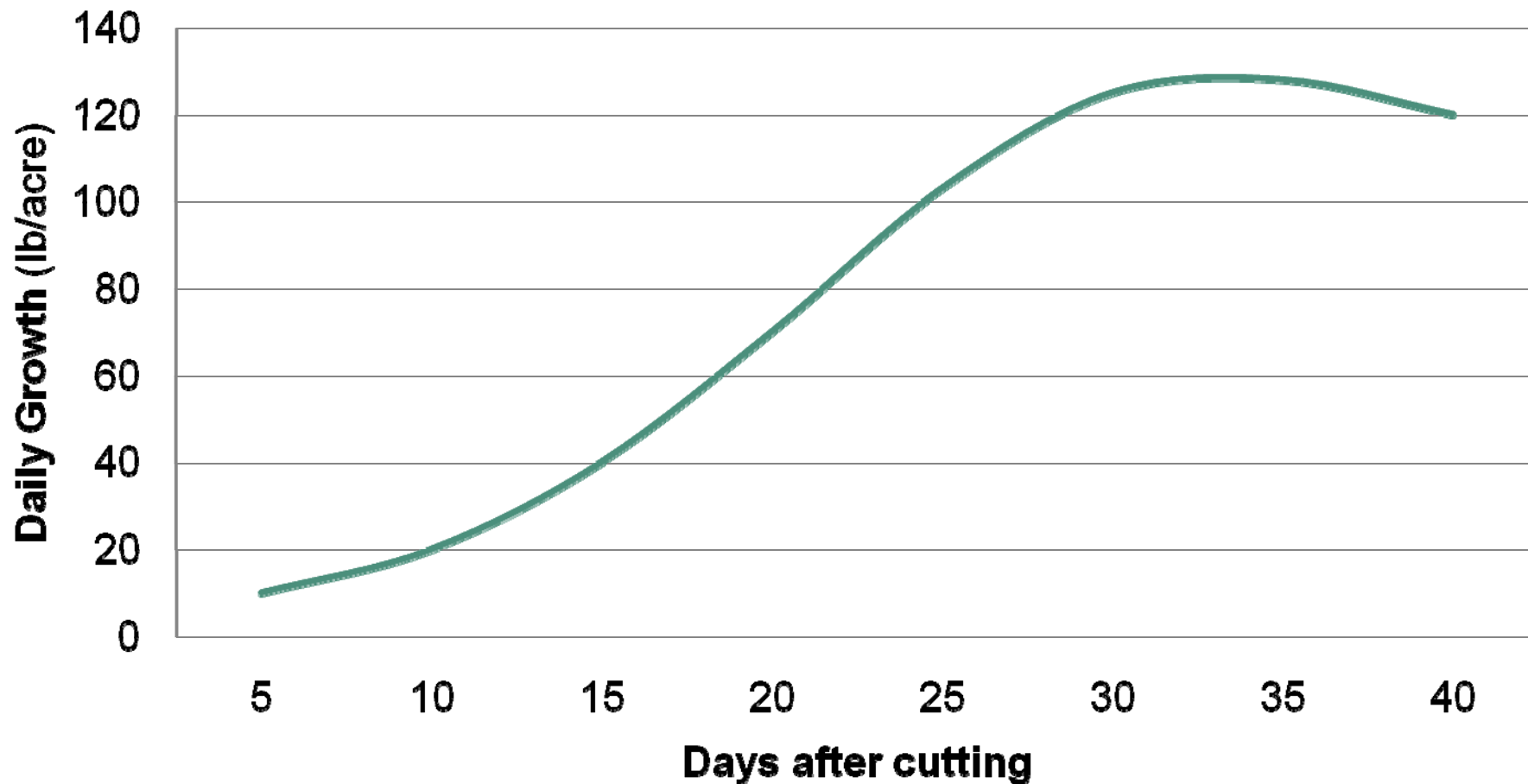
Yield of three vs four cuttings of alfalfa



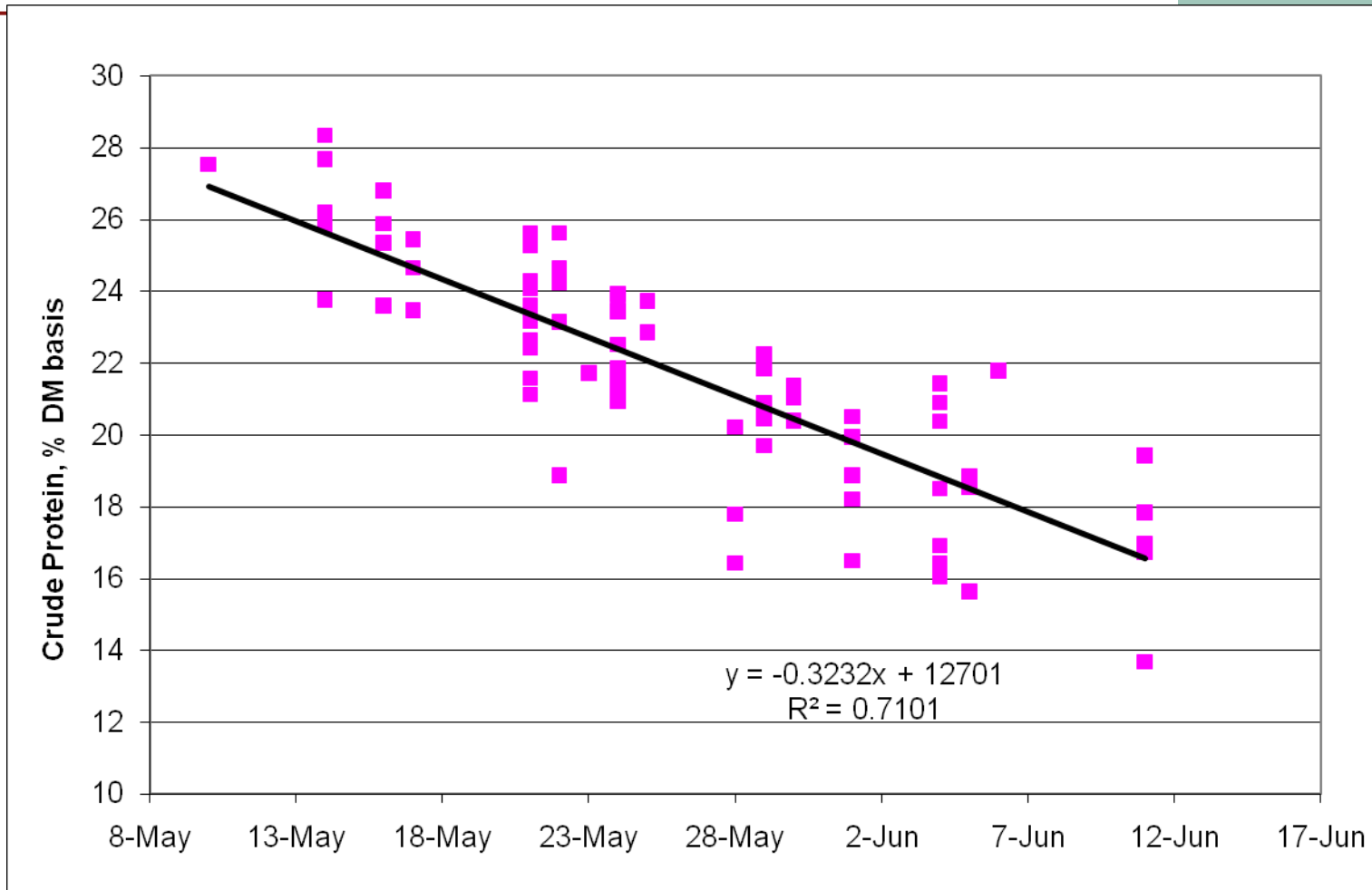
Yield of three vs four cuttings of alfalfa



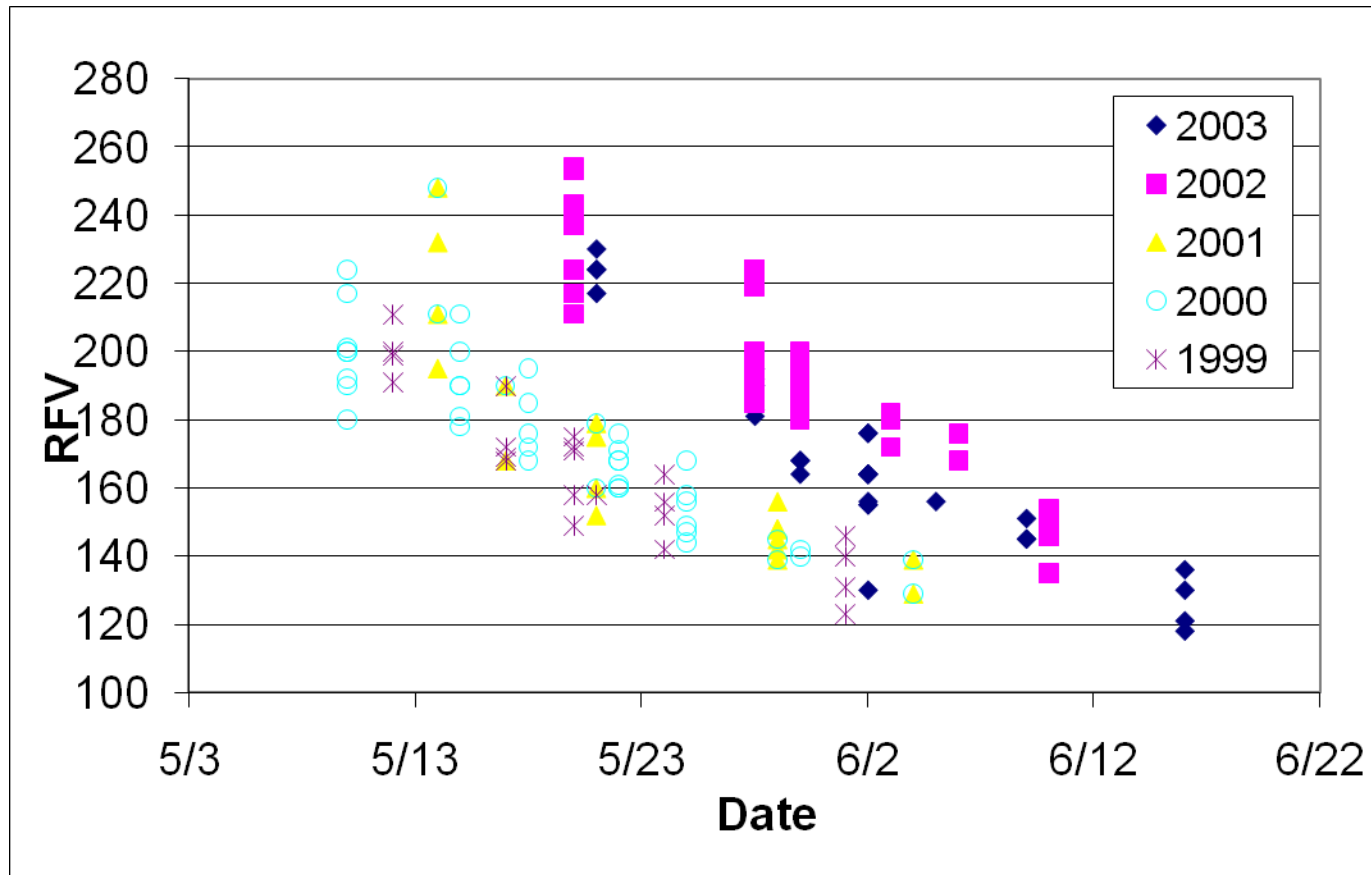
Alfalfa Growth Each Day after Cutting



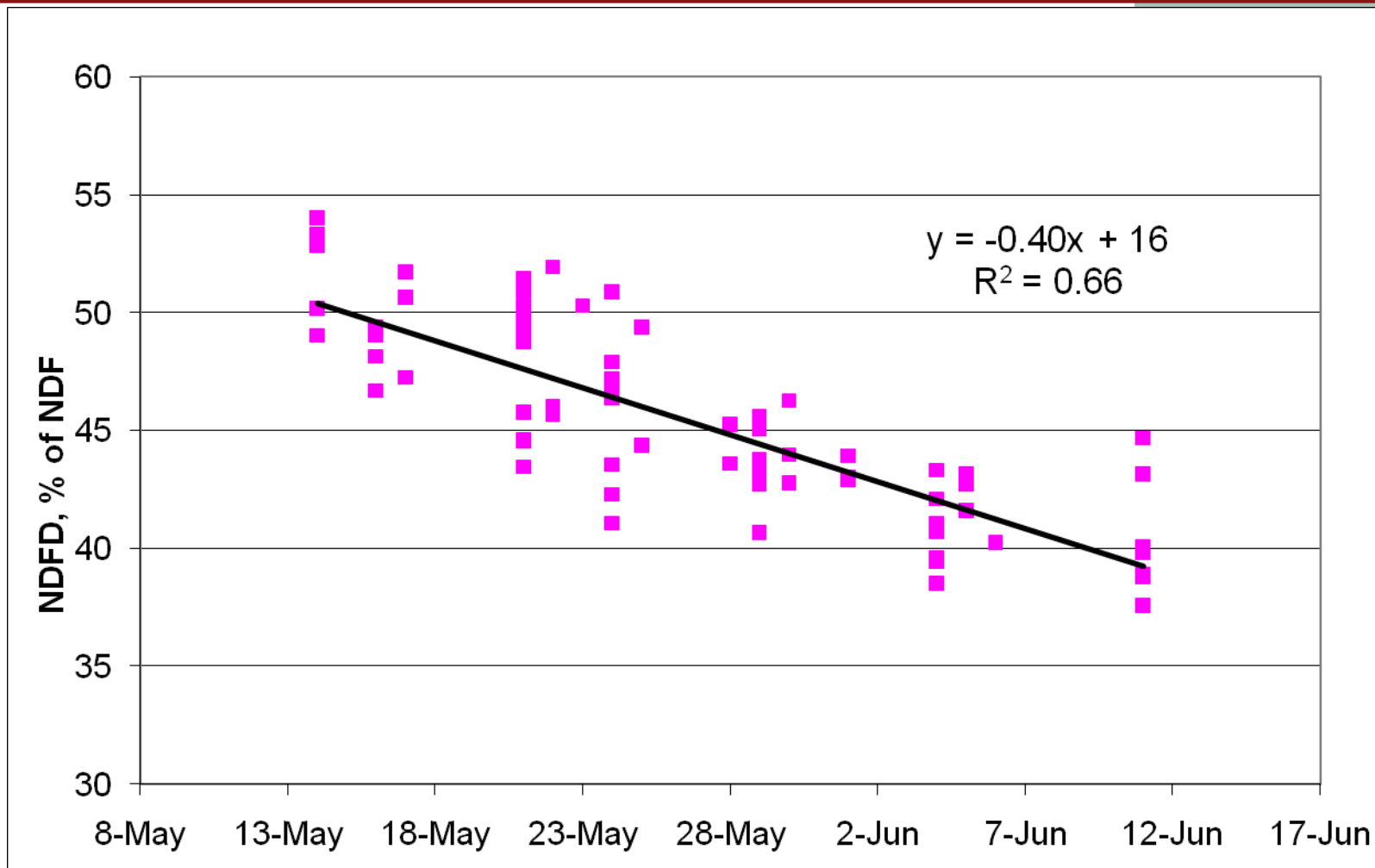
Crude Protein Change over Time, 2007



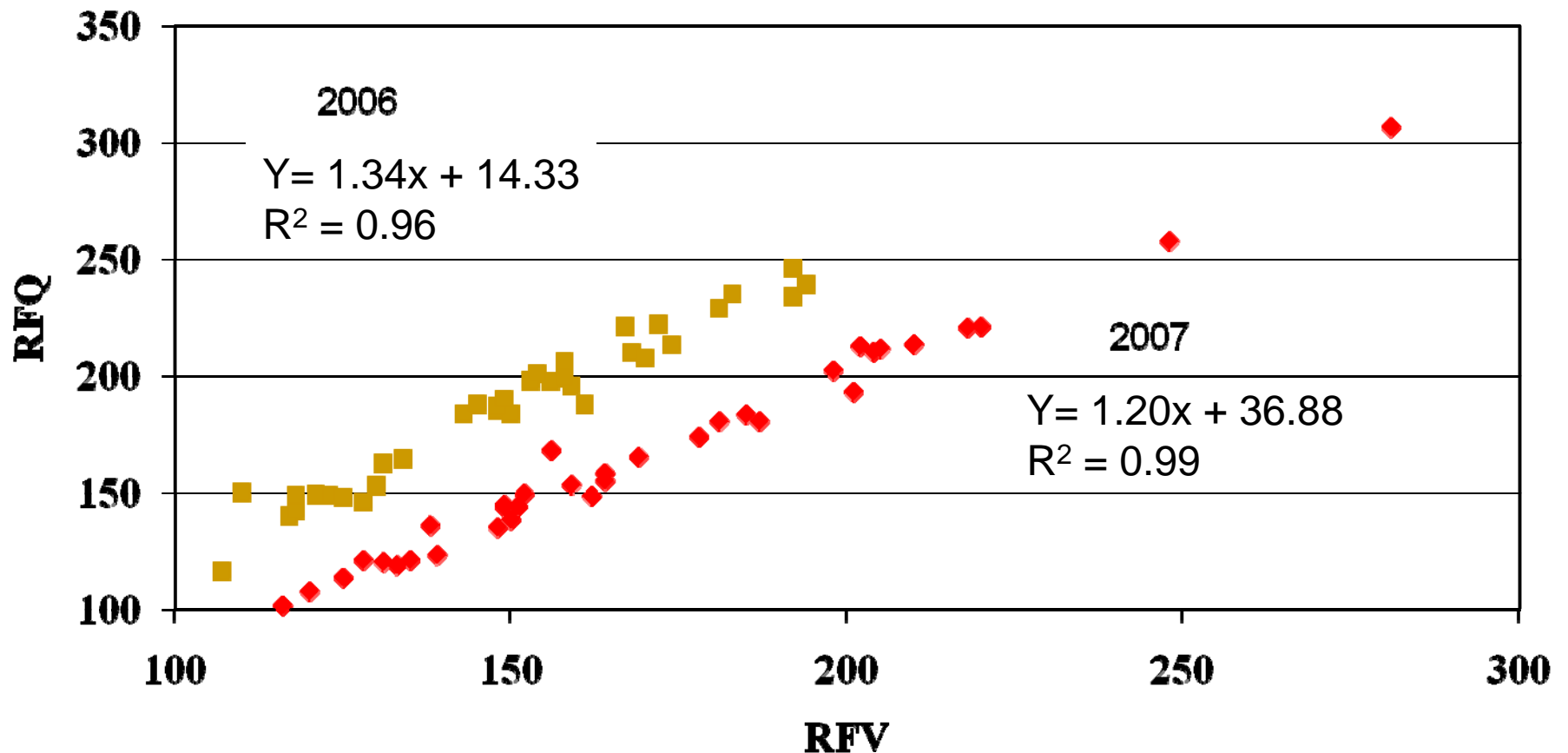
Alfalfa RFV loss with Advancing Maturity in the Spring



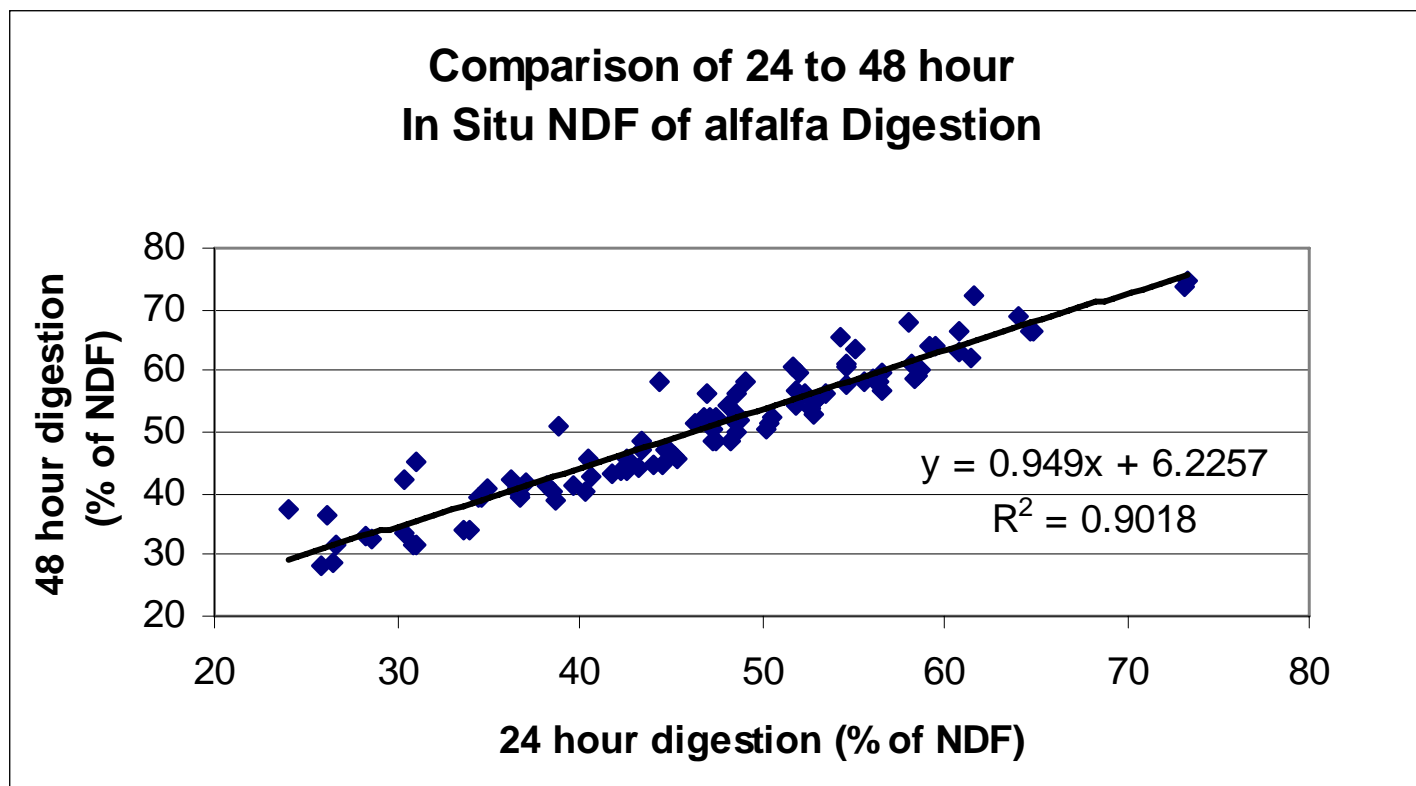
Change in fiber digestibility over time



Comparison of RFV to RFQ for 3 Wisconsin Counties, 2006 and 2007



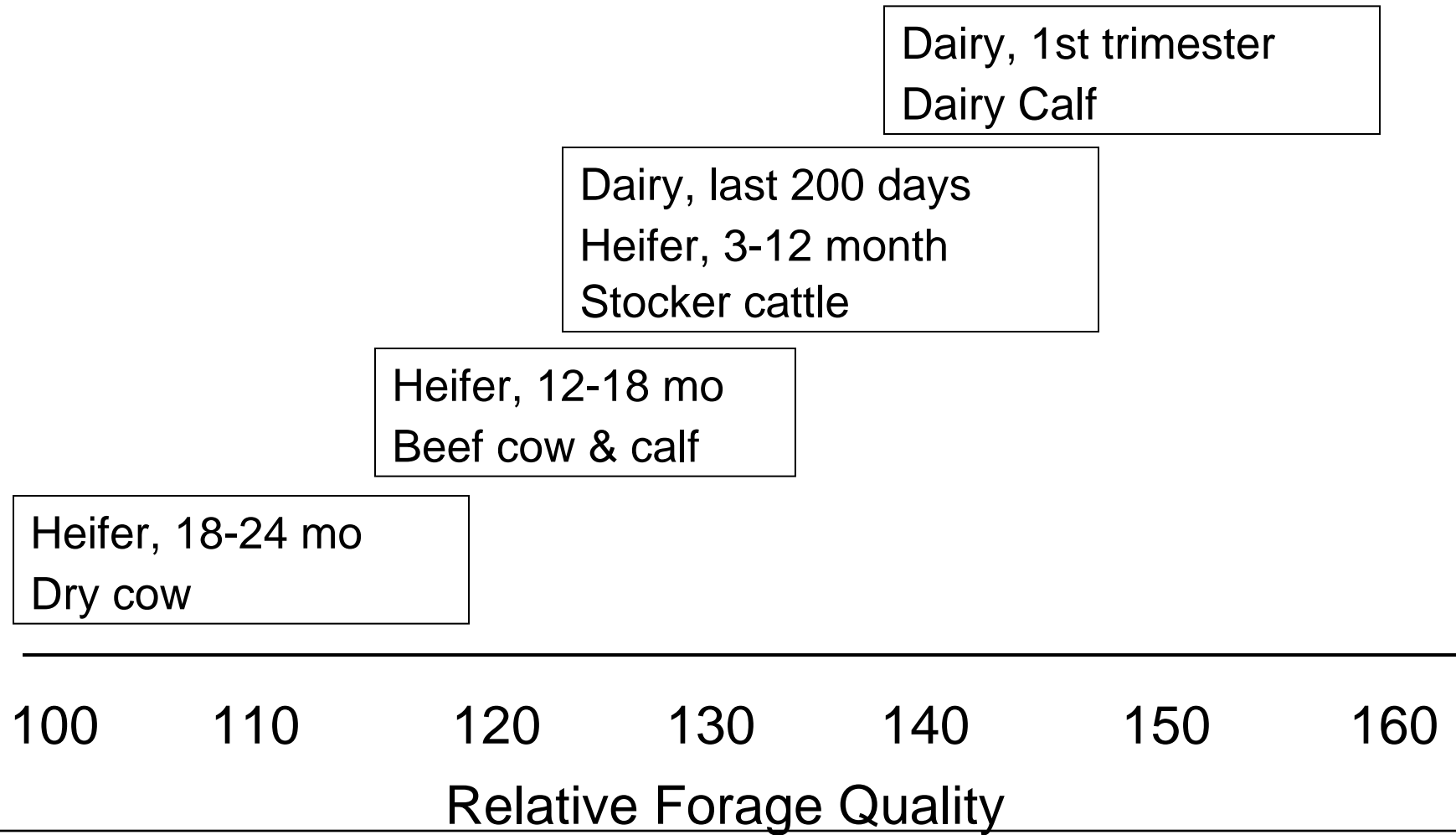
Alfalfa Digestion



Effective Balancing of Yield and quality

- Feed the lowest quality necessary for performance

Forage Quality Needs of Cattle



Effective Balancing of Yield and quality

- Feed the lowest quality necessary for performance
- If both grower and dairyman, benefit to quality in milk production

Effective Balancing of Yield and quality

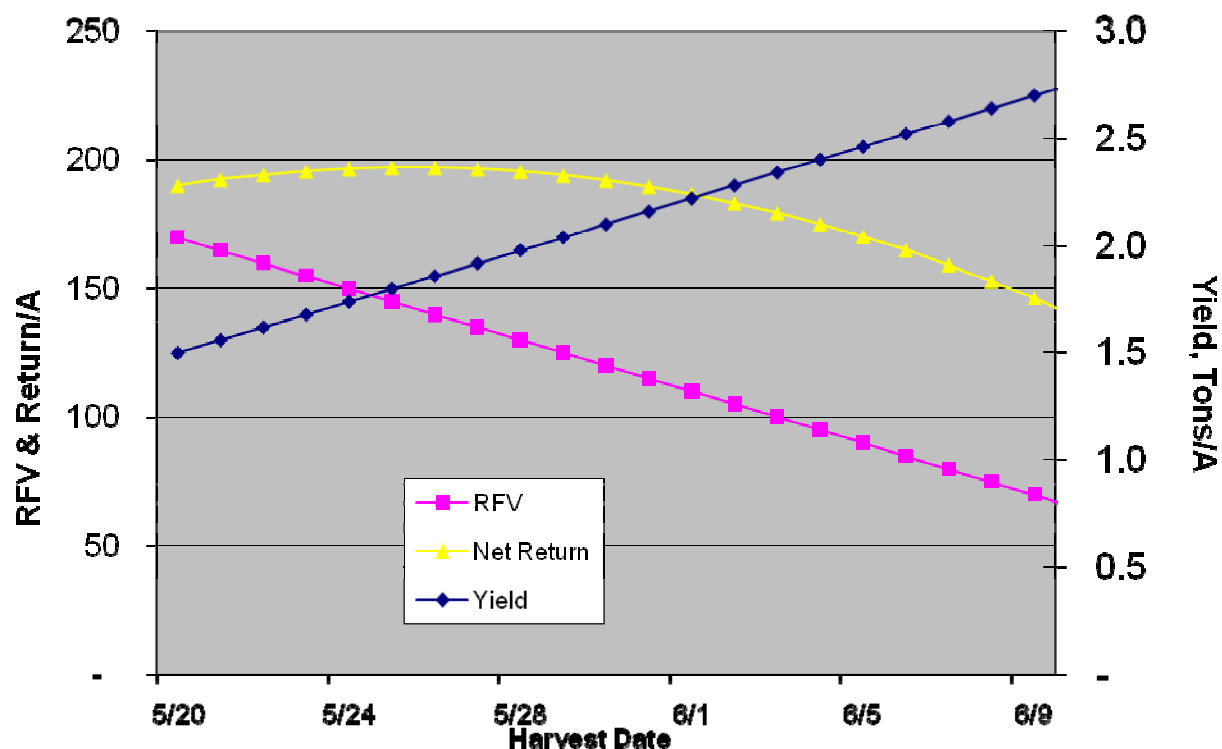
- Feed the lowest quality necessary for permance
- If both grower and dairyman, benefit to quality in milk production
- If grower selling to dairyman – consider value of quality

Effective Balancing of Yield and Quality

Parameters

Yield change/day 100 lb
 RFV change/day 5
 \$/RFV \$1.00
 Cost to harvest additional ton \$15.00

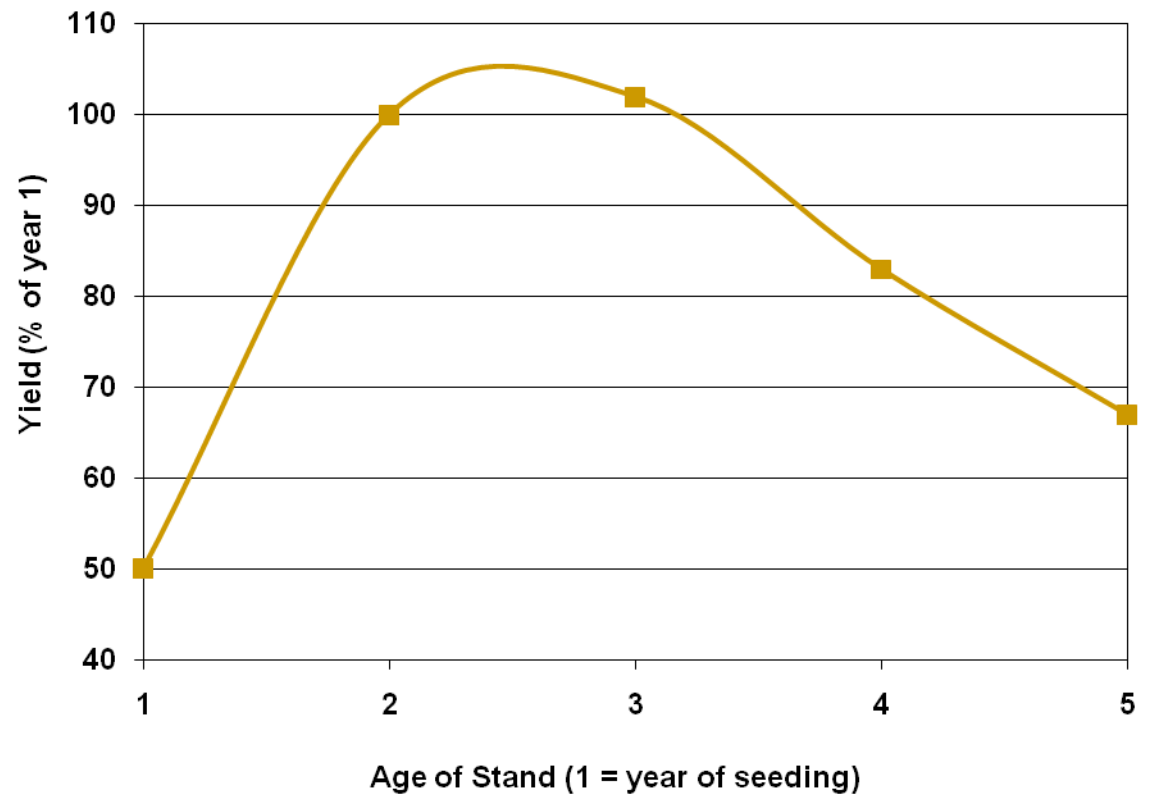
Hay Crop Quantity, Nutritional Quality, and Net Return Per Acre as Harvest Date Is Delayed



What can Grower Do to Decrease Production Cost?

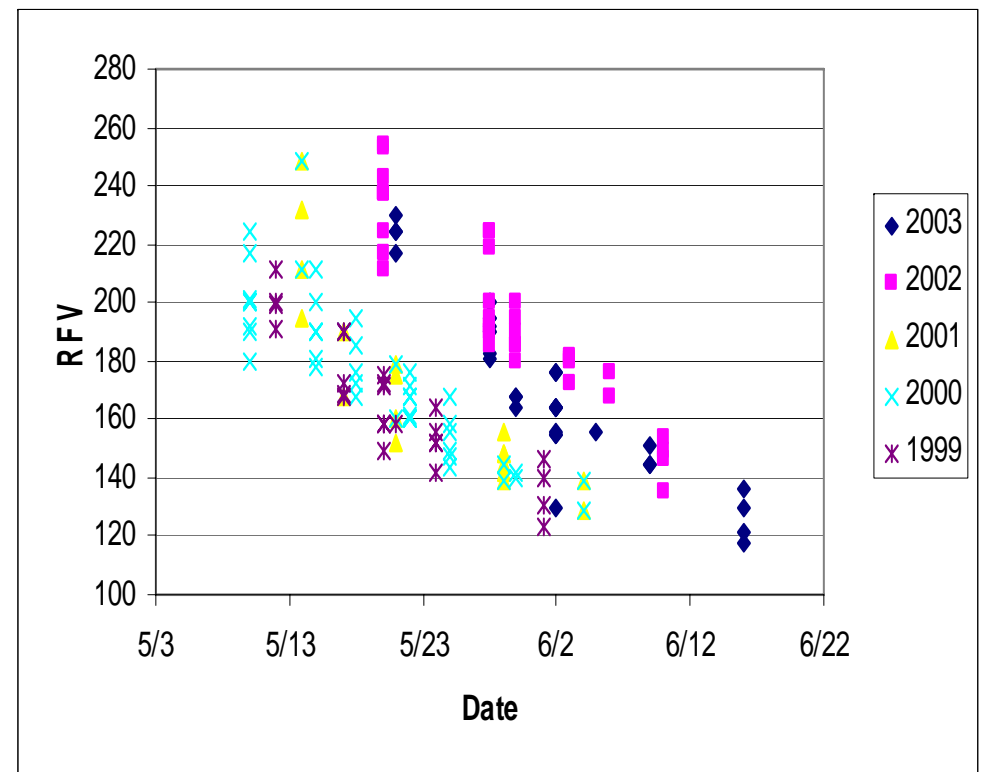
What can Grower Do to Decrease Production Cost?

- Maximize yield



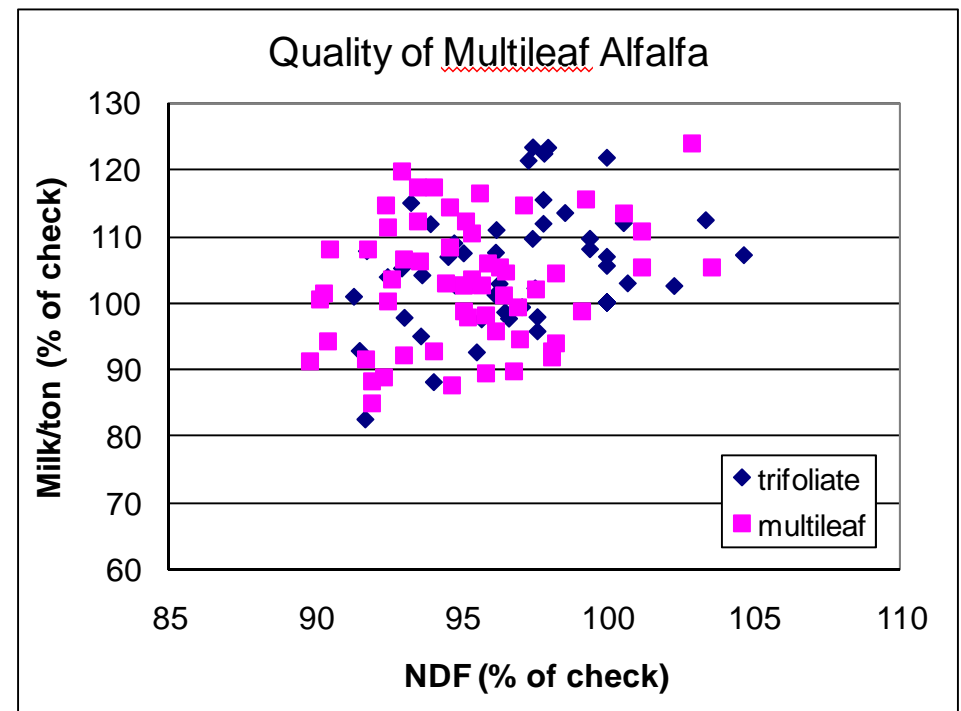
What can Grower Do to Decrease Production Cost?

- Maximize yield
- Harvest for quality
 - Timely Harvest



What can Grower Do to Decrease Production Cost?

- Maximize yield
- Harvest for quality
 - Timely Harvest
 - Multileaf neutral



What can Grower Do to Decrease Production Cost?

- Maximize yield
- Harvest for quality
 - Timely Harvest
 - Multileaf neutral
 - Minimize ash

Ash Content of Forage Samples UW Marshfield Lab		
Type	Statistic	% Ash
Haylage	Average	12.3
	Max	18.0
	Min	5.7
Hay	Average	10.3
	Max	17.6
	Min	8.8

What can Grower Do to Decrease Production Cost?

- Maximize yield
- Harvest for quality
 - Timely Harvest
 - Multileaf neutral
 - Minimize ash
 - Cutting height
 - Knife angle
 - Hay on stubble
 - Raking

Ash Content of Forage Samples UW Marshfield Lab		
Type	Statistic	% Ash
Haylage	Average	12.3
	Max	18.0
	Min	5.7
Hay	Average	10.3
	Max	17.6
	Min	8.8

What can Grower Do to Decrease Production Cost?

- Maximize yield
- Harvest for quality
 - Timely Harvest
 - Multileaf neutral
 - Minimize ash
- Storage
 - Who stores?
 - Minimize Loss



New Traits for Forage Quality

- Low lignin alfalfa
- High bypass protein alfalfa
- Biomass
 - Separate leaves and stems

Questions or comments?



Short cutting cycle - Alfalfa yield from 21 and 35 day mowing

	1 st cut	2 nd cut	3 rd Cut	4 th Cut	Total
21 day cutting schedule					
IA	1.31	0.67	0.18	0.36	2.52
WI	1.17	0.62	0.60	0.55	2.93
35 day cutting schedule					
IA	1.25	1.05	0.58		2.88
WI	1.75	1.44	1.07		4.26