

WHAT TO LOOK FOR WHEN FEEDING THIS YEARS FORAGE

2016 WORLD DAIRY EXPO FORAGE
SEMINAR SERIES

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**ROCK RIVER
LABORATORY, INC.**
AGRICULTURAL ANALYSIS

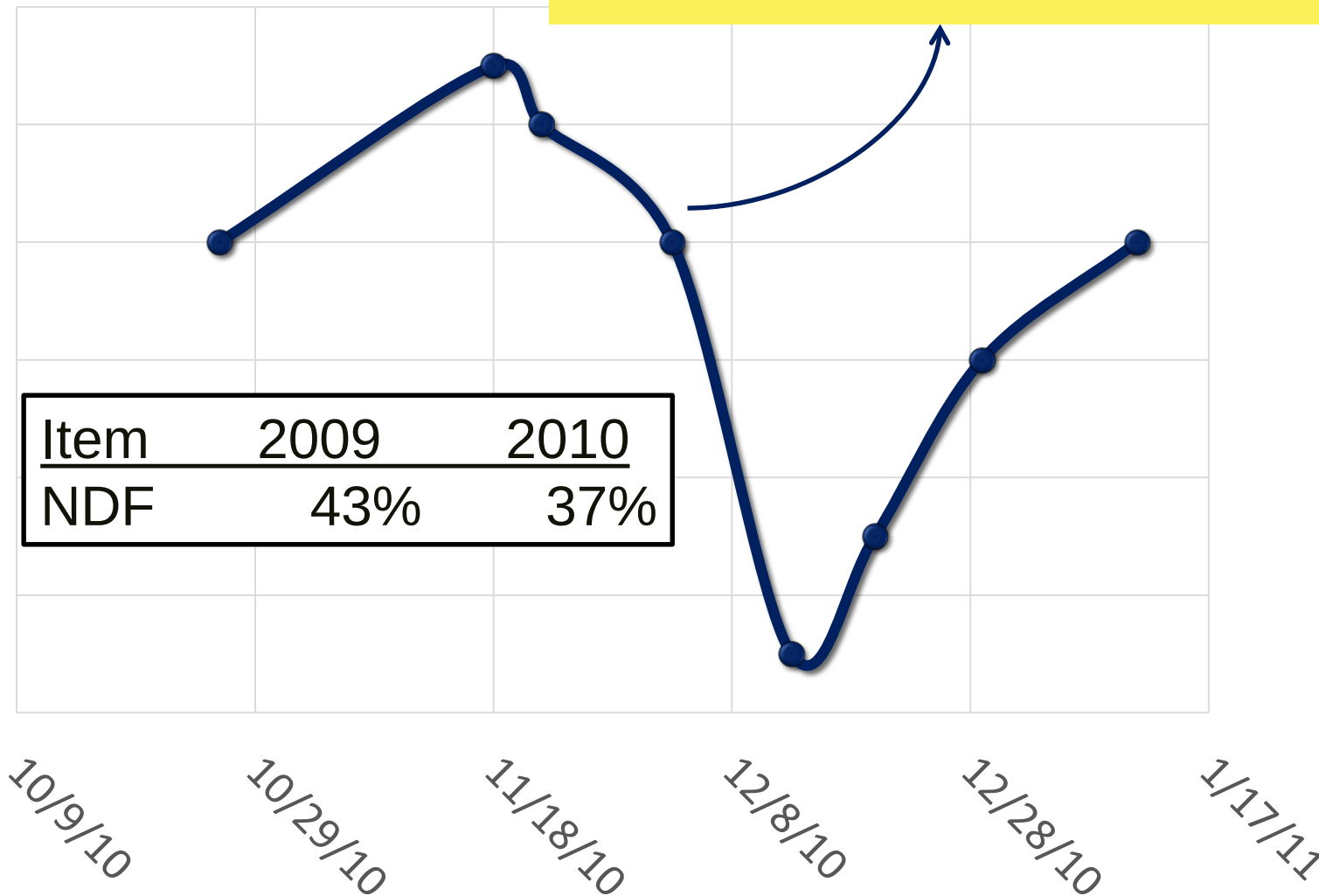




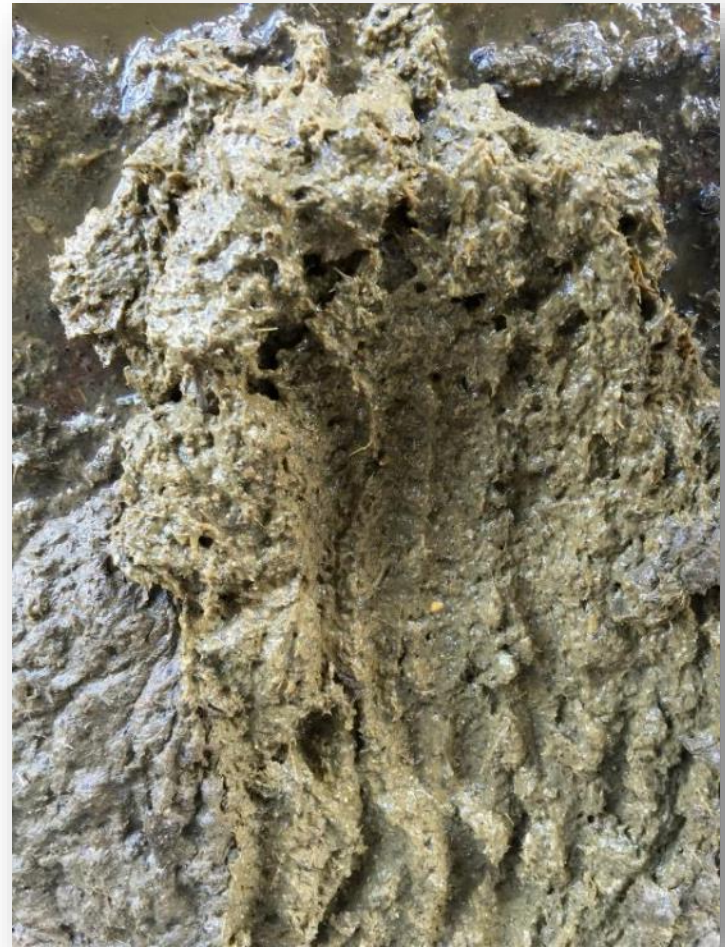
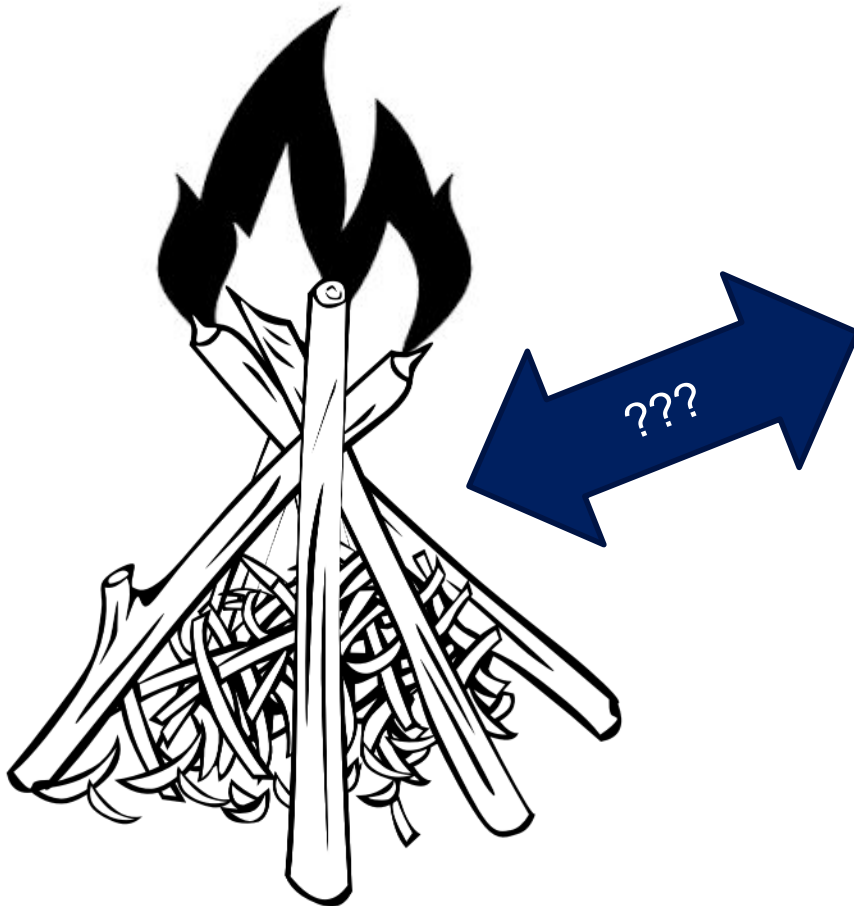
Lb. milk

Switched from 2009 to 2010 CS

Item	2009	2010
NDF	43%	37%



The Carbohydrate Campfire



Fuel!



Speed!



What to look for!?!?

1. Fiber & Starch

2. NDFD30 / NDF k_d & uNDF240

3. TTNDFD (Combs, 2013)

- Goal > 46-48

4. Rumen *in situ* Starch Digestion

- Goal > 80

5. Nutrition robbers!?!?

Feed Analysis Report			
 ROCK RIVER LABORATORY INC. AGRICULTURAL ANALYSIS		620-261-0446 office@rockriverlab.com www.rockriverlab.com	Representative: UK Goldstream Dairy 2405 2815 Georgetown Road Lexington, KY 40511
Corn Silage 2015 UK Goldstream Dairy		Dry Matter 35.42% Moisture 64.58%	
Description (%DM unless specified)	Dry Matter Basis	Corn silage 60 dy Avg	4 yr Avg
Crude Protein	7.19	7.96	7.65
Soluble Protein, %CP	57.72		46.88
ADCP	0.62	0.71	0.66
NDICP	0.91		1.19
ADF	24.19	24.31	
uADF	30.77	30.04	44.40
uNDFom	38.11	37.75	40.41
Calcium	0.15	0.21	0.23
Phosphorus	0.20	0.21	
Magnesium	0.08	0.15	
Potassium	0.85	0.93	0.92
Sodium	ND*	0.01	0.04
Sulfur	0.08	0.10	0.11
Chloride	0.15	0.24	0.37
Fat (EE)	2.80	2.53	2.12
Ash	4.36	4.03	4.13
Lignin	3.28	3.64	2.77
Sugar (ESC)	1.98	1.61	1.35
Sugar (WSC)	4.02		3.05
Starch	32.78	31.82	32.00
Fermentation Products			
Lactic Acid	5.36	3.49	
Acetic Acid	0.63	2.22	
Butyric Acid	0.07	0.10	
Ammonia-N CP Equivalent	1.03	0.99	
Ammonia-N, %CP	14.29	12.37	
pH	4.38		4.36
CNCPS Inputs			
NDPD 30, %NDF	56.05	53.98	54.06
NDPD 120, %NDF	60.27	62.27	77.10
NDPD 240, %NDF	77.34		80.41
uNDF30	17.48		
uNDF240	9.01		8.70
In situ Rumen Starch D, % of Starch - 7hr	83.09		75.00
Calculations			
OCAD meg/100 gr	12.10	11.15	7.97
TTNDFD, %NDF	42.54	41.25	41.94
TTNDFD Deviation, %NDF	0.60		
Dynamic NDF Kd (using 24,30,48,240 hr) %/hr	4.12	4.22	3.72
Dynamic Starch Kd (using 3.7 hr) %/hr	24.58		
Milk 2006 Energy calculated using 30h Trd NDFD			
TDN 1X	73.33		
NEL 3x, Mcal/lb	0.721		
NEG, Mcal/lb	0.563		
NEM, Mcal/lb	0.852		
MEKton, lb	3437		
*ND - None Detected			
For analysis guidelines, please visit http://www.rockriverlab.com/Section/Feed/Analysis_Guidelines/index.html			
Comments			
Revised by JCF			

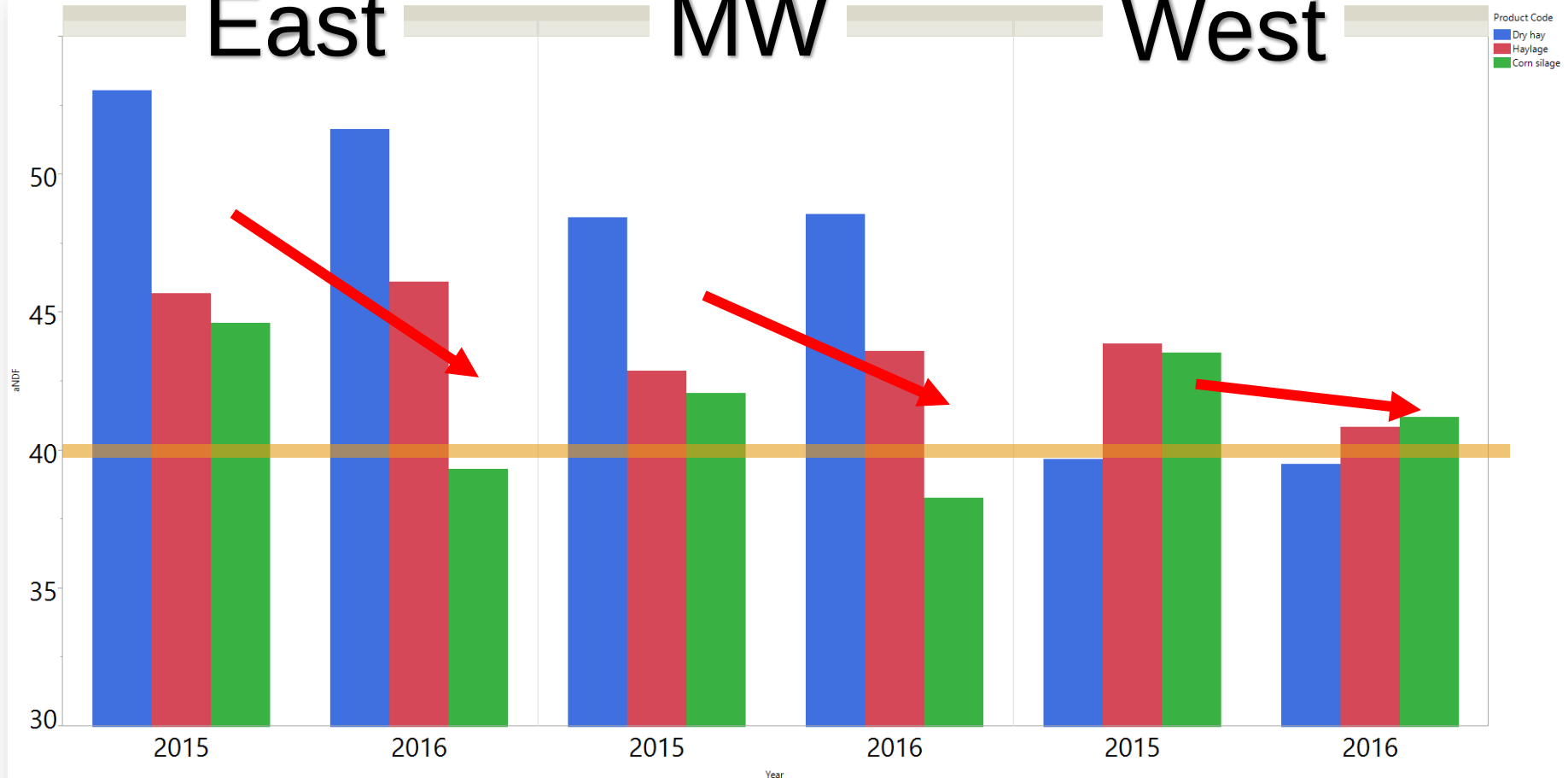


Fiber Levels

East

MW

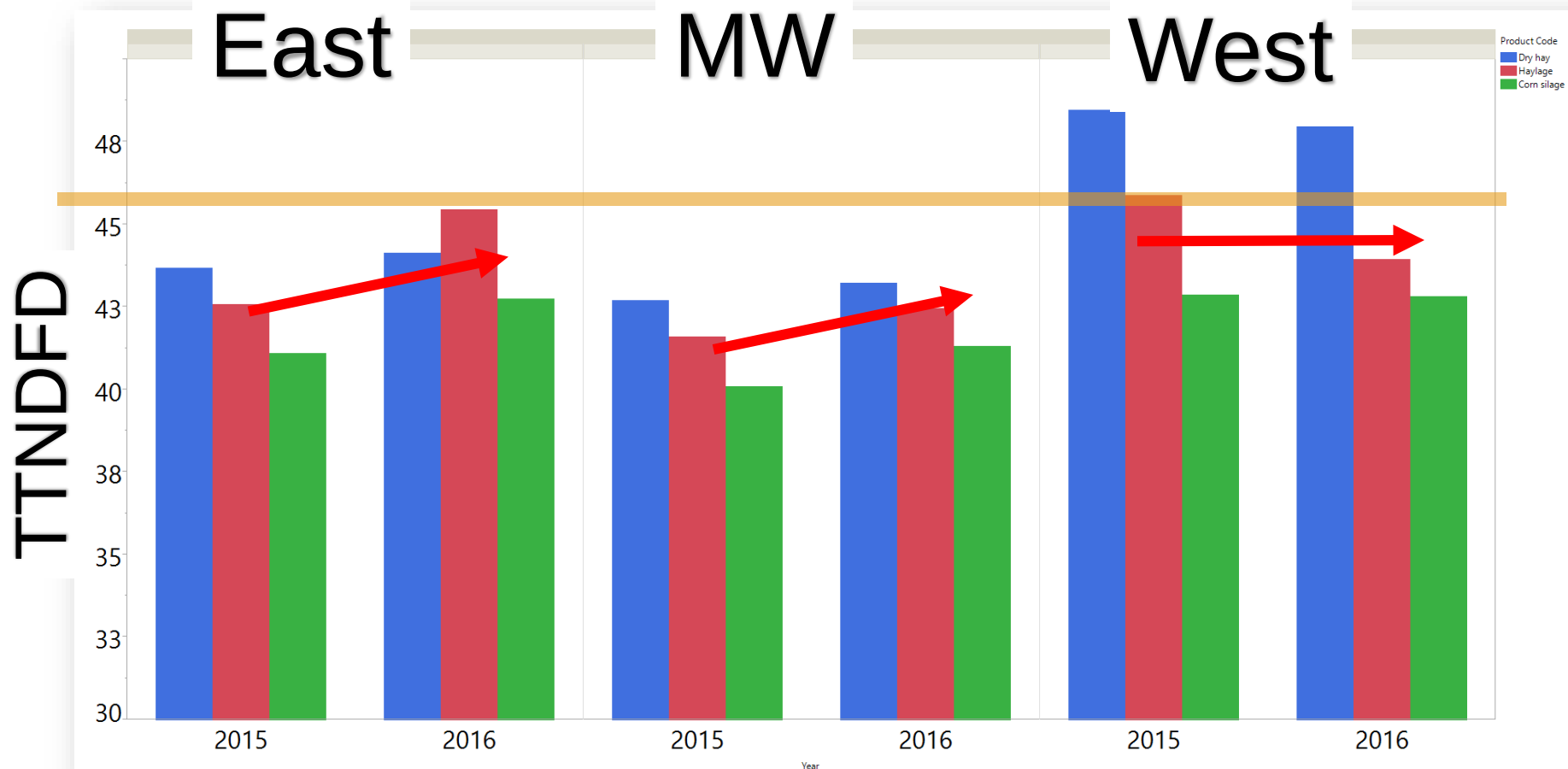
West



RFV

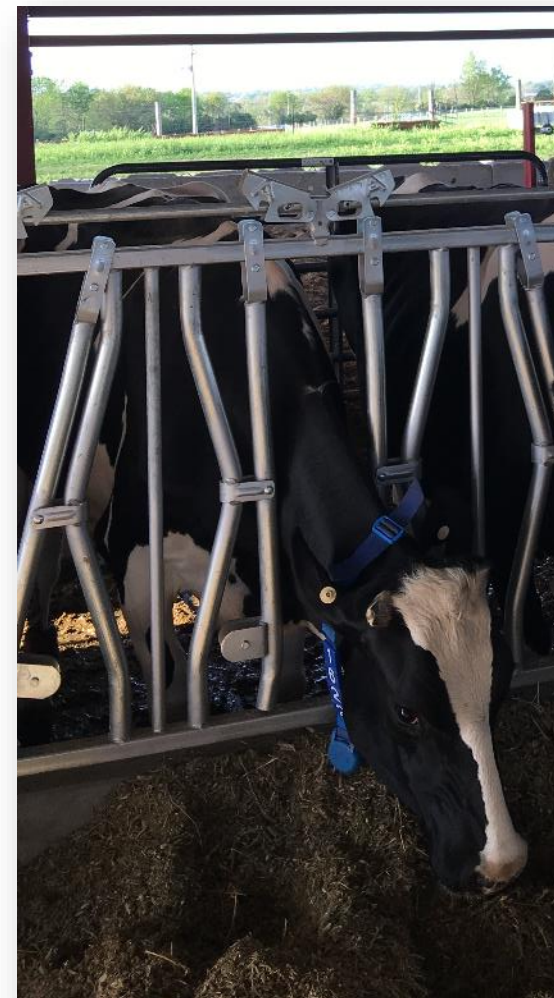


Fiber Quality



Eastern Dairymen?

- 2014 = 82.6 lbs. / cow
- 2015 = 81.8 lbs. / cow
- **2016 = 85.1 lbs. / cow**
 - **More milk / cow**



@ 20 lbs. Silage / 10 lbs. Haylage



Western Dairymen?

- 2014 = 82.5 lbs. / cow
- 2015 = 82.9 lbs. / cow
- 2016 = 83.4 lbs. / cow
- **Similar performance**



@ 20 lbs. Silage / 10 lbs. Hay



Midwestern Dairyman?

- 2014 = 82.1 lbs. / cow
- 2015 = 83.1 lbs. / cow
- **2016 = 85.1 lbs. / cow**
- *...The still unknown?*

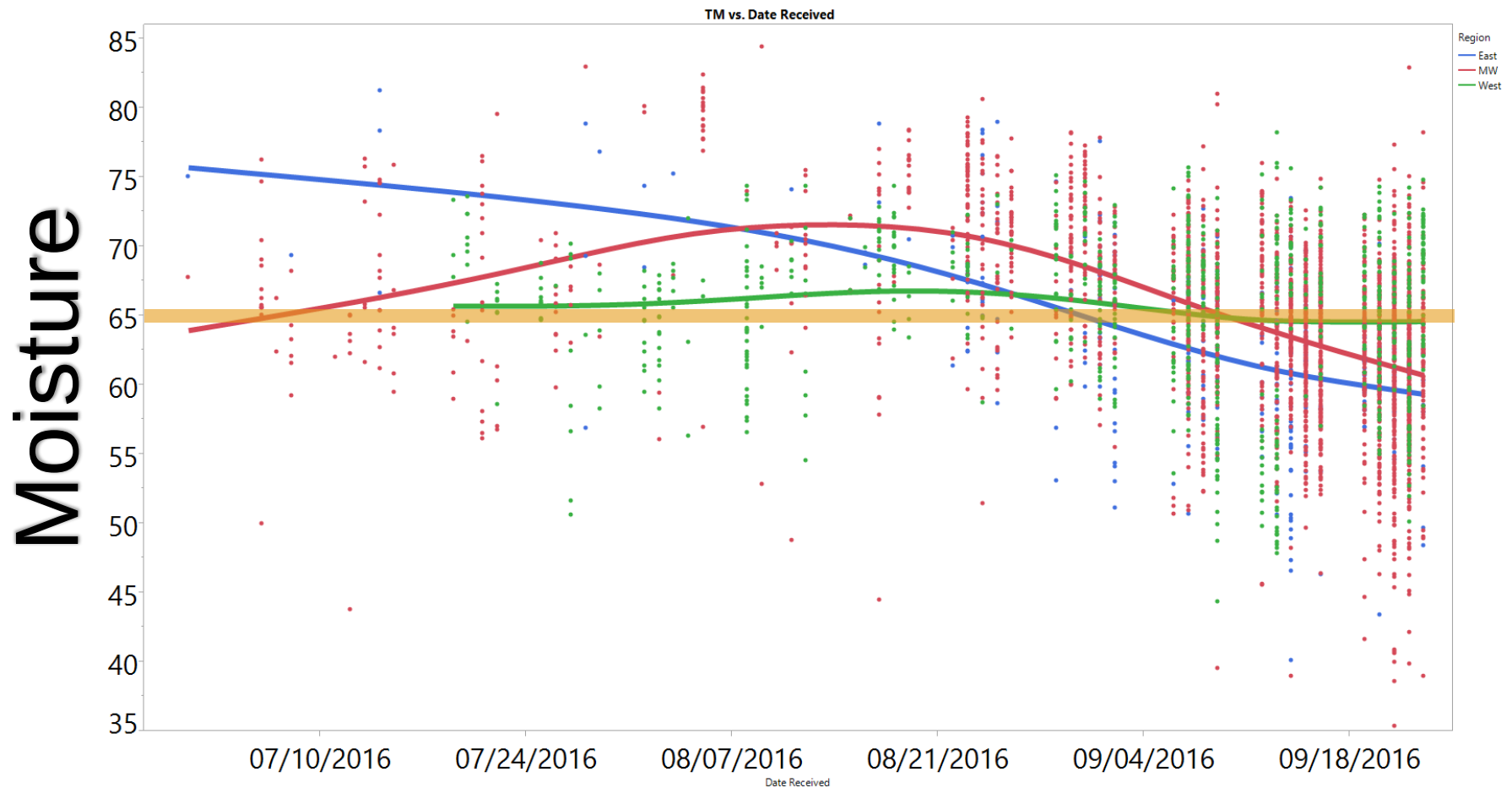


@ 20 lbs. Silage / 10 lbs. Haylage

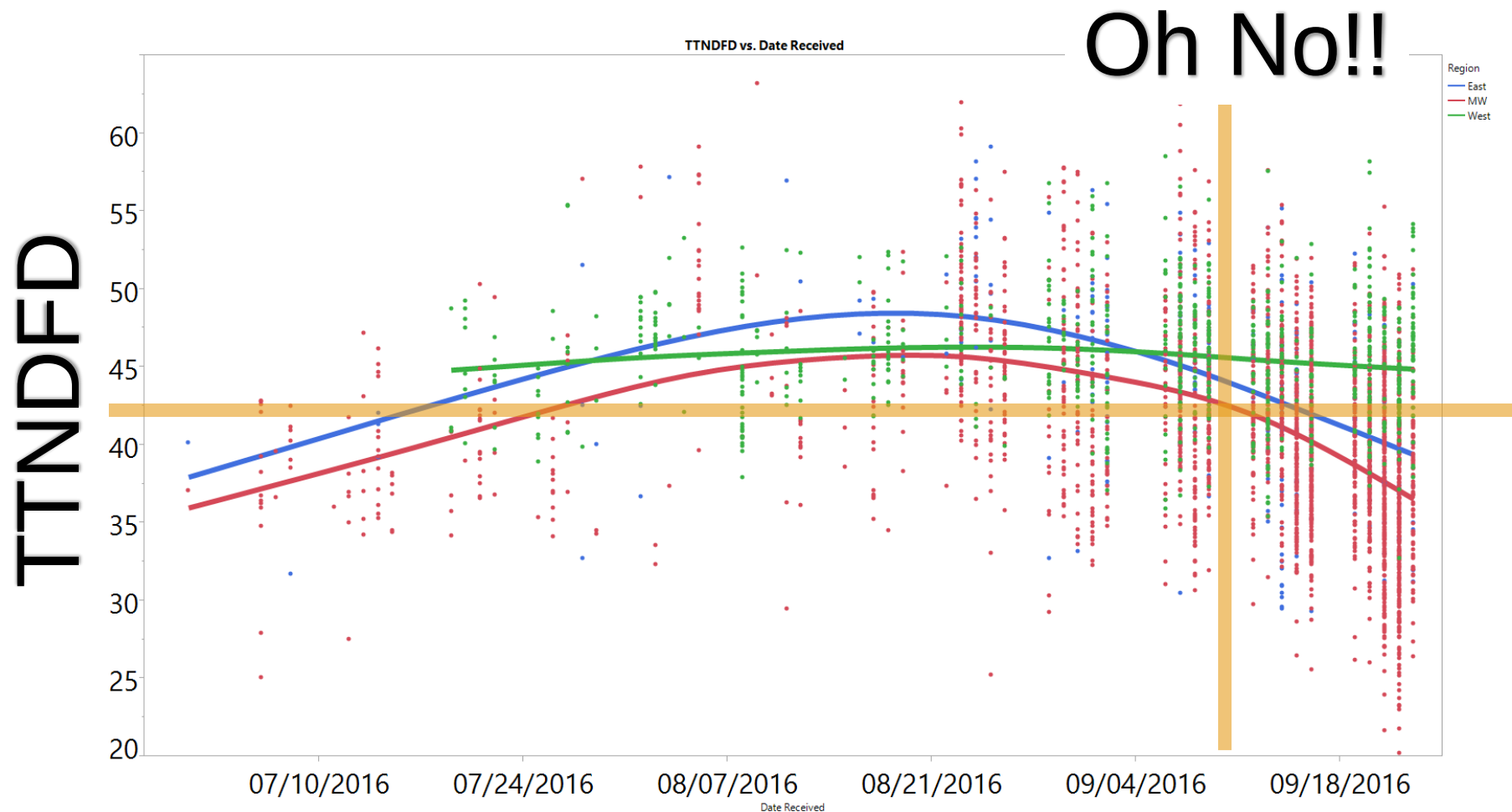




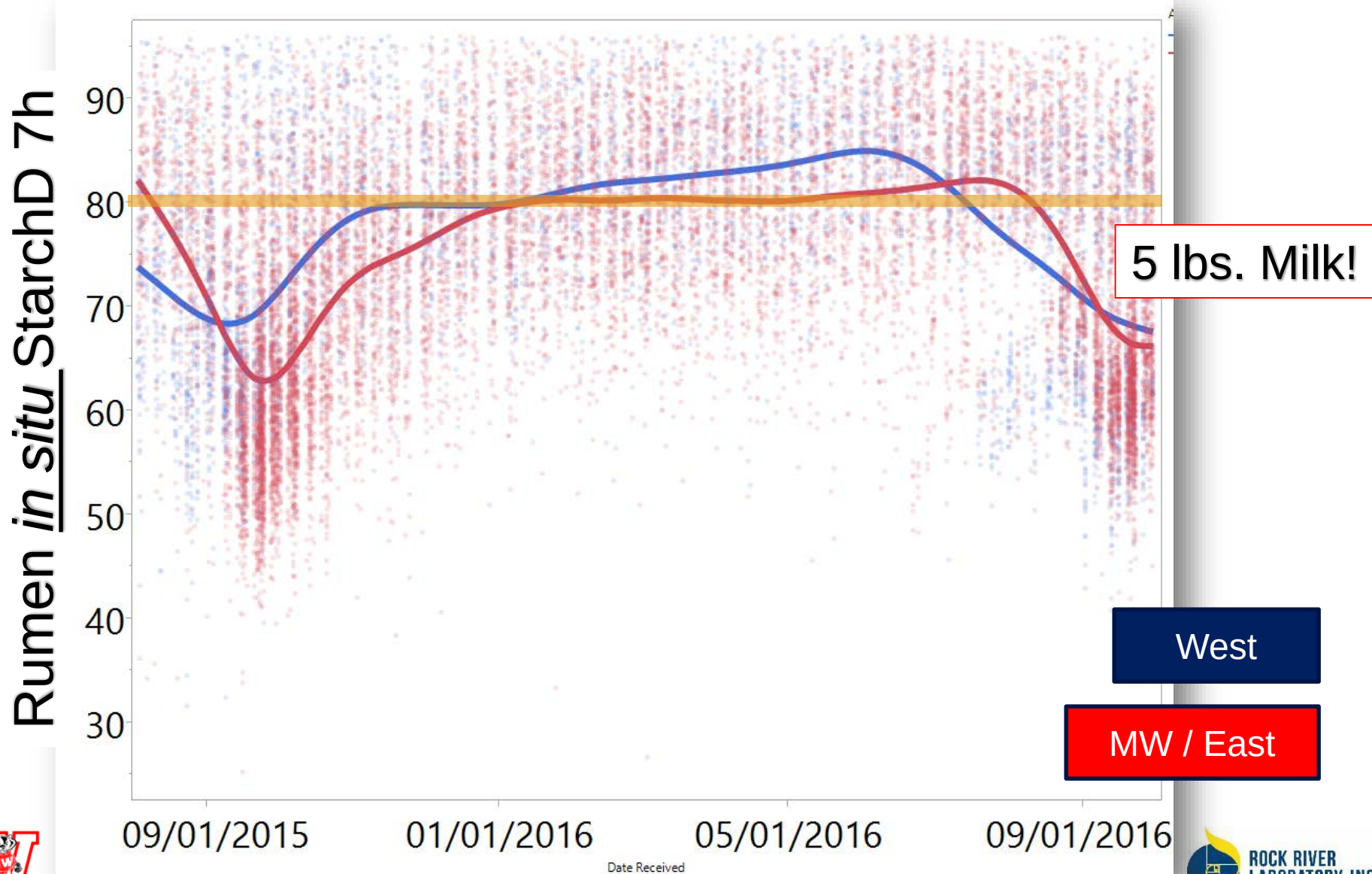
2016 Whole-Plant Chopped Corn



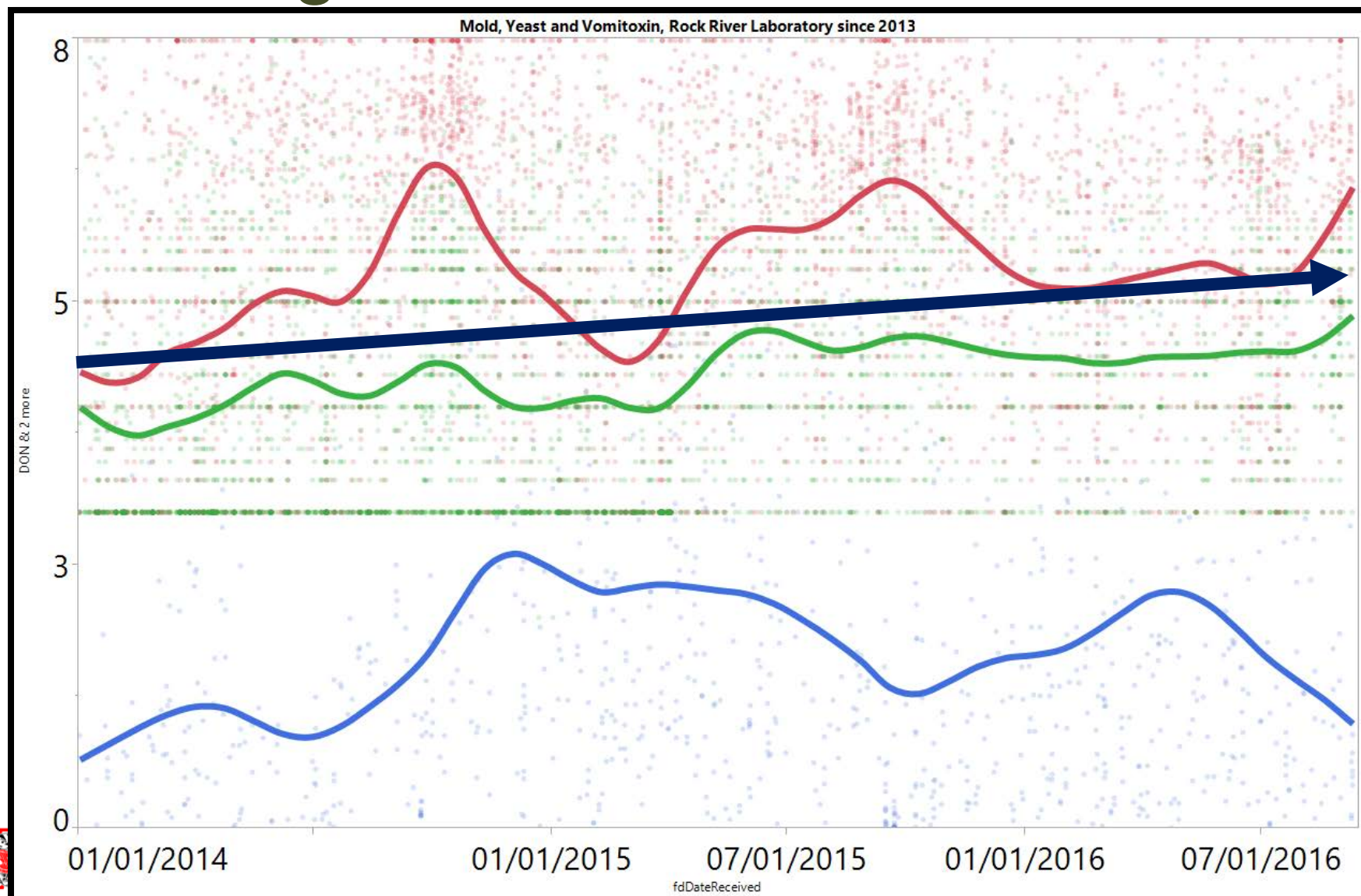
2016 Whole-Plant Chopped Corn



Corn Silage Starch?

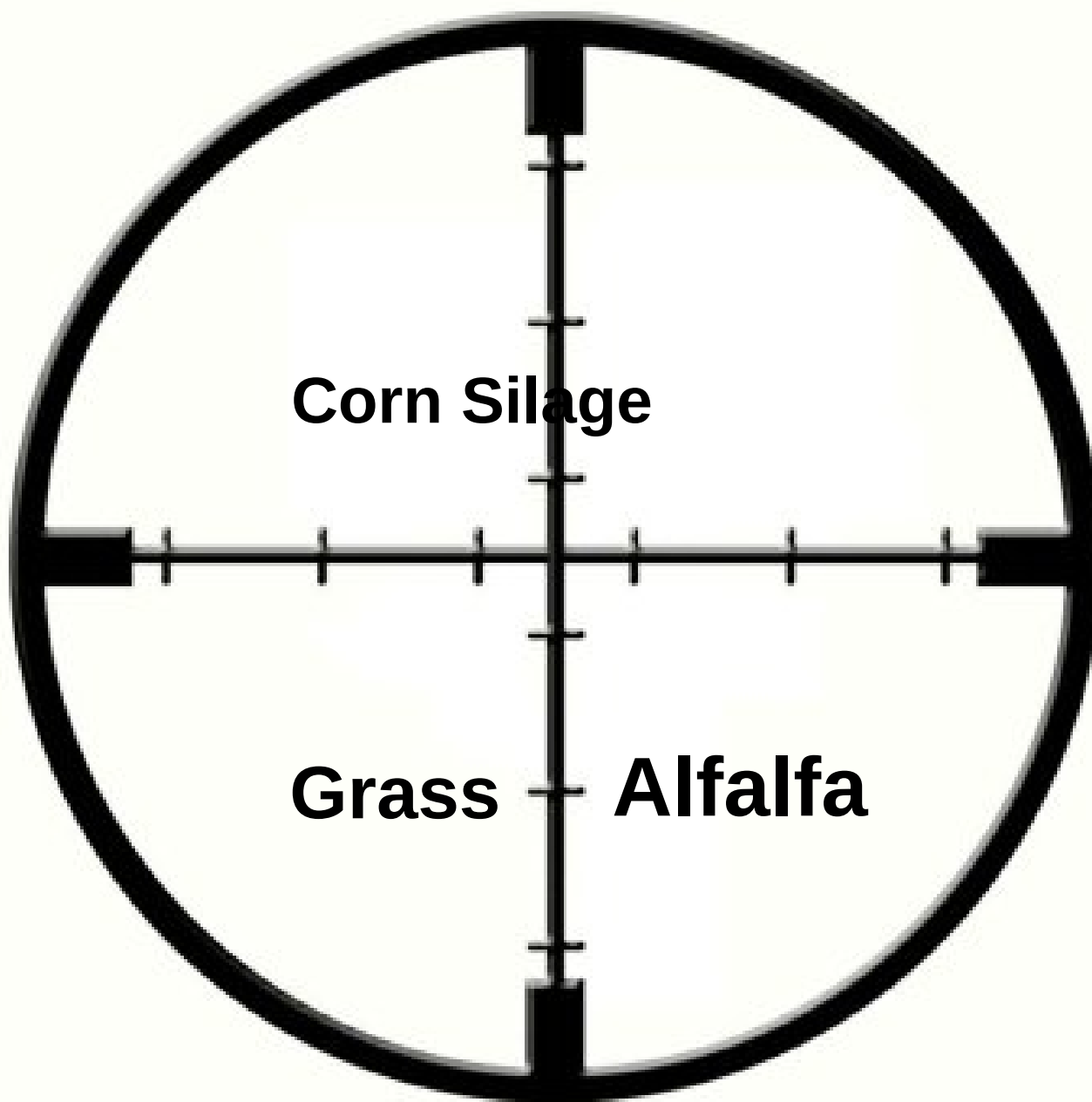


Robbing Nutrition?



So you want to get more milk / gain!?





Analysis Columns	Non-BMR	BMR	Rel. Change
TM	64.5	66.2	103%
CP	8.0	8.1	101%
aNDF	40.8	40.4	99%
ADF	25.3	24.9	99%
Lignin	3.8	3.2	83%
Sol. CP	58.4	60.7	104%
Starch	31.1	30.6	98%
SugarWSC	3.5	3.8	110%
ASH	4.3	4.3	100%
isSD7	78.8	81.8	104%
NDFD30T	52.7	61.4	116%
TTNDFD	41.0	48.4	118%
uNDF240	11.6	8.1	70%
NDFD240	72.1	80.2	111%



High cutting theory: 18" v 6"

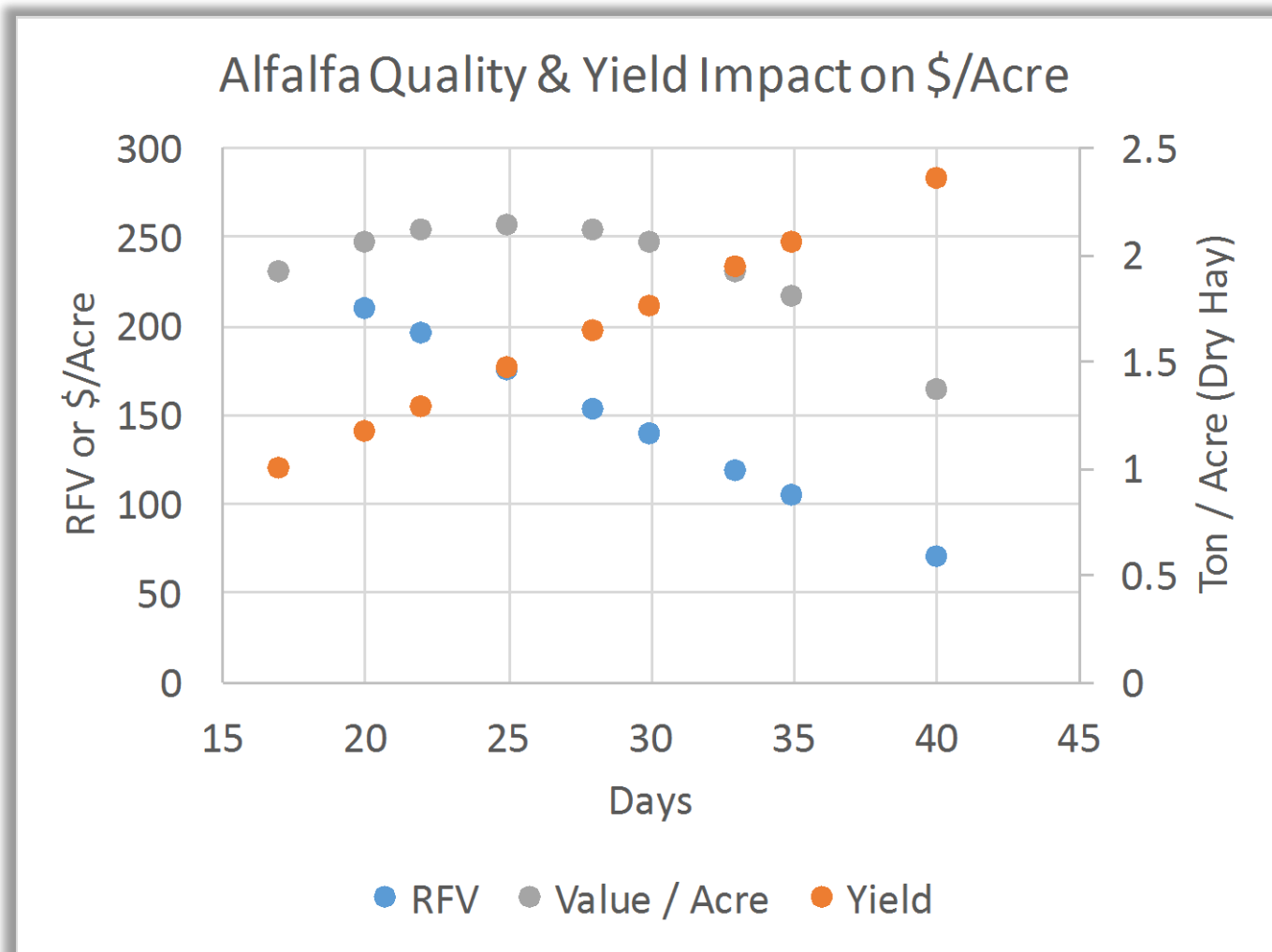


Cut Height, In.	18	6	
Predicted Nutrition Measures			
NDF, % of DM	39.8	42.4	
Starch, % of DM	30.2	28.1	
NDFD, % of NDF	50.8	48.8	
Predicted Yield Measures			
Yield, DM/ac	5.6	6.1	
Yield, As-fed/ac	16.1	17.4	
Economic Impact			
Yield \$/Acre @ \$35/ton	\$563.60	\$609.20	\$(45.60)
Milk/cow @ 20# CS, 54# DMI	90.79	89.49	1.3
Milk value / cow / d	\$15.89	\$15.66	\$0.23
Milk value / cow / year	\$5,799.21	\$5,716.17	\$83.04
Cows fed / acre	1.54		
Milk value / acre	\$8,954.62	\$8,826.40	\$128.22



Goeser – Hay & Forage Aug 20167

Hay and Haylage: Quality v Quantity



Yield gains per day estimated per Undersander (2008)

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