Looking Back On 2000 Highlights And Lowlights For Corn

Corn Observations For 2000

- Early planting. Set up for good yield potential.
- Good rainfall through silking.
- Lack of brace roots and increased lodging. Unknown reasons for lodging, probably a combination of all below.
  - ✓ Stalk cannibalism, parasitism, “hungry kernels”, self-destruction
  - ✓ Early drought induced potassium deficiency
  - ✓ Early-season Anthracnose, late-season Diplodia
  - ✓ High winds and hail
  - ✓ Harvesting lodged corn at 1 mph (time v. yield)
- Yield potential lowered by early rust and later drought stress after R3 (but did not show due to growth stage)
- Early senescence (due to early planting or drought?)
- Good yields with low moisture

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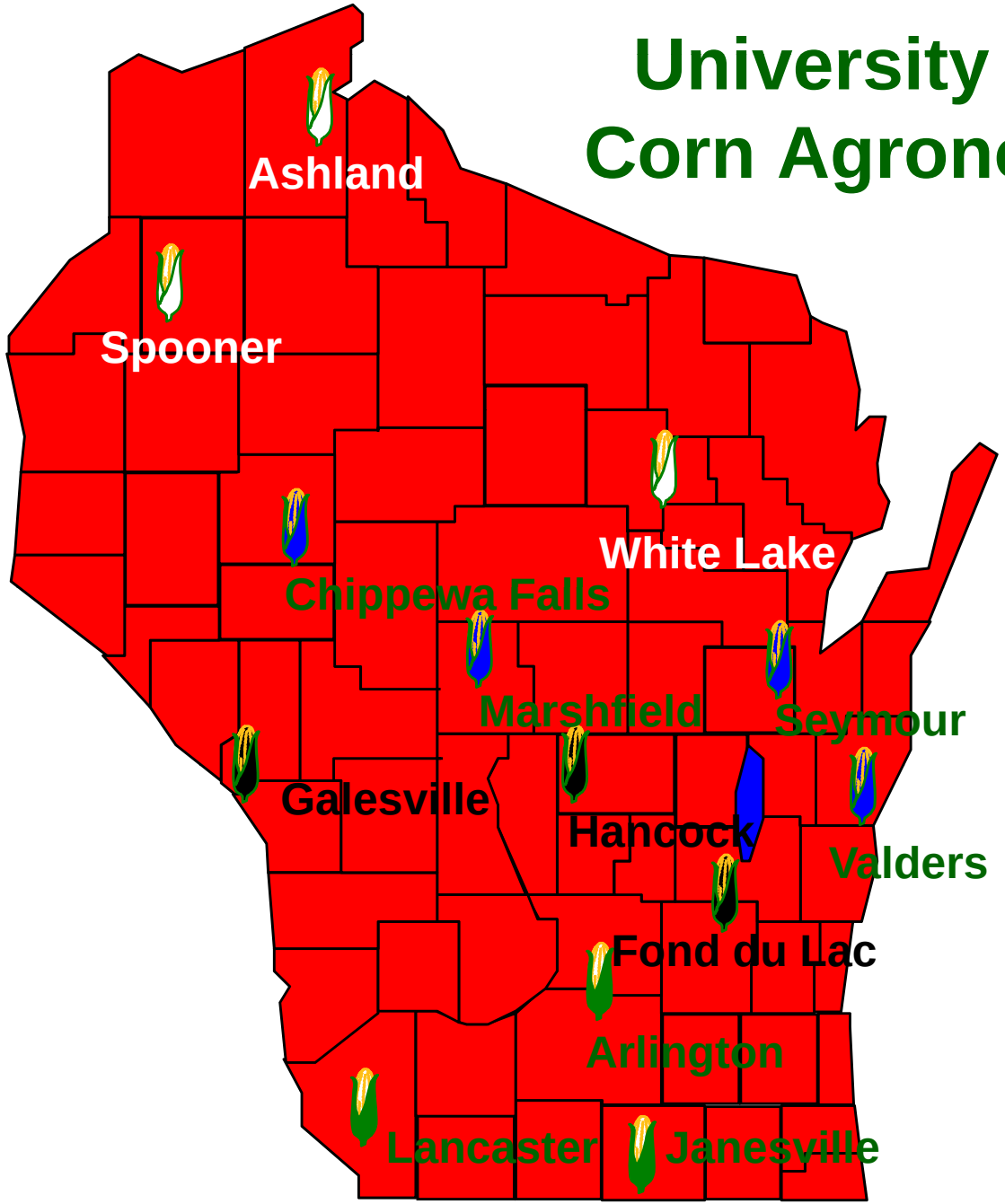

2000 Wisconsin Corn Performance Trials - Grain Summary

Location	1990-1999		2000		Percent Change
	N	Yield	*N*	Yield	
Arlington	1777	191	178	212	+ 11
Janesville	1777	182	178	211	+ 16
Lancaster	1777	175	178	178	+ 2
Fond du Lac	1547	164	171	191	+ 16
Galesville	1547	159	171	171	+ 8
Hancock	1546	181	171	166	- 8
Chippewa Falls	1444	149	153	156	+ 5
Marshfield	1034	149	153	166	+ 11
Seymour	867	146	153	174	+ 19
Valders	1444	151	153	153	+ 1
Ashland	145	132	16	106	- 20
Spooner	1932	127	162	125	- 2
White Lake	645	91	54	111	+ 22

Note: Seymour average includes New London 1990-1992.

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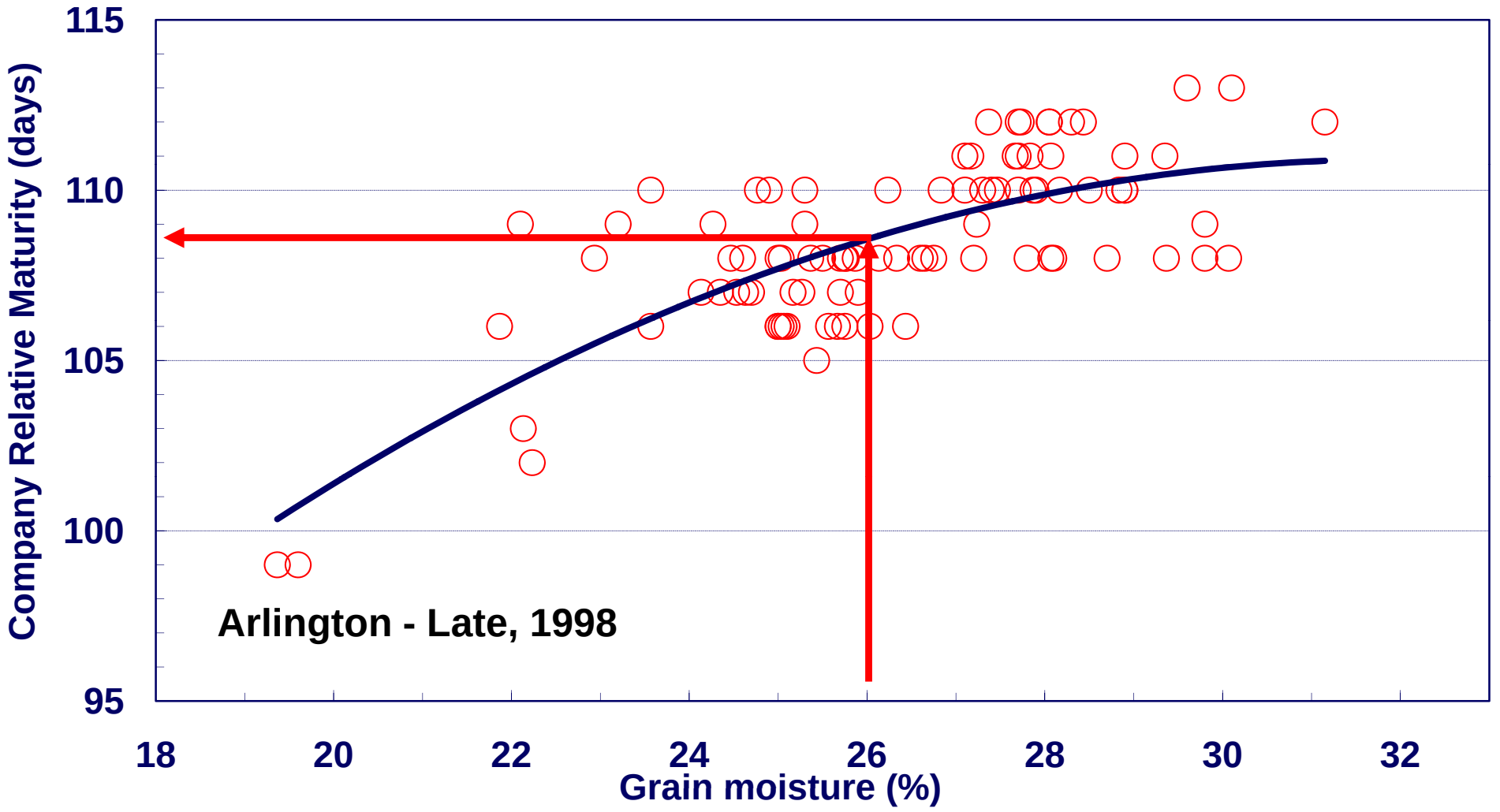
Method for Determining WI Comparative Relative Maturity - WI CRM (n=92)



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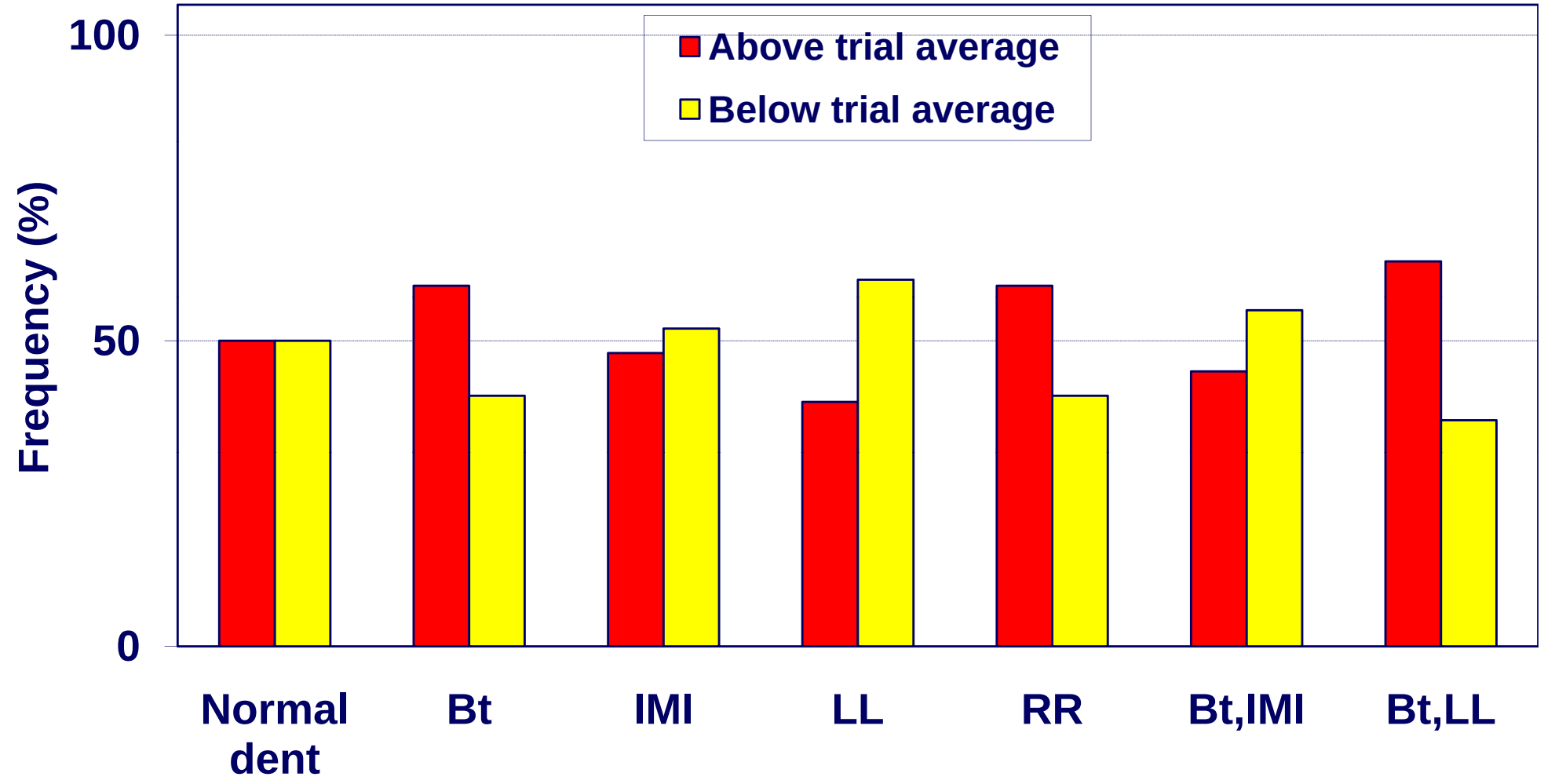
Yield of Specialty Hybrids in Relation to the Trial Average in the 2000 WI Hybrid Trials



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Corn Silage

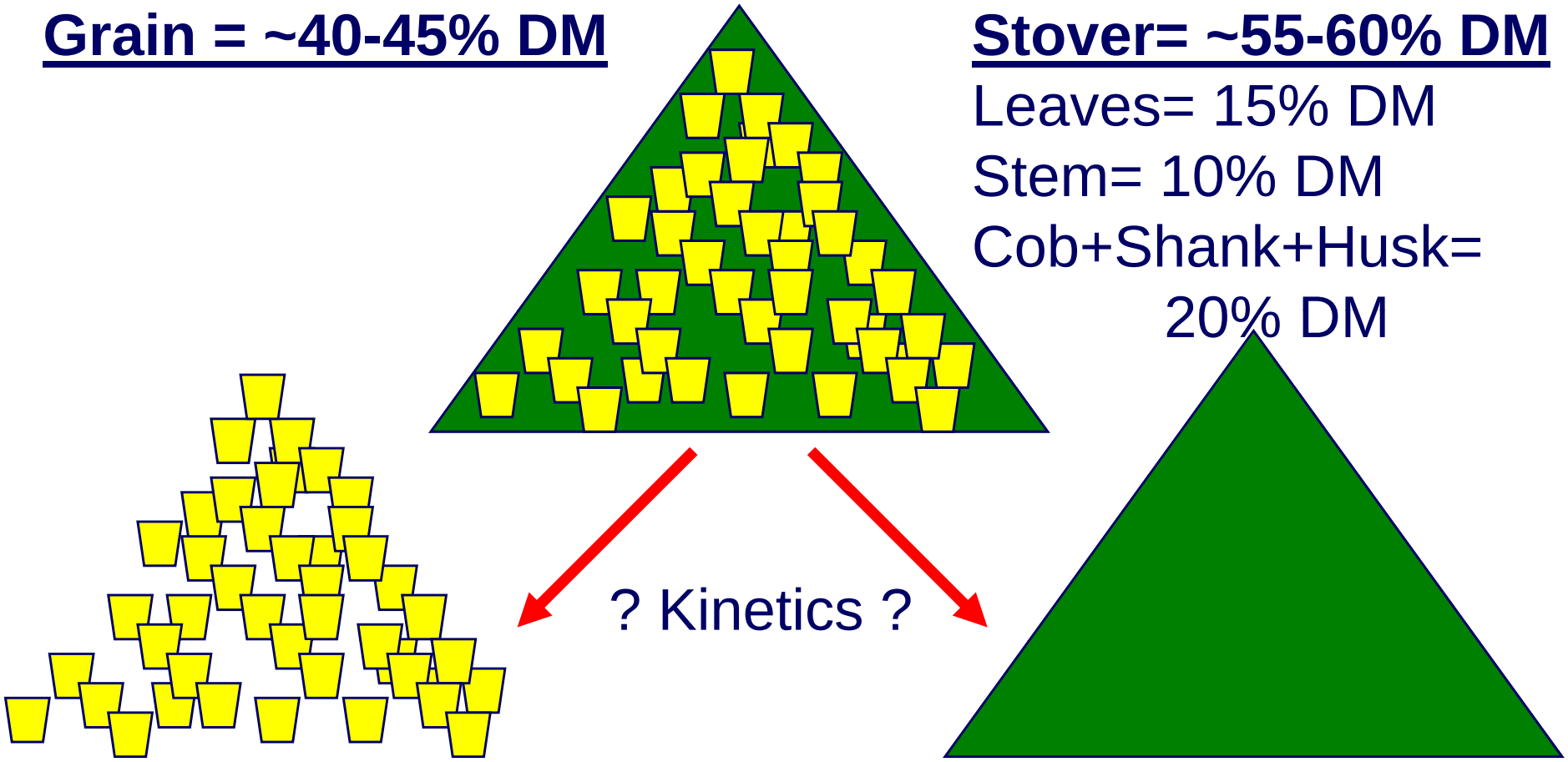
Grain = ~40-45% DM

Stover= ~55-60% DM

Leaves= 15% DM

Stem= 10% DM

Cob+Shank+Husk= 20% DM



80 to 100% digestible

- Kernel maturity
- Starch digestibility

40 to 55% digestible

- Cell wall digestibility

Calculating Milk per Ton (Milk per Acre = Yield x Milk per Ton)

Milk1991

- Dry matter intake estimated using NDF
- Net energy of lactation (Mcal/lb) estimated using ADF

Milk1995

- Dry matter intake estimated using NDF
- Net energy of lactation (Mcal/lb) estimated using IVD

Milk2000

- Dry matter intake estimated using NDF and Cell wall digestibility
  - ✓ Base dry matter intake adjusted 0.374 lb. per 1% unit change in CWD above or below the trial average CWD (Allen et al.)
- Starch digestibility is adjusted for dry matter content and kernel processing
- Net energy of lactation (Mcal/lb) estimated using multi-component summative equation approach

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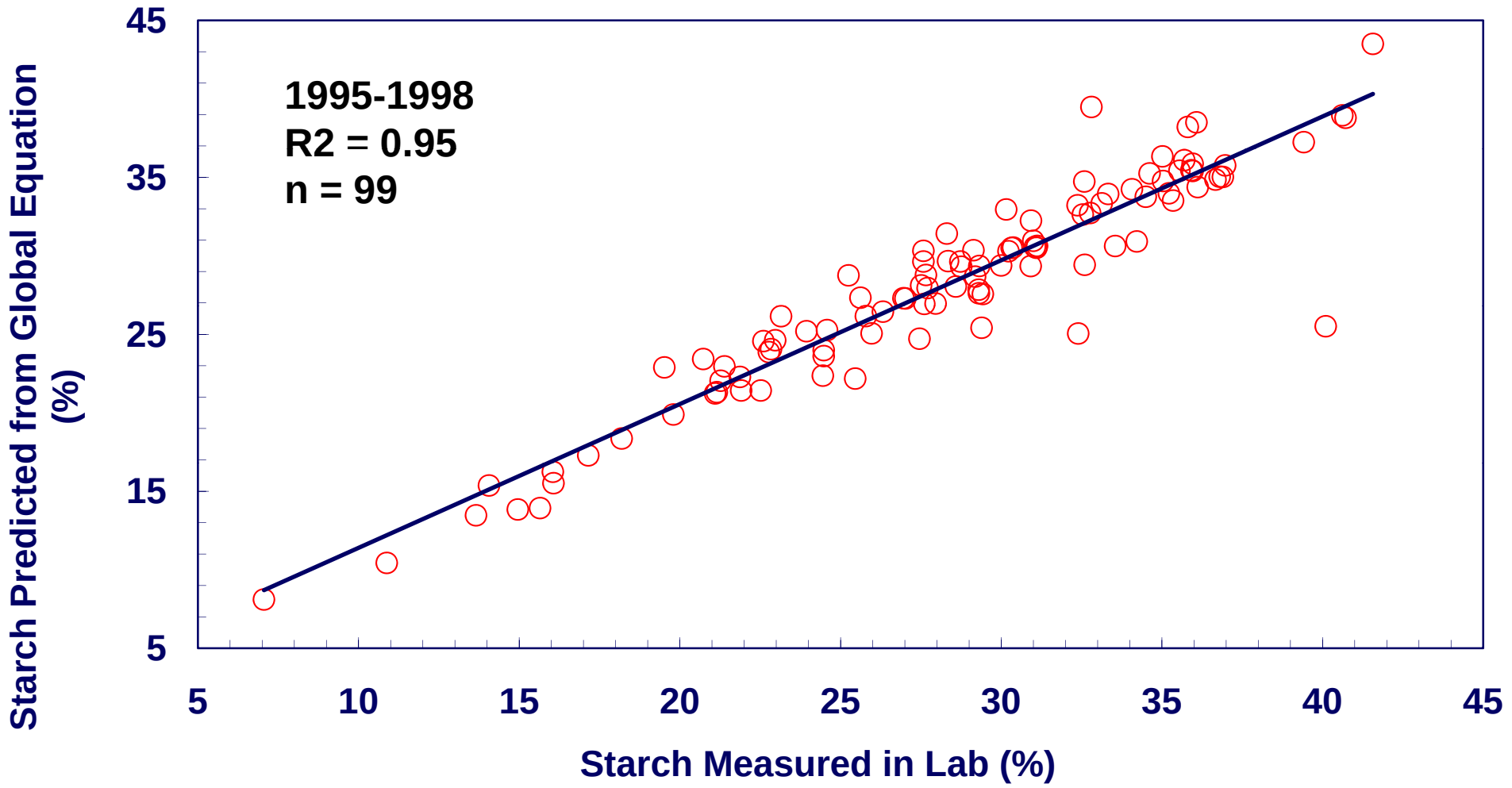
NIRS Global Equation Calibration for Starch Content (n= 104 samples submitted)



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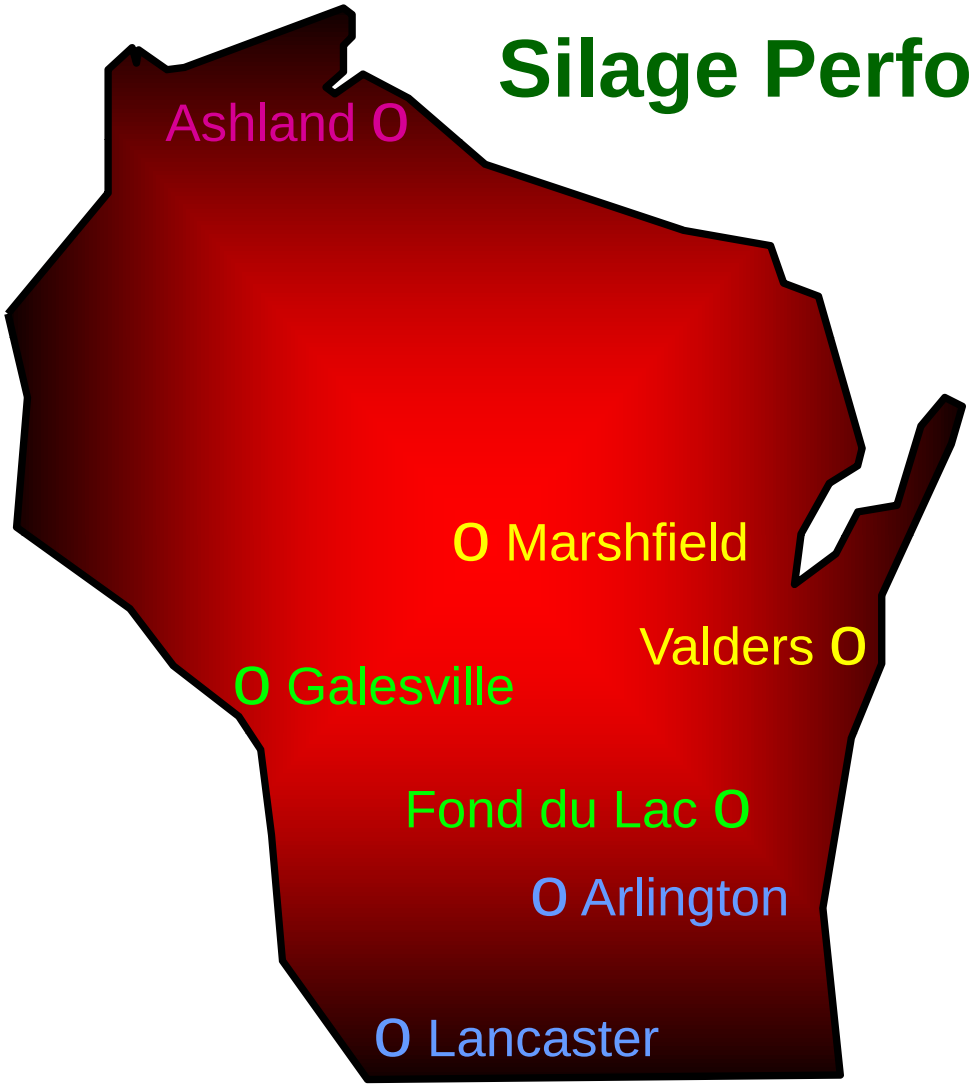
Wisconsin Corn Hybrid Silage Performance Trials



2000 Wisconsin Corn Performance Trials - Silage Summary

Location	1990-1999		2000		Percent Change
	N	Yield	*N*	Yield	
		T/A		T/A	
Arlington	388	9.3	66	9.1	- 2
Lancaster	311	7.7	66	7.8	+ 1
Fond du Lac	284	8.7	77	7.6	- 13
Galesville	284	8.0	77	8.0	+ 0
Marshfield	401	6.8	55	7.9	+ 16
Valders	328	7.1	55	7.6	+7
Ashland	109	6.7	16	5.5	- 18

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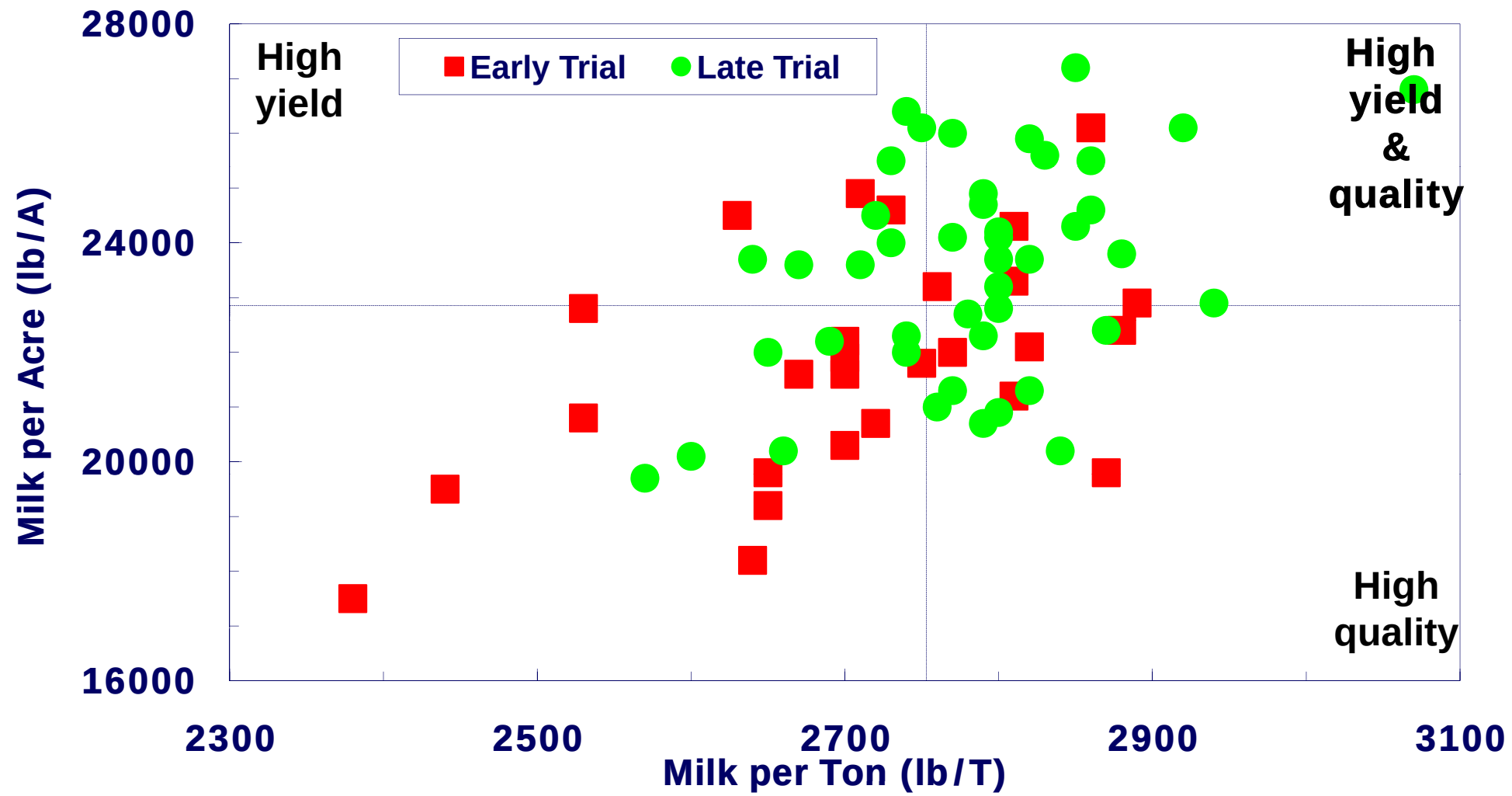
Table 15. North Central Zone - Early Maturity Silage Trial 2000

BRAND	HYBRID	Kernel Yield T/A	Moist %	Milk %	CP %	ADF %	NDF %	IVD %	CWD %	Starch %	MILK PER TON	MILK PER ACRE	MAR Yield T/A	VAL Yield T/A
Trelay	2008	8.3 *	55.3	30	7.0	25	52	72	46	28	2670	22300 *	8.3 *	8.3 *
Carhart's Blue Top	CX8500A	7.4	58.7	50	7.3	24	49	73	46	29	2770 *	20700	7.9 *	7.0
NK Brand	N27-M3	7.0	59.2	30	7.1	24	48	74	45	31	2810 *	19800	7.4	6.7
Pioneer	39D81	5.2	59.6	10	7.1	26	53	71	45	26	2620	13600	5.7	4.6
Renk	RK394	7.8 *	59.6	30	7.0	28	55	70	46	24	2580	20200	8.3 *	7.3
Dairyland	Stealth 1280	7.7 *	59.9	30	7.1	25	52	72	45	28	2690	20800	8.3 *	7.1
85-DAY HYBRID TRIAL AVERAGE##			60.3											
LG Seeds	LG2367	7.3	60.4	30	6.9	26	53	72	47	27	2700	19800	8.3 *	6.3
Carhart's Blue Top	CX290A	7.4	60.6	40	7.2	22	46	75	45	34	2900 *	21300	7.2	7.5 *
Dairyland	Stealth 1289	7.0	60.7	20	8.1	28	55	70	46	24	2570	18100	7.3	6.7
Brown	2080	6.8	61.3	40	7.0	23	48	74	45	31	2830 *	19200	6.5	7.1
Carhart's Blue Top	CX1187A	6.9	61.4	30	7.2	25	51	73	46	29	2780 *	19200	6.8	7.0
90-DAY HYBRID TRIAL AVERAGE##			62.9											
Dekalb	DKC39-45	7.1	63.8	40	6.8	23	47	74	45	31	2920 *	20600	6.7	7.4 *
NK Brand	N2555BT	7.1	64.2	40	7.4	26	51	72	45	27	2760 *	19800	7.7 *	6.6
Ramy Seed	PG1455	8.6 *	64.6	60	7.3	25	50	73	46	28	2850 *	24500 *	8.7 *	8.4 *
Golden Harvest	H6675	8.2 *	66.4	40	7.7	25	50	72	44	26	2780 *	22900 *	8.4 *	8.1 *
MEAN		7.3	61.1	40	7.2	25	51	72	46	28	2750	20200	7.6	7.1
LSD(0.10)**		0.9	3.9	10	0.5	3	4	3	1	4	200	3100	1.1	1.1

Corn Hybrid Silage Performance in the South Central Production Zone - 2000



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Relative Performance of Corn Hybrids Tested in Six Environments (Coors, 2000)

Hybrid	RM	YLD	MST	CP	ADF	NDF	IVD	CWD	Starch
		T/A	%	%	%	%	%	%	%
Short-season (D1297)	98	6.4	52.8	7	24	49	73	45	30
Mid-season (P35R58)	105	8.2	63.9	7	27	53	70	44	25
Leafy (NK48V8/4687)	105	8.1	64.7	7	27	53	70	44	22
Bmr (CF657)	110	5.7	67.5	7	25	50	75	50	27
Full-season (P33A14A)	113	8.1	68.6	7	29	55	69	43	20

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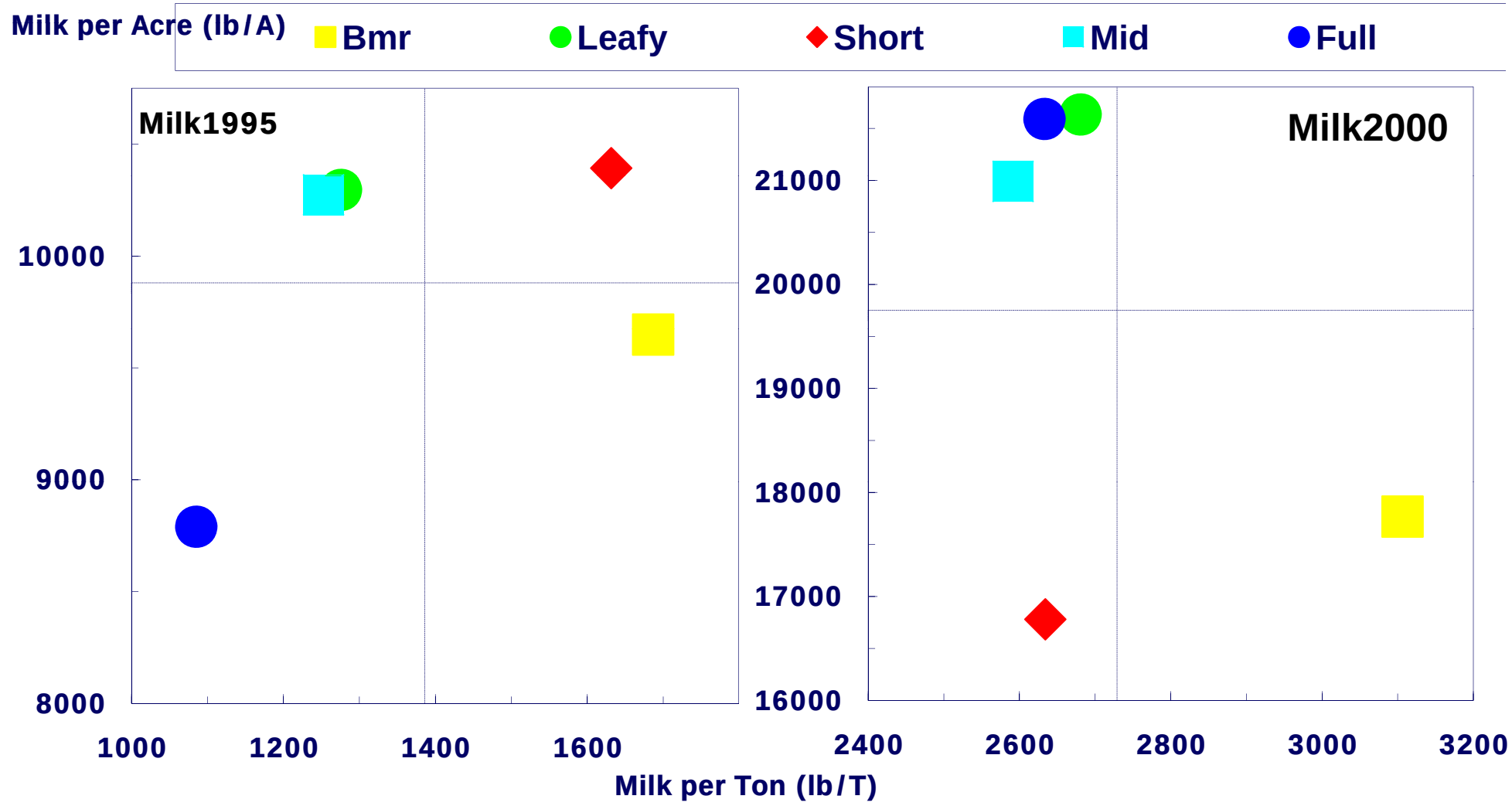
Relative Performance of Corn Hybrids Tested in Six Environments (Coors, 2000)



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Desirable Forage Characteristics

- What makes a good forage?
  - ✓ High yield
  - ✓ High energy (high digestibility)
  - ✓ High intake potential (low fiber)
  - ✓ High protein
  - ✓ Proper moisture at harvest for storage
- Ultimate test is animal performance. Milk2000 is our best estimate for predicting performance.
- Future direction

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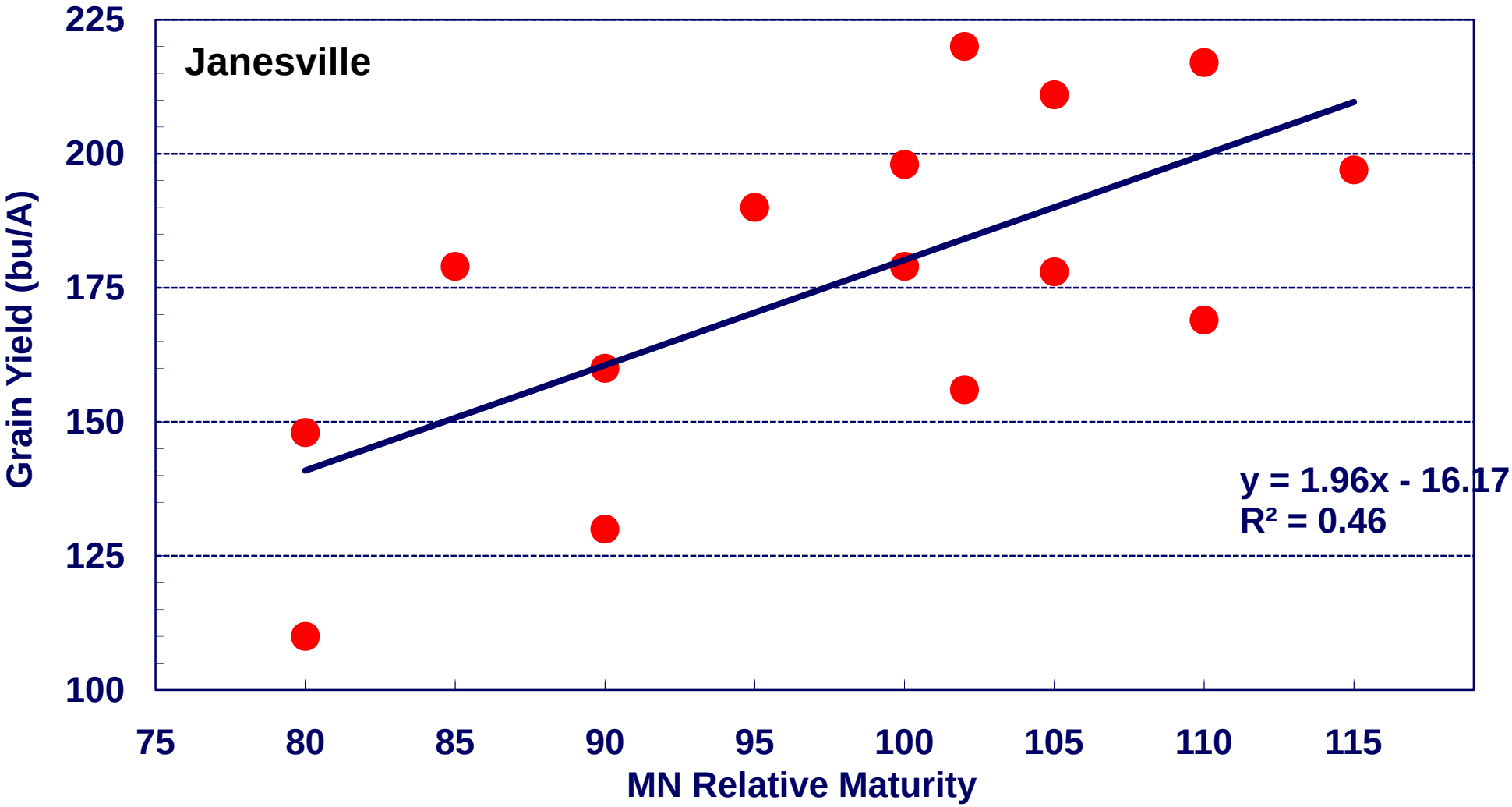
Relationship Between Corn Grain Yield and MN Relative Maturity Rating (1995-97)



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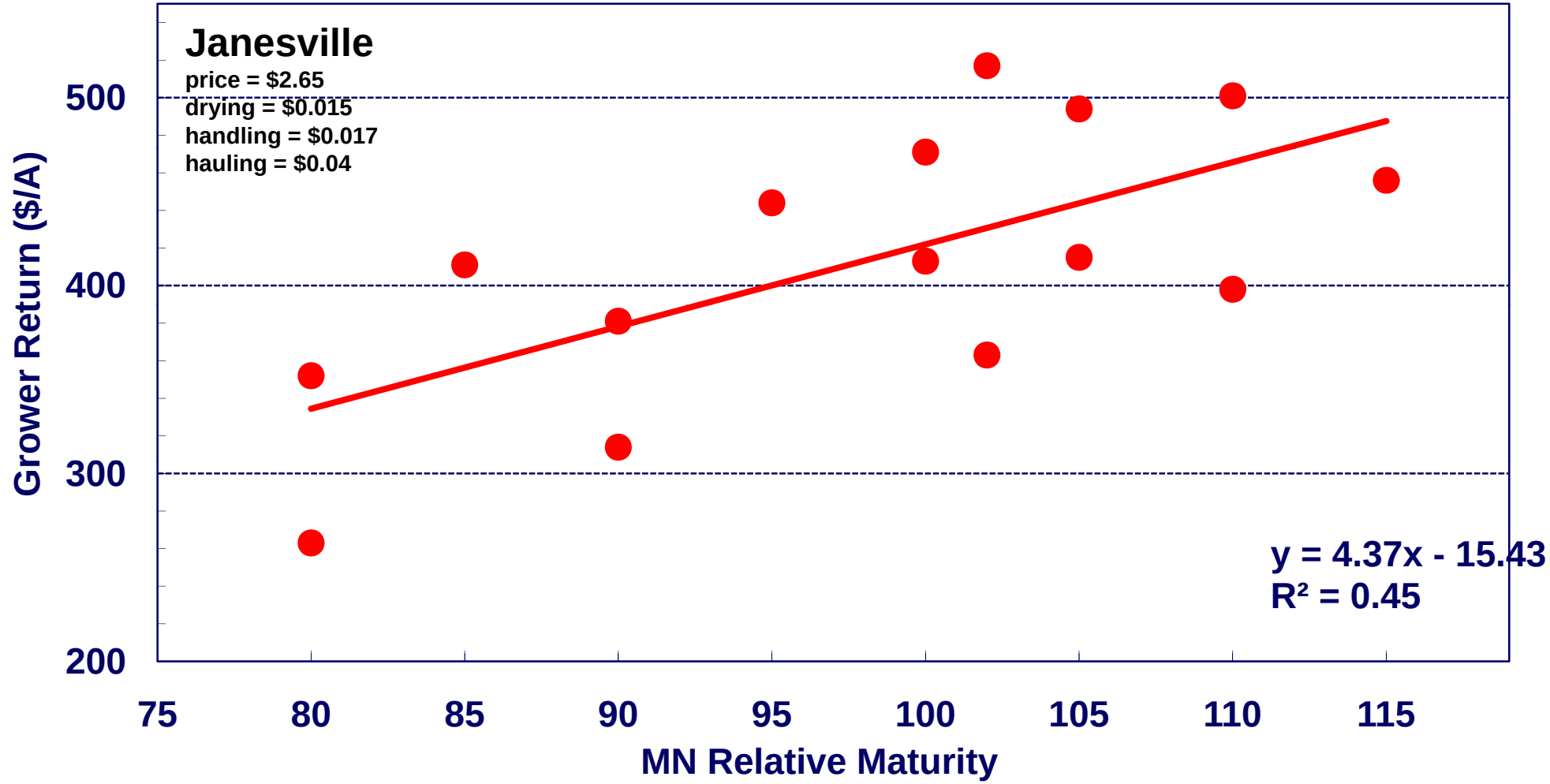
Relationship Between Corn Grower Return and MN Relative Maturity Rating (1995-97)



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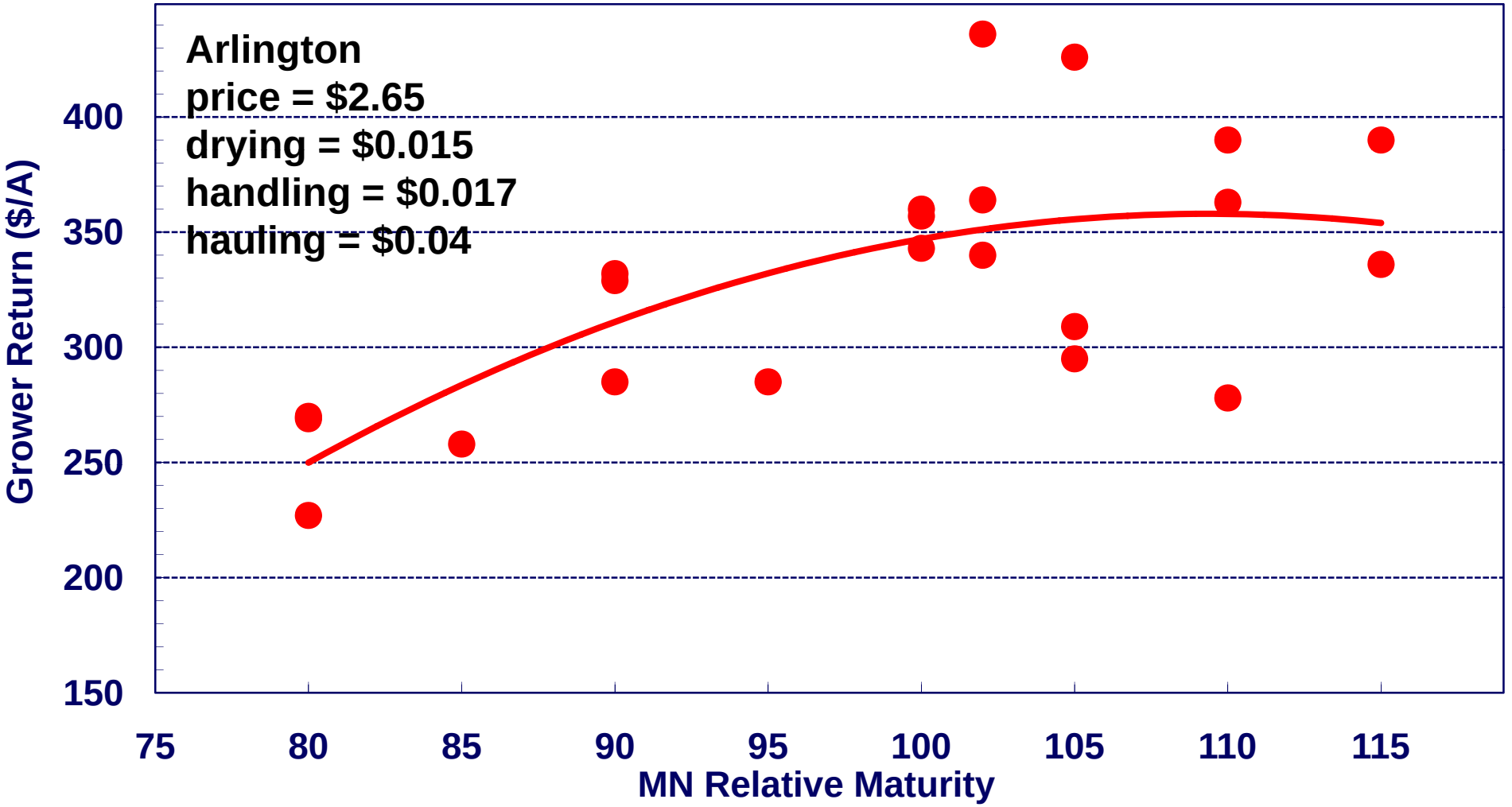
Relationship Between Corn Grower Return and MN Relative Maturity Rating (1995-97)



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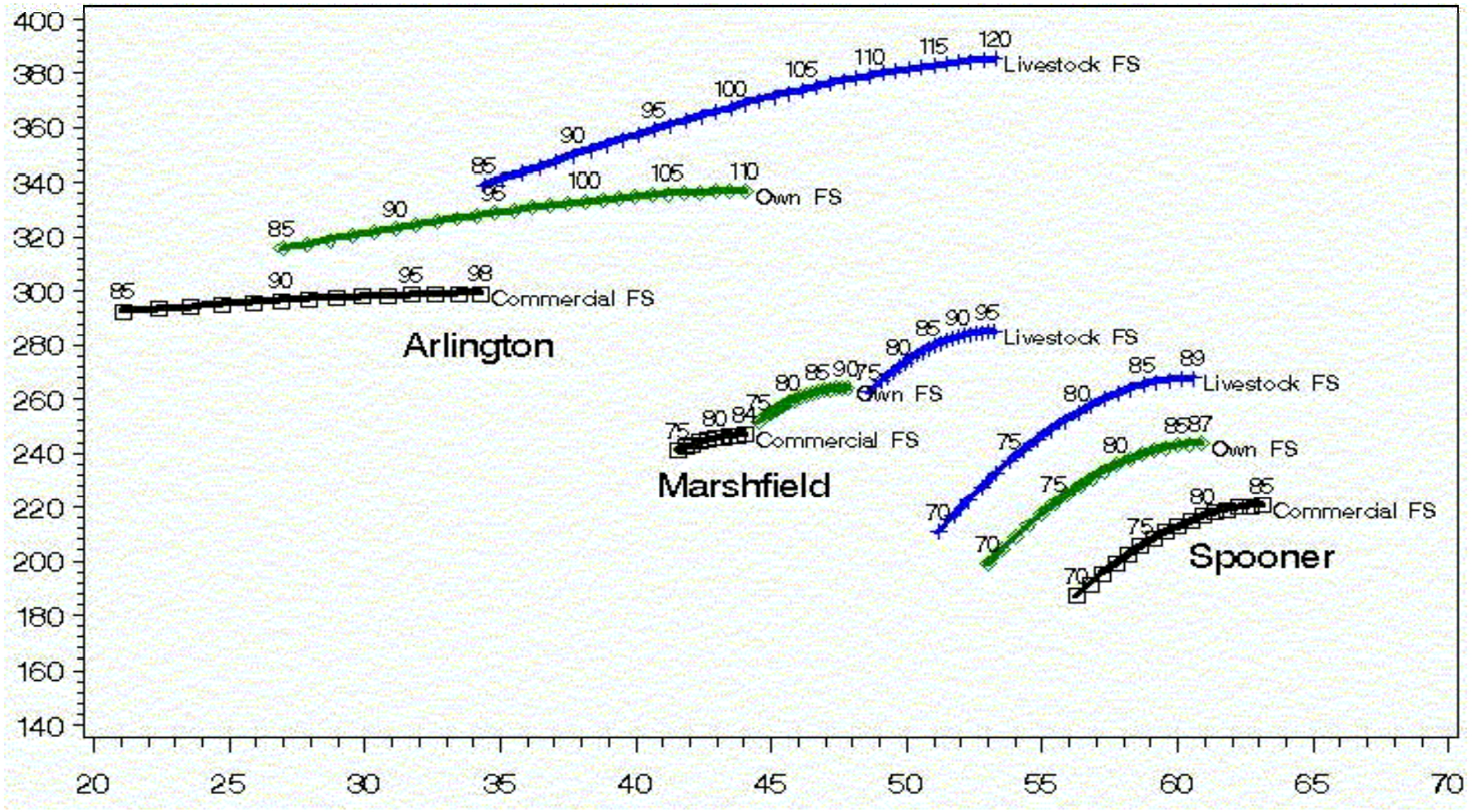
Profit v. Risk for Three Corn Production Systems at Three WI Locations (1973-97)



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Optimum Corn MN Relative Maturity (Days) for Corn Production Systems in Wisconsin

1973-1997	Livestock system ($0.00 drying cost)			On-Farm drying ($0.015 drying cost)			Commercial elevator ($0.03 drying cost)		
	Corn price ($/bu)			Corn price ($/bu)			Corn price ($/bu)		
Region	2.00	2.50	3.00	2.00	2.50	3.00	2.00	2.50	3.00
Southern	120	120	120	111	114	116	99	103	107
South central	112	112	112	105	106	107	100	102	104
North central	103	103	103	95	96	97	89	91	93
North	89	89	89	87	88	88	85	86	87

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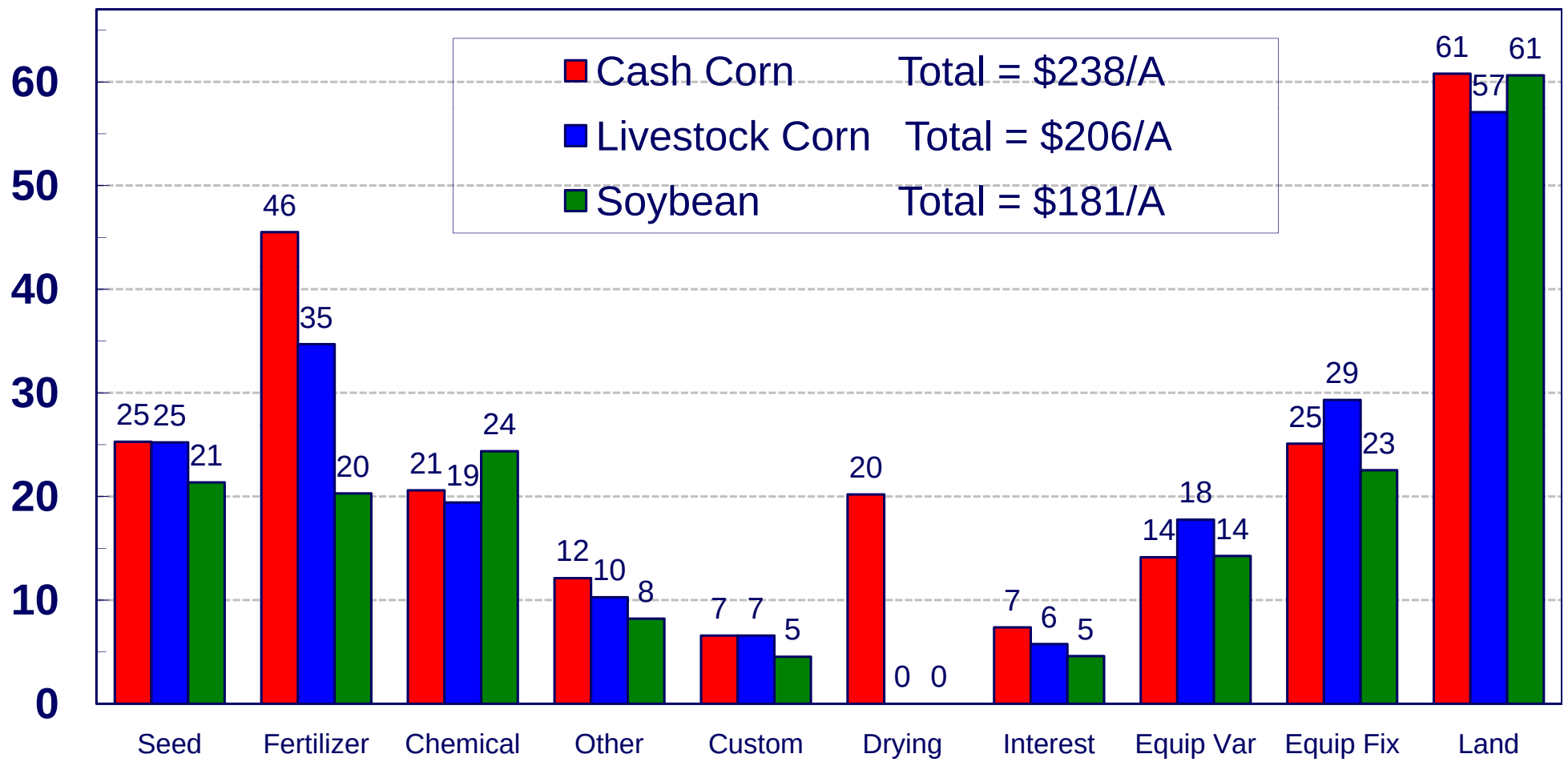
Odds and Ends

Average Division Production Costs For Farmers in PEPS (1987-99)



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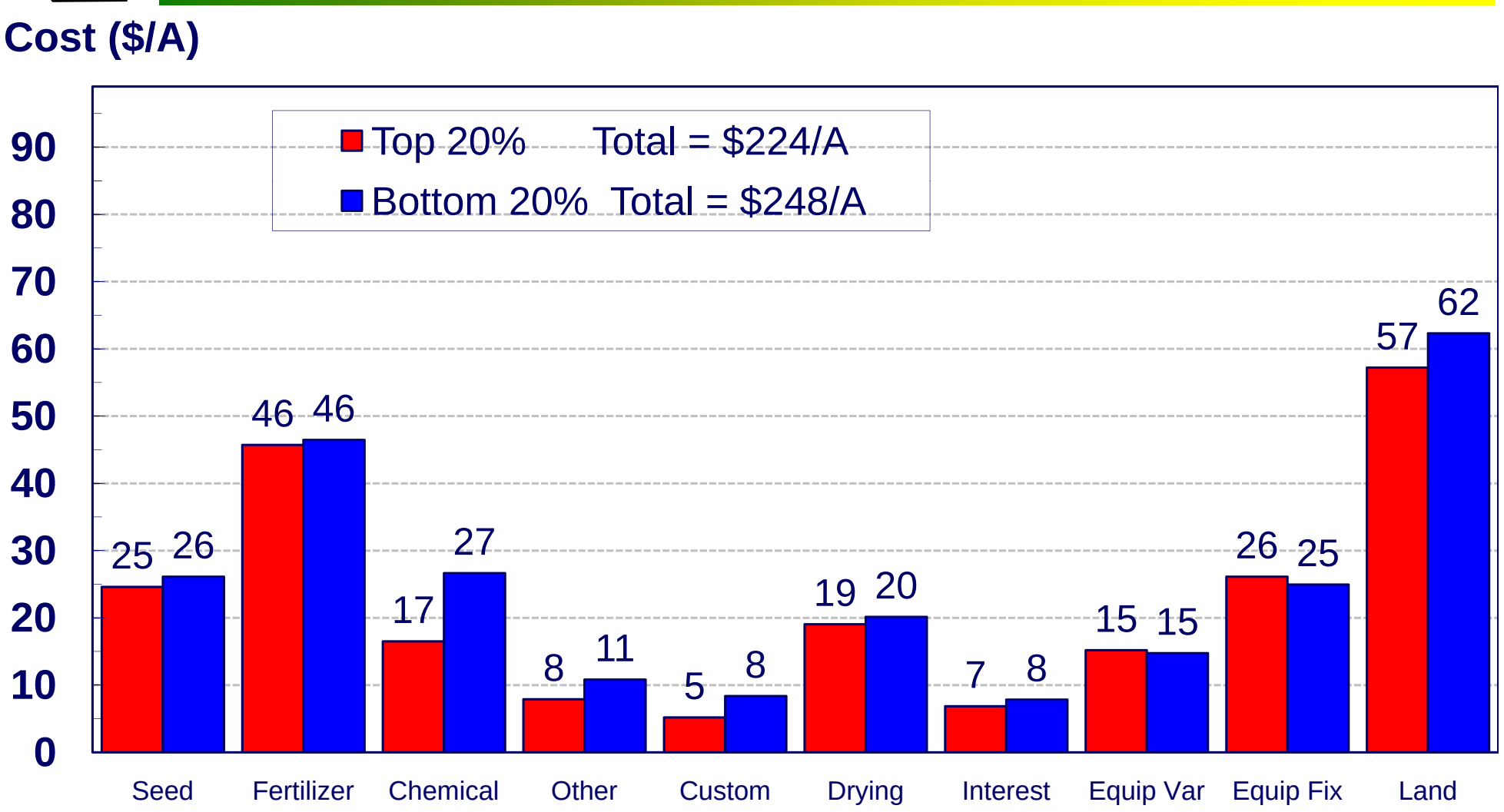
Average Cash Corn Production Costs for Profit Groups in PEPS (1987-99)



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Farmer production and cost for the Top 20% and Bottom 20% profit groups in PEPS (1987-1999)

	Cash Corn		Livestock Corn	
	Top 20%	Bottom 20%	Top 20%	Bottom 20%
Grain yield (bu/A)	182	144	177	130
Grain moisture (%)	21.0	22.8	22.9	24.5
Acre Cost ($/A)	$224	$248	$190	$203
Bushel cost (4/bu)	$1.25	$1.79	$1.09	$1.61

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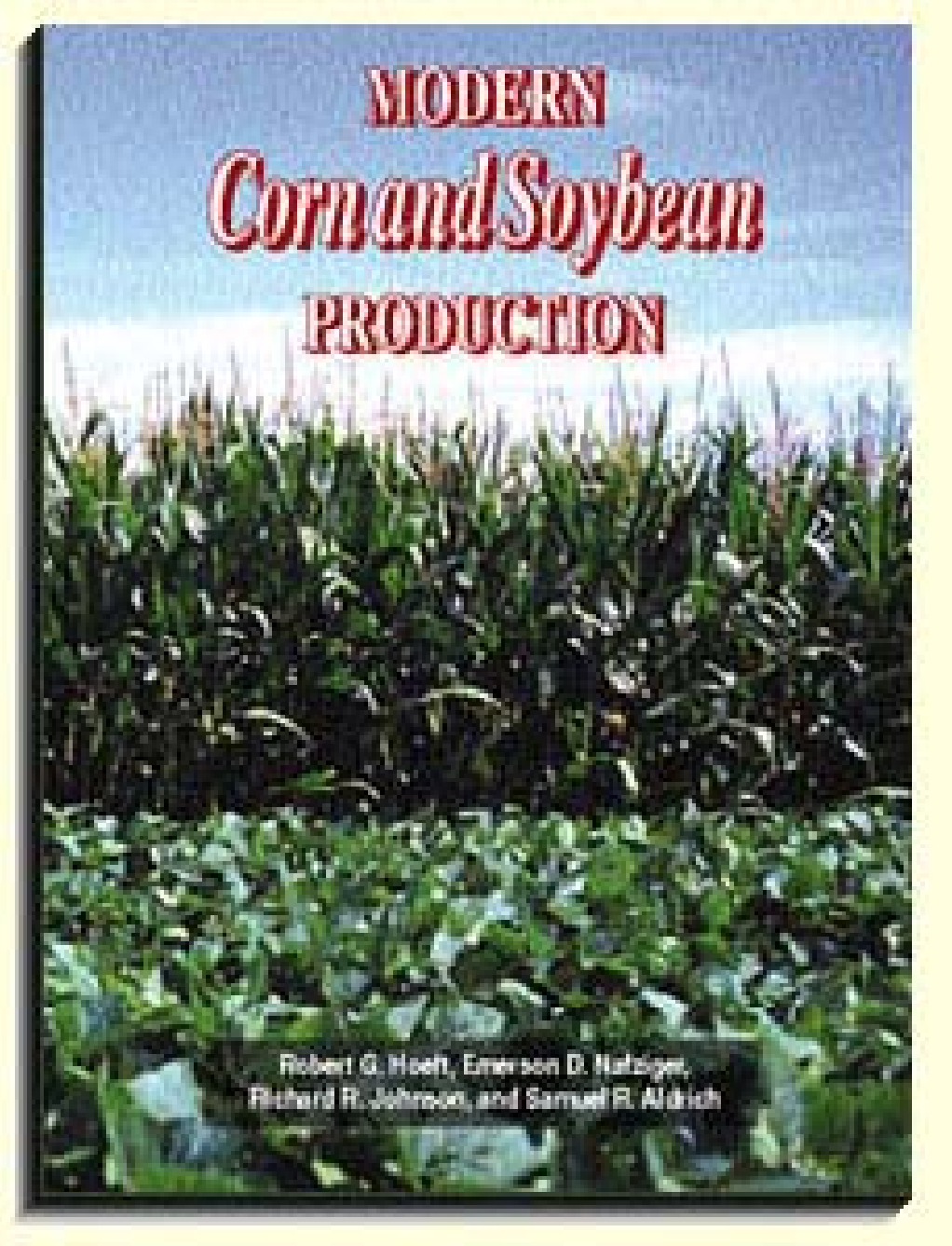

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Alliant Energy Center of Dane County
(New Location)
February 6-7, 2001
Madison, WI

UW Websites, Survey and ????????

- Corn
  - ✓ http://corn.agronomy.wisc.edu
- Corn Silage
  - ✓ http://www.uwex.edu/ces/crops/uwforage/Silage.htm
  - ✓ http://uwsilagebreeding.agronomy.wisc.edu/
- Soybean
  - ✓ http://www.uwex.edu/ces/soybean/index.html
- Forages
  - ✓ http://www.uwex.edu/ces/forage/
  - ✓ http://www.uwex.edu/ces/crops/uwforage/uwforage.htm

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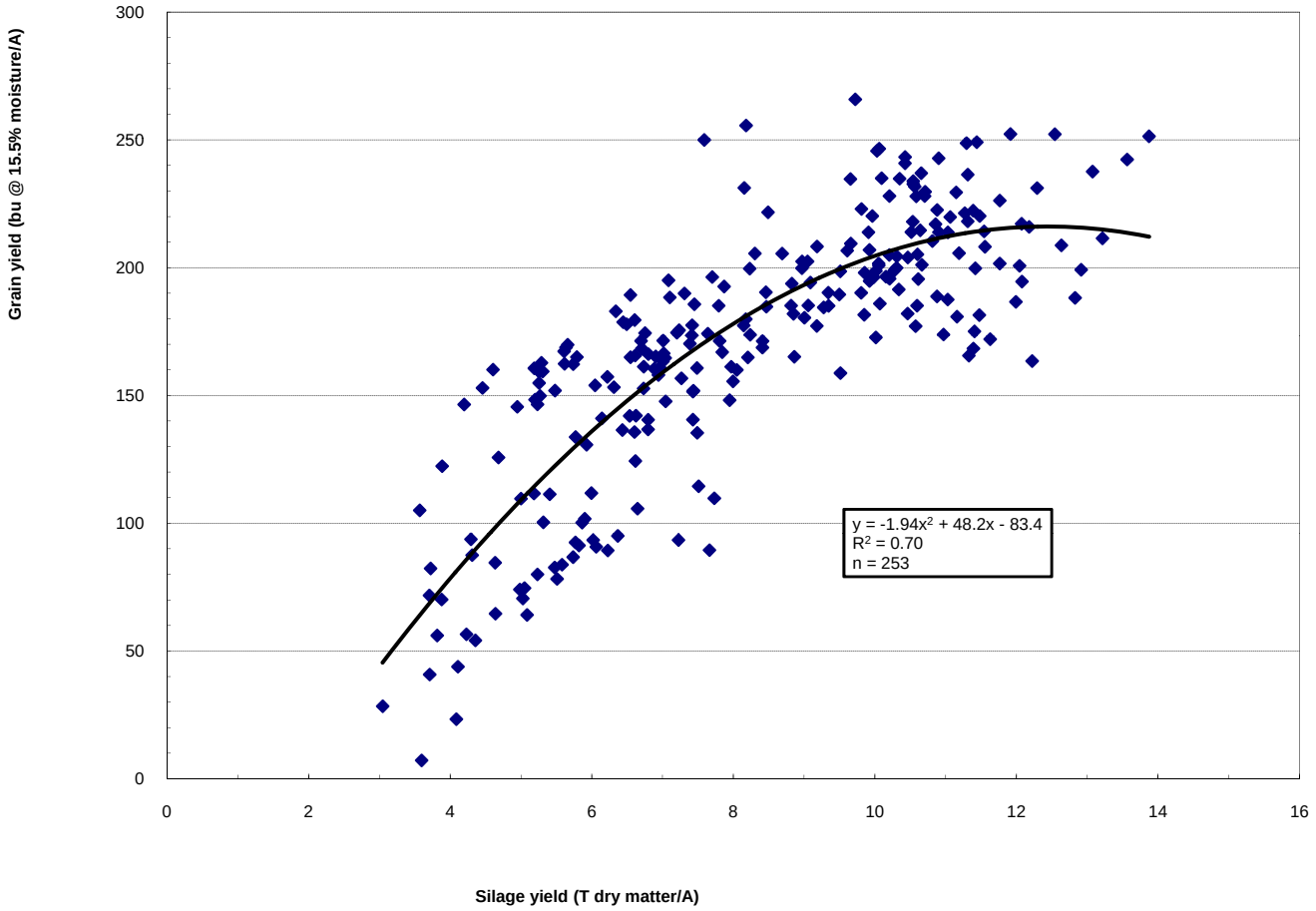
The Relationship Between Corn Grain and Silage Yield (1997-1998)



Current hybrids produce grain yield equivalents greater than that of 1972 levels, by 1.0 to 2.0 bushels of grain per ton of silage at 65% moisture.

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Predicting Corn Silage Harvest Dates

- Note hybrid maturity and planting dates of fields intended for silage
- Note silking date. Kernel ½ milkline will typically occur about 42 to 47 days after silking
- Once kernel milkline begins to move, measure whole-plant moisture of fields intended to be harvested for silage.
  - ✓ Use drydown rate of 0.5% per day to predict when field will be ready for the storage structure
- Final moisture check prior to harvesting

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