

Impacts of the 2004 Growing Season on Silage Quality

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Objectives

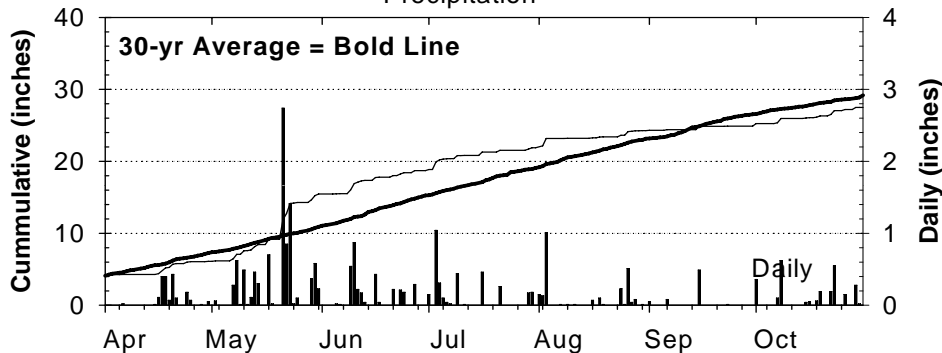
- **To describe the weather impact on the 2004 corn silage crop.**
 - ✓ “Mission impossible?”
- **To describe what is known about weather and management effects on silage quality.**
- **What should we be thinking about as we head into 2005?**

Corn Production during 2004

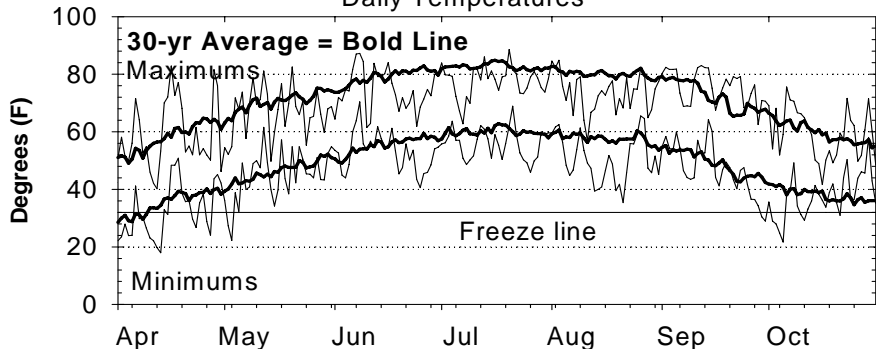
- **Record grain yields in southwestern Wisconsin**
- **Opportunities for early planting date in most of Wisconsin**
 - ✓ After May 5 - late (June) planting dates in eastern Wisconsin
- **Growing season**
 - ✓ Cooler than normal
 - ✓ Wetter than normal May and June
 - ✓ Corn growth and development lagged behind
 - ✓ Beautiful September

2004 Weather Summary for Arlington, WI

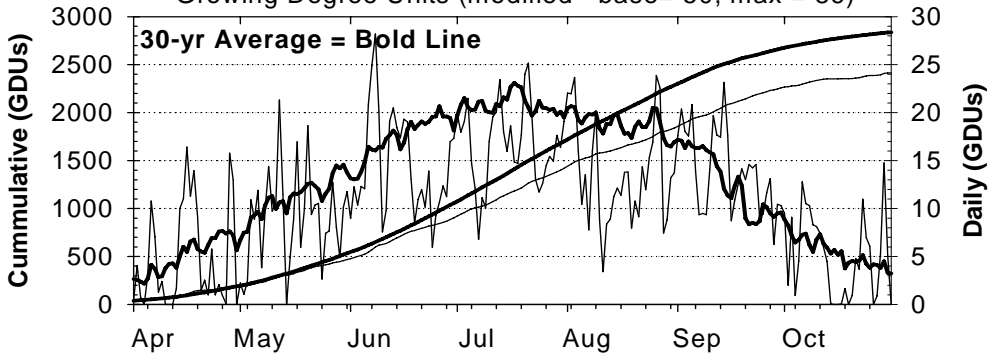
Precipitation



Daily Temperatures

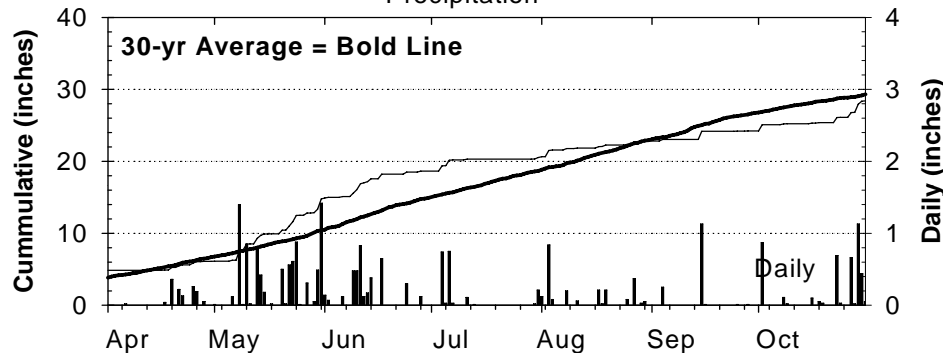


Growing Degree Units (modified - base= 50, max = 86)

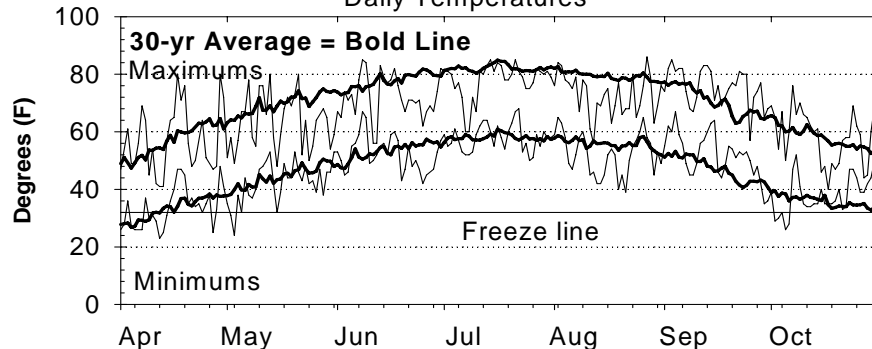


2004 Weather Summary for Marshfield, WI

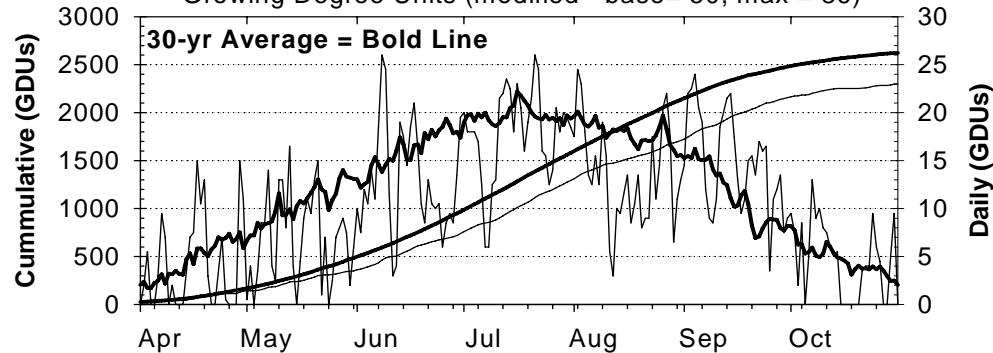
Precipitation



Daily Temperatures



Growing Degree Units (modified - base= 50, max = 86)





WISCONSIN CORN RESEARCH HYBRID EVALUATION

Conducted by:

University of Wisconsin-Madison
College of Agricultural and Life Sciences
Department of Agronomy
and

University of Wisconsin-Extension
Cooperative Extension

Cooperators:

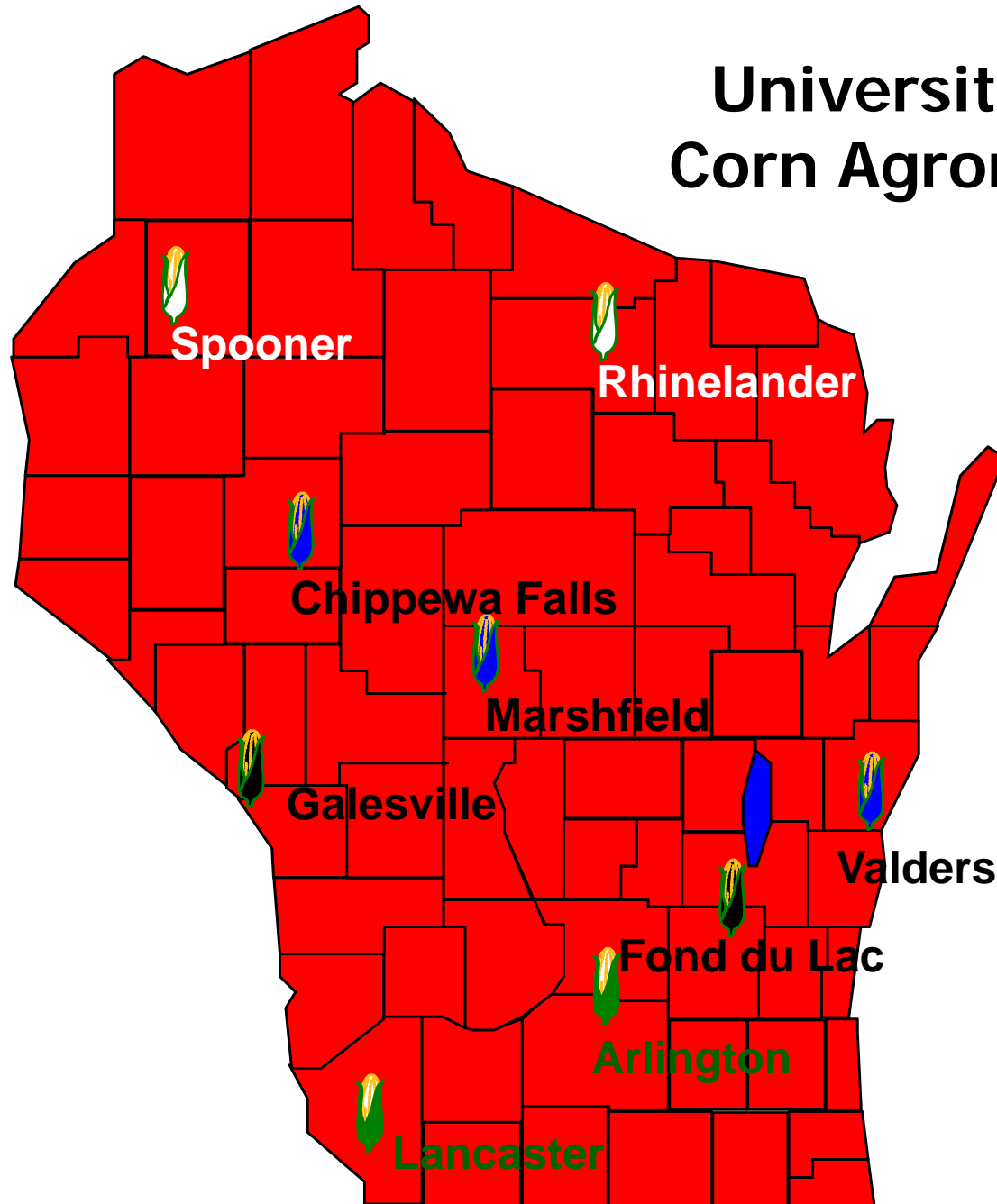
Wisconsin Crop Improvement Assoc. •
Commercial Seed Companies
Arlington Agricultural Research Station



WEX



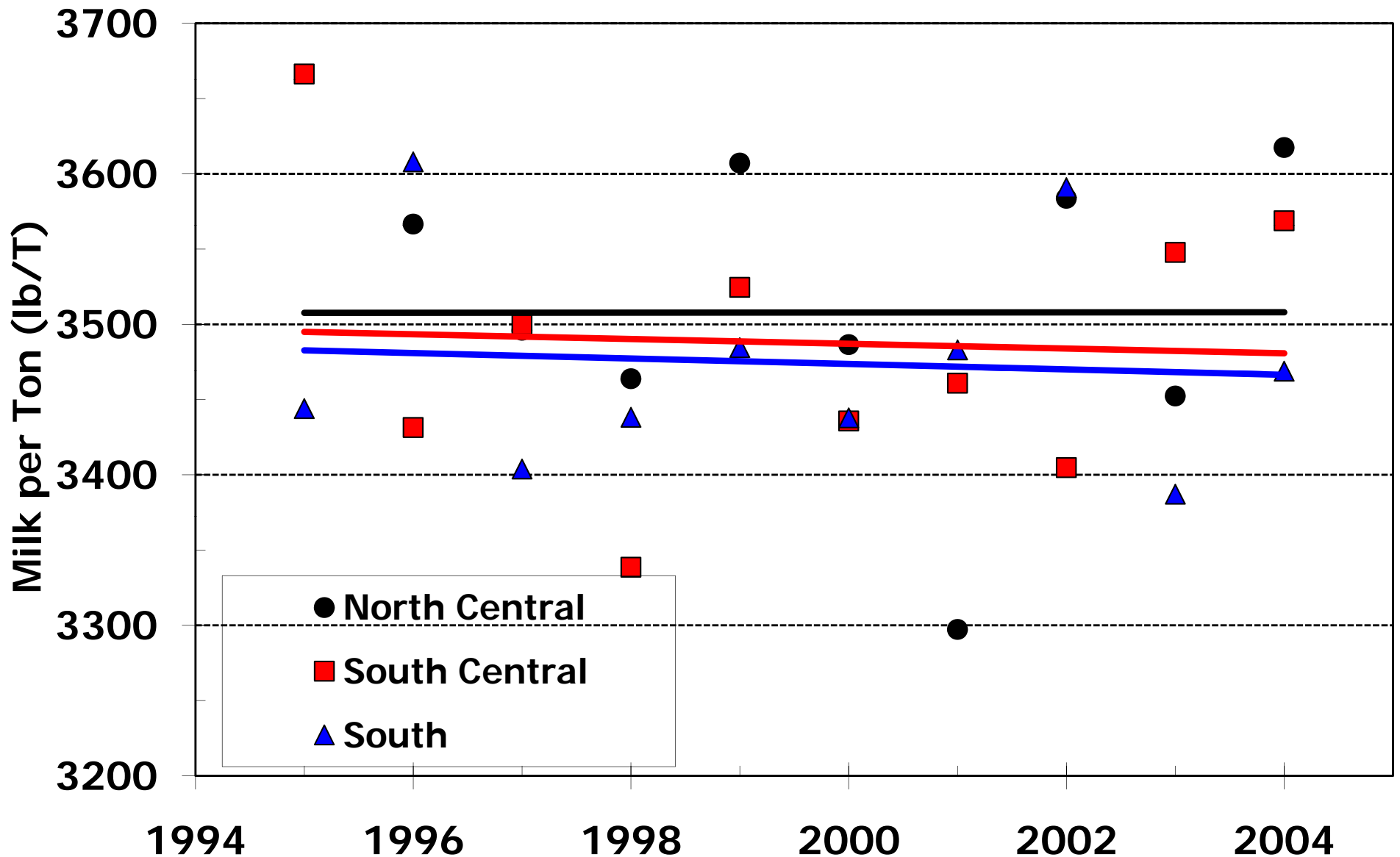
University of Wisconsin Corn Agronomy Program



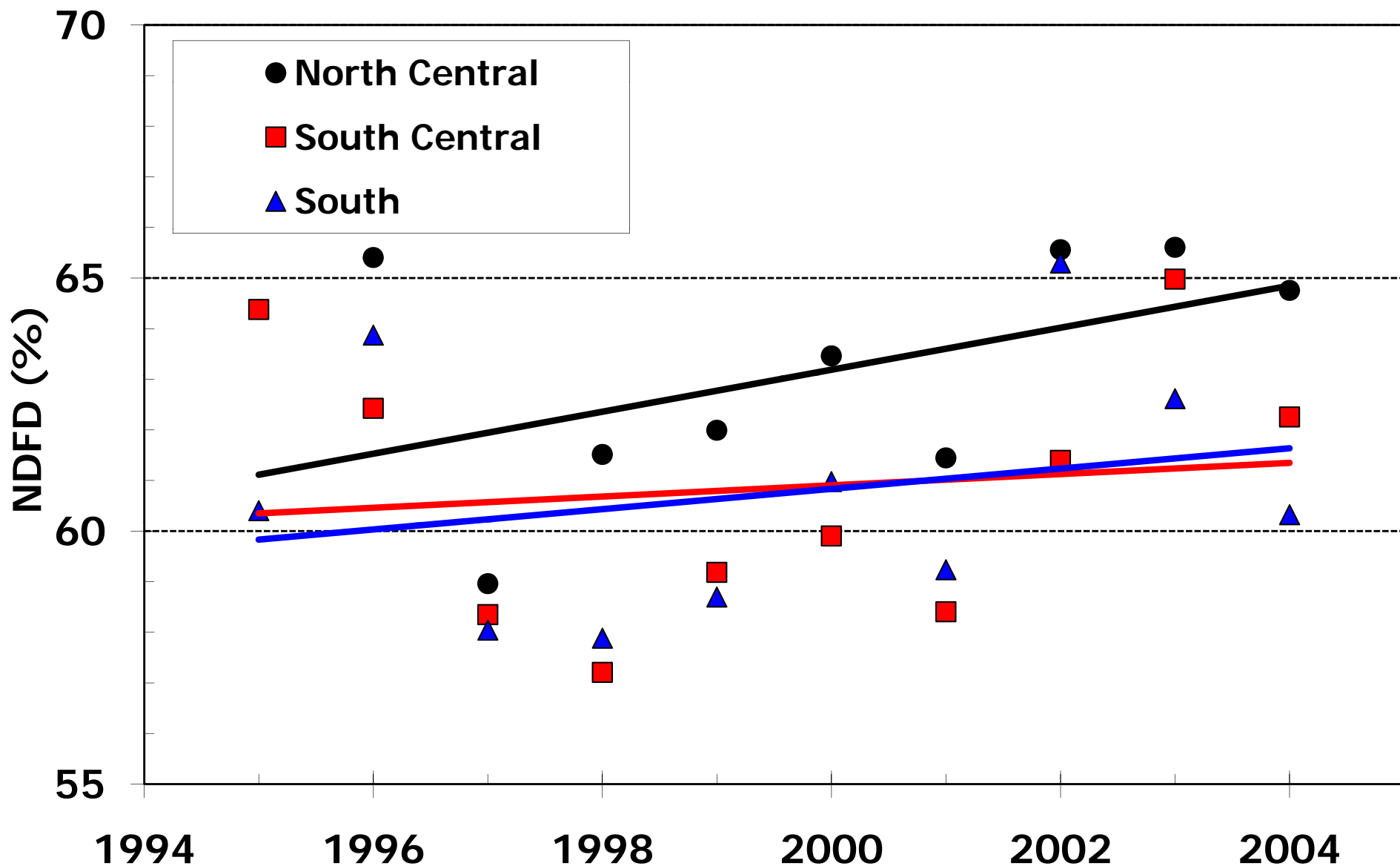
2004 Wisconsin Corn Performance Trials Silage Summary

Location	<u>1994-2003</u>		<u>2004</u>		Percent change
	N	Yield	N	Yield	
Arlington	491	9.4	52	9.7	2
Lancaster	491	7.9	52	10.1	27
Fond du Lac	476	8.5	57	7.7	-10
Galesville	477	8.6	61	9.1	6
Chippewa Falls	104	7.5	51	8.1	8
Marshfield	486	6.8	52	7.1	5
Valders	491	6.6	52	8.5	28
Rhineland	42	6.3	27	6.4	2
Spooner	84	6.6	54	7.9	19

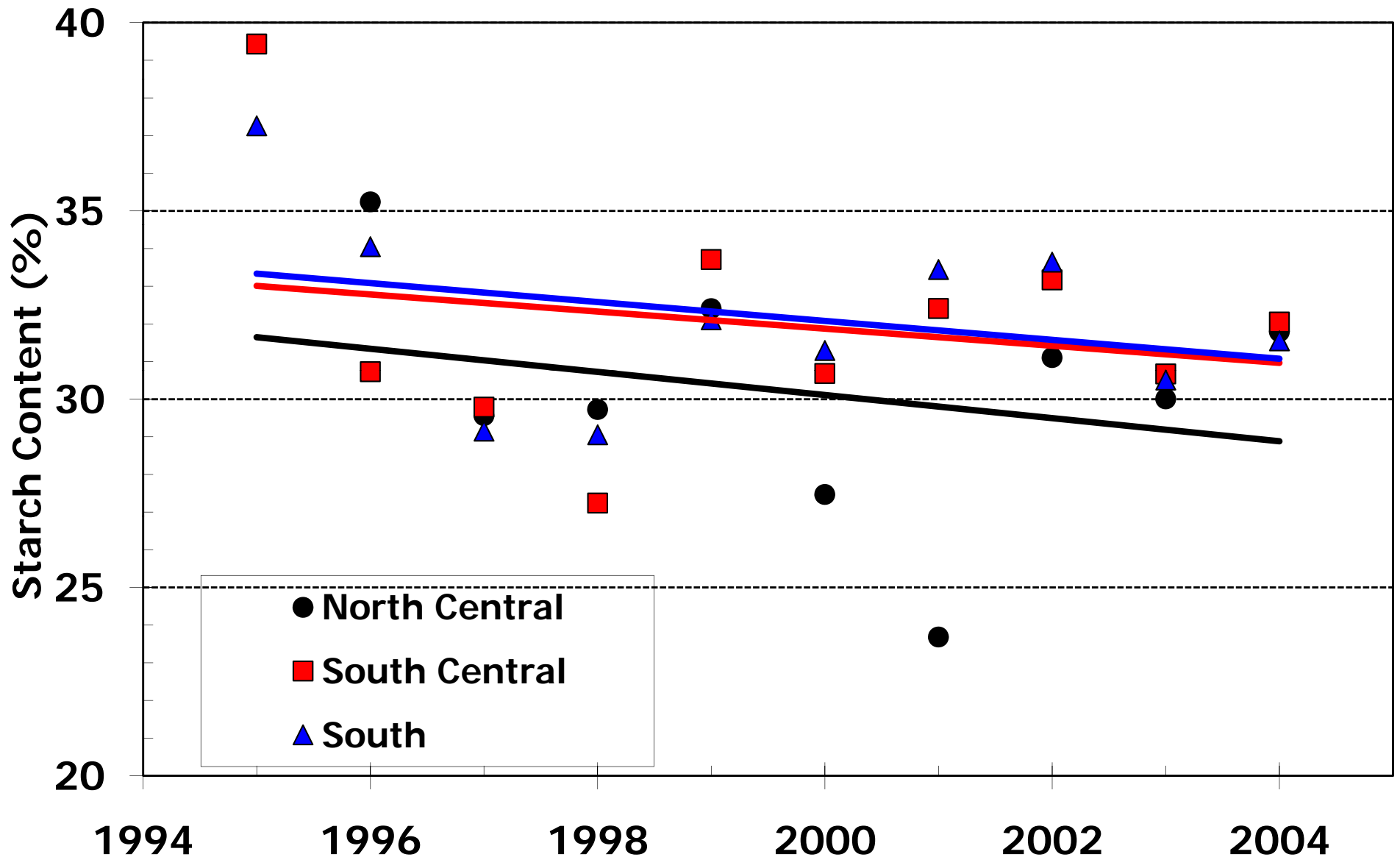
Corn Forage Milk per Ton (lb/A) Response to Year in the UW Corn Trials (N= 11,292 plots)



Corn Forage NDFD (%) Response to Year in the UW Corn Trials (N= 11,292 plots)



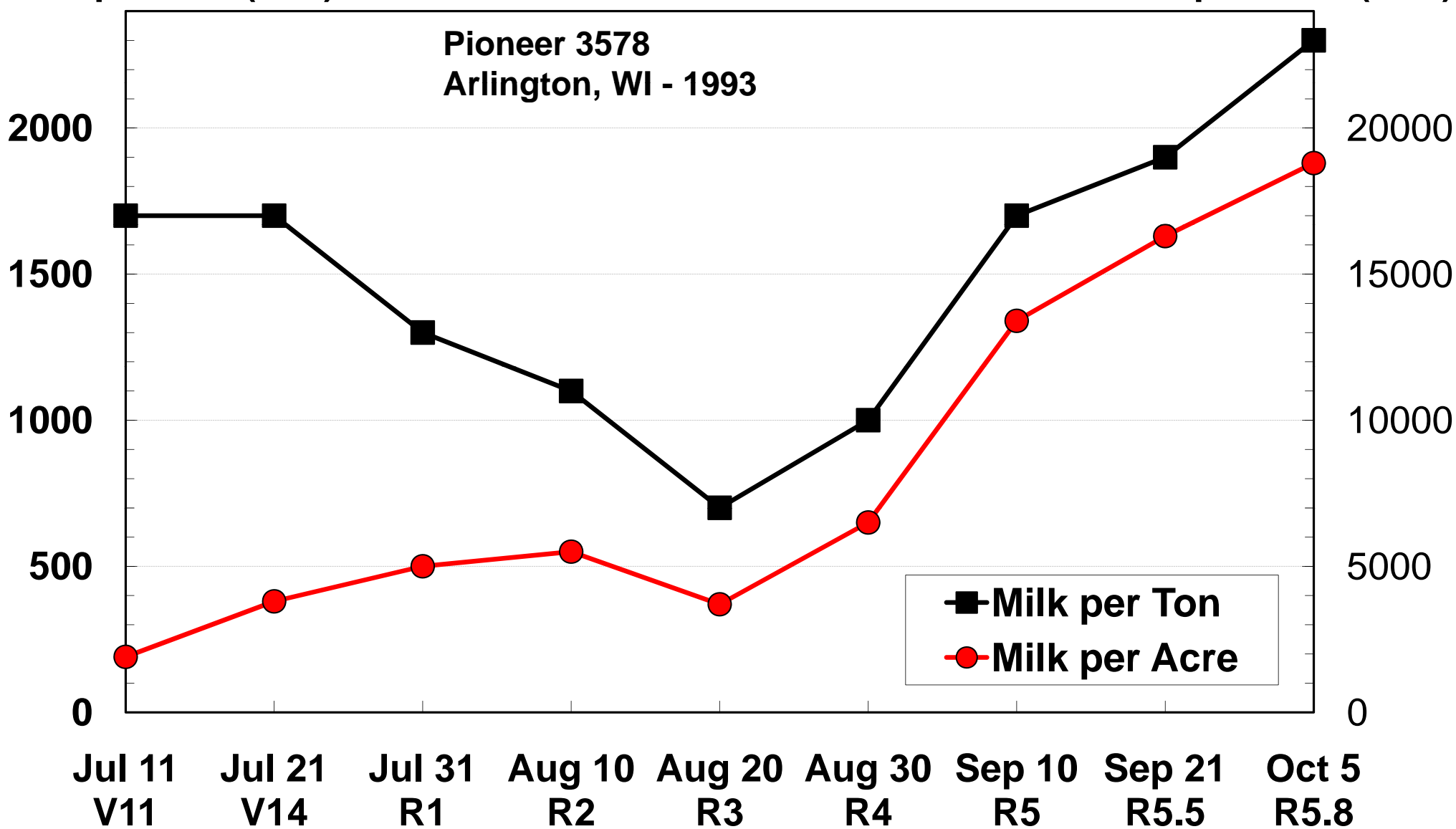
Corn Forage Starch Content (%) Response to Year in the UW Corn Trials (N= 11,292 plots)

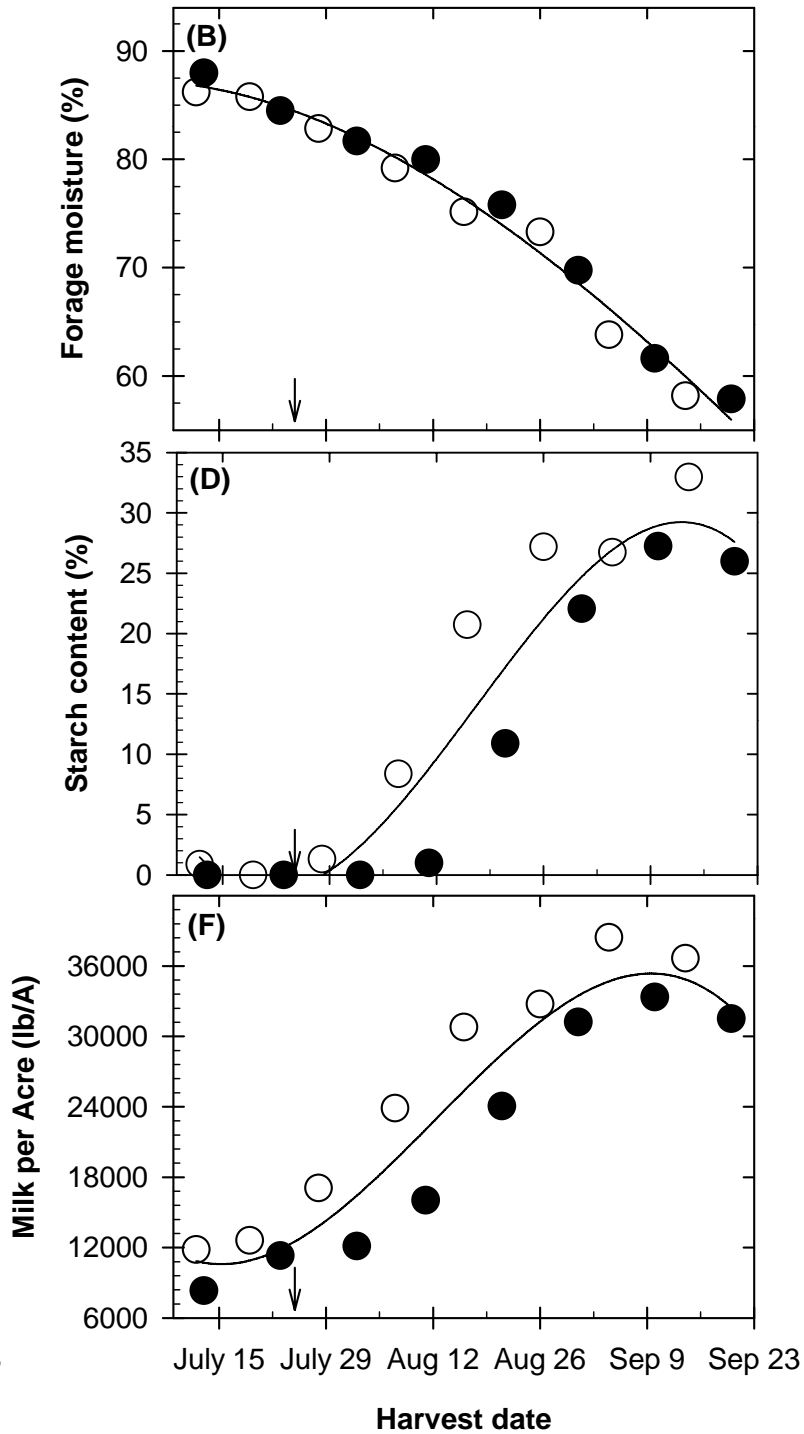
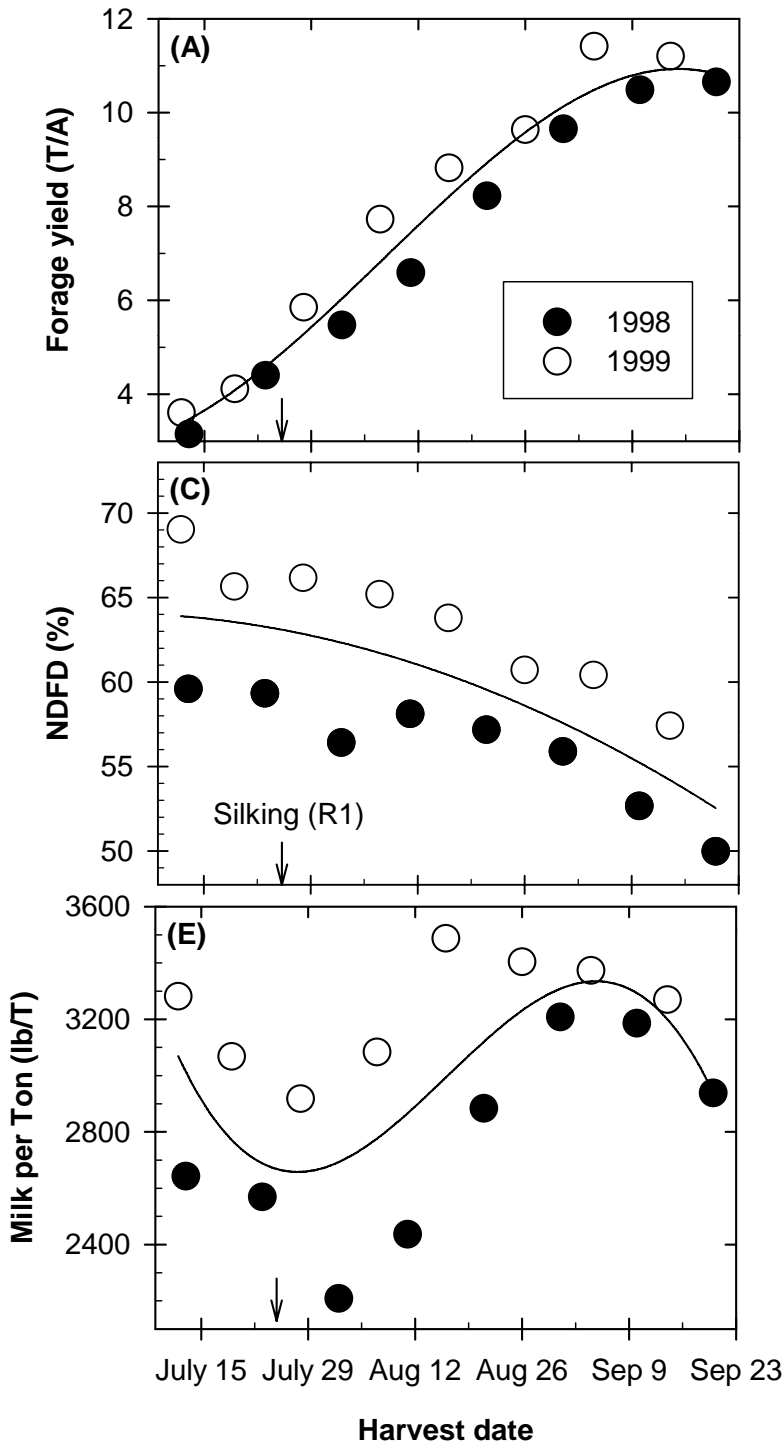


Corn Silage Yield and Quality During Development

Milk per Ton (lb/T)

Milk per Acre (lb/A)





Changes in corn forage yield and quality with harvest date

Each value = mean of 4 hybrids and 4 reps (derived from Darby and Lauer, 2002)

The Yield And Quality Response Of Corn Silage To Climatic Effects And Cultural Practices

Factor	Forage Yield	Dry matter digestibility	NDF	NDFD
Increasing temperature	+	-	+	-
Increasing light intensity	+	+	-	<u>±</u>
Increasing stand density	+	-	+	<u>±</u>
Delayed planting date	-	-	+	<u>±</u>
Delayed harvest date	-	-	+	-
Increasing N rate	+	-	+	<u>±</u>

Source: (Struik, 1983) and (Deinum and Struik, 1989) as modified by (Coors and Lauer, 2001).

Summary

- **Difficult to determine how weather influenced the quality of the 2004 corn silage crop.**
 - ✓ Cool weather would slow development rate.
 - ✓ Late planting coupled with a “cool” growing season would likely produce a less mature crop at harvest.
- **Most quality differences might be related more to maturity at harvest.**
 - ✓ NDFD would be increased.
 - ✓ Starch content would be decreased.
 - ✓ Milk per Ton would not be affected.
- **Recommendations for 2005 are unchanged – “Do what you would normally do to optimize grain yield.”**

The End of the Row – Questions? Thanks for your attention!

