Performance of Roundup Ready Soybeans in the Midwest

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The Move to Roundup Ready

- More flexibility in herbicide application timing
- Simplicity - less confusion of mixes and rates
- Better control of perennial weeds

- Easier switch to conservation tillage practices

The Move to Roundup Ready

2001 Conservation Tillage Survey

American Soybean Association
n=452

"In the past five years, what changes in technology have made it possible for you to reduce tillage or increase crop residue?"

- **63% Roundup Ready technology**
- **47% Better equipment**
- **12% Better chemicals- not specified**

More Survey Results

- **>50% of growers polled credited biotech-derived soybeans as the main reason they were able to adopt reduced tillage practices leading to less loss of topsoil, reduced soil compaction, and significant fuel savings**

- **The American Soybean Association (ASA) study confirmed that 73 percent of the growers in the study leave more crop residue on the soil surface than they did five years ago before herbicide-tolerant soybeans were introduced.**
- **48% have increased their no-till acres**

2001-Roundup Ready in Review

- New acreage records across Midwest
- Renewed concerns about marketing
- More glyphosate choices

- More organic/food grade acreage

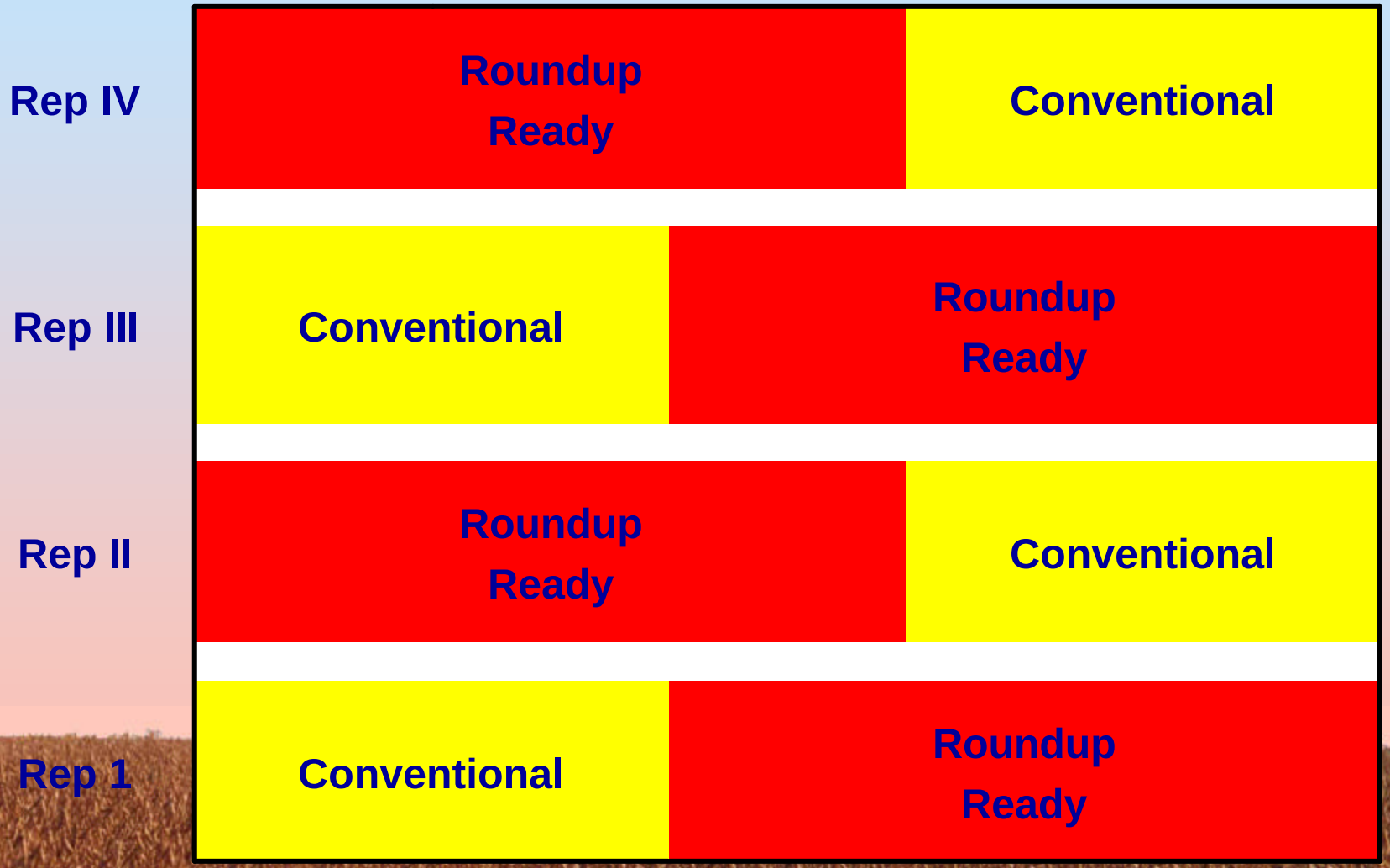
Roundup Ready Marketing

	2000		2001	
Seed Company	Total	RR	Total	RR
Dairyland Seeds	44	48%	42	67%
Garst and Agripro	115	50%	136	65%
Golden Harvest	165	56%	159	67%
Great Lakes	34	53%	31	71%
Midland Genetics	25	52%	22	77%
Monsanto	110	85%	111	75%
Mycogen	46	33%	47	57%
NC+ Hybrids	41	61%	30	71%
Pioneer	114	48%	88	51%
Syngenta	57	42%	58	60%
Total	751	55%	724	65%

Seed Today Oct/Nov/Dec 2001

Wisconsin Testing Procedure

RCB Nested Design



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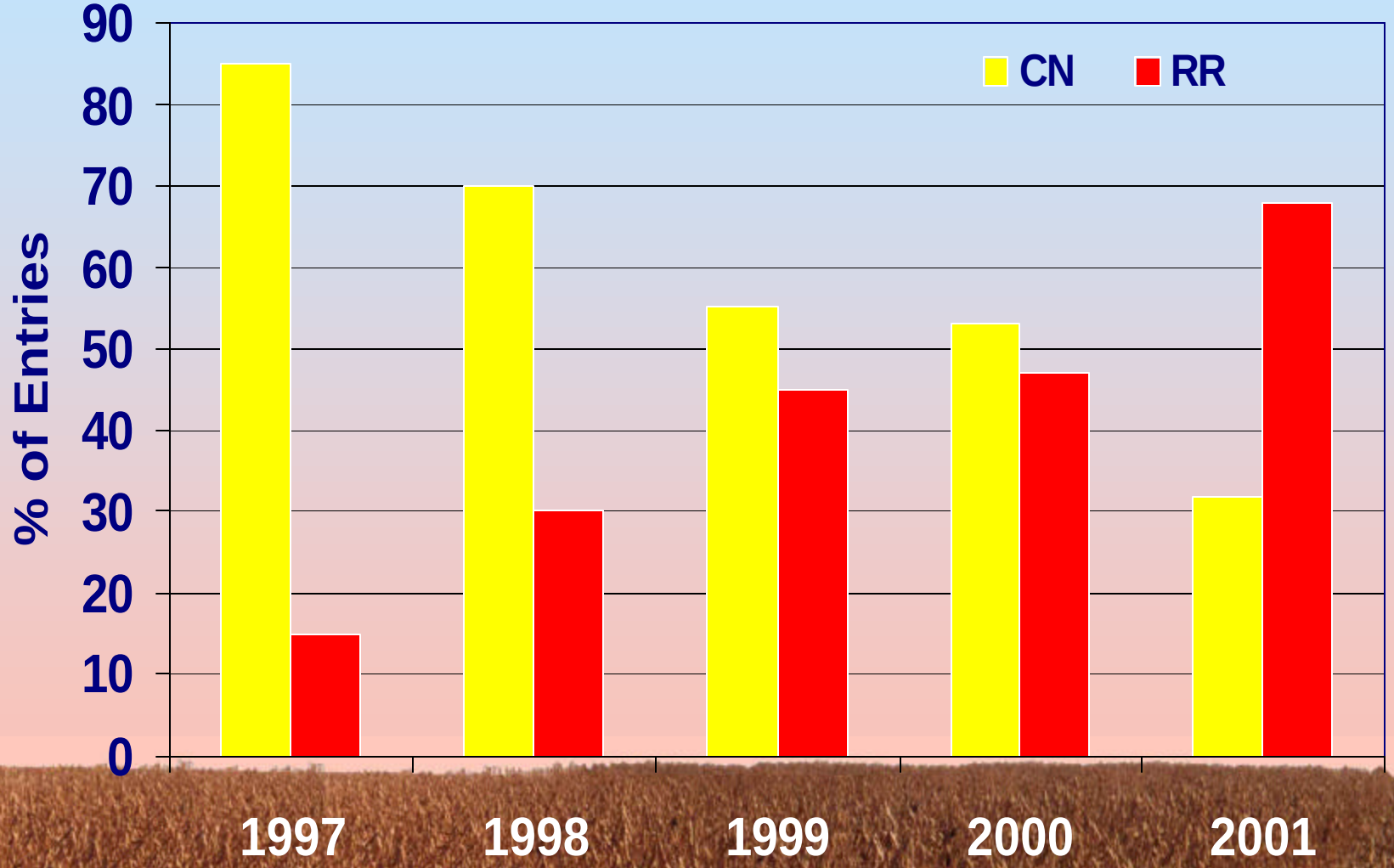
Roundup Ready and Conventional Entries in WI Variety Trials



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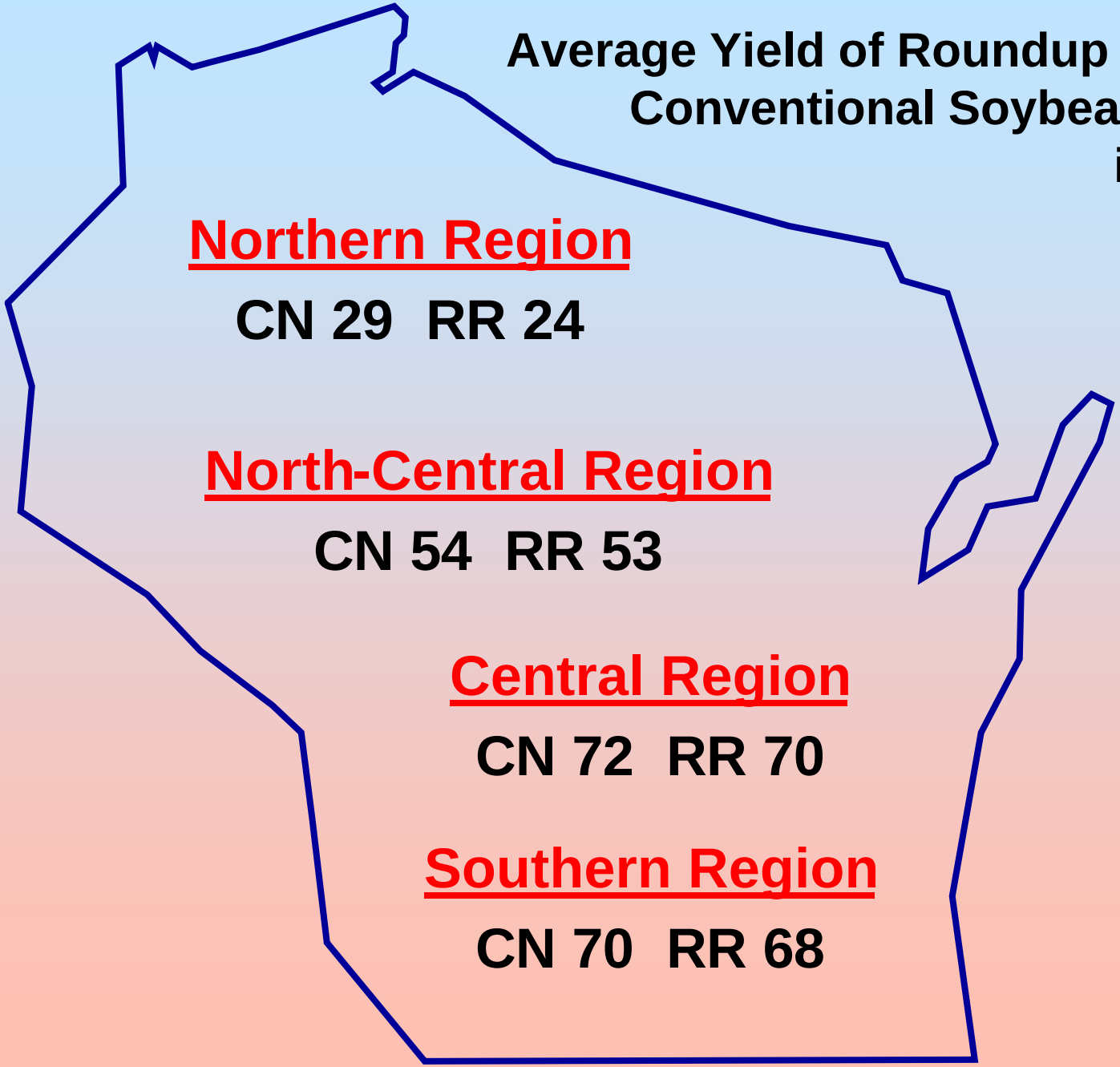


Average Yield of Roundup Ready and Conventional Soybean Varieties in WI. 1998

Northern Region

CN 29 RR 24

North-Central Region

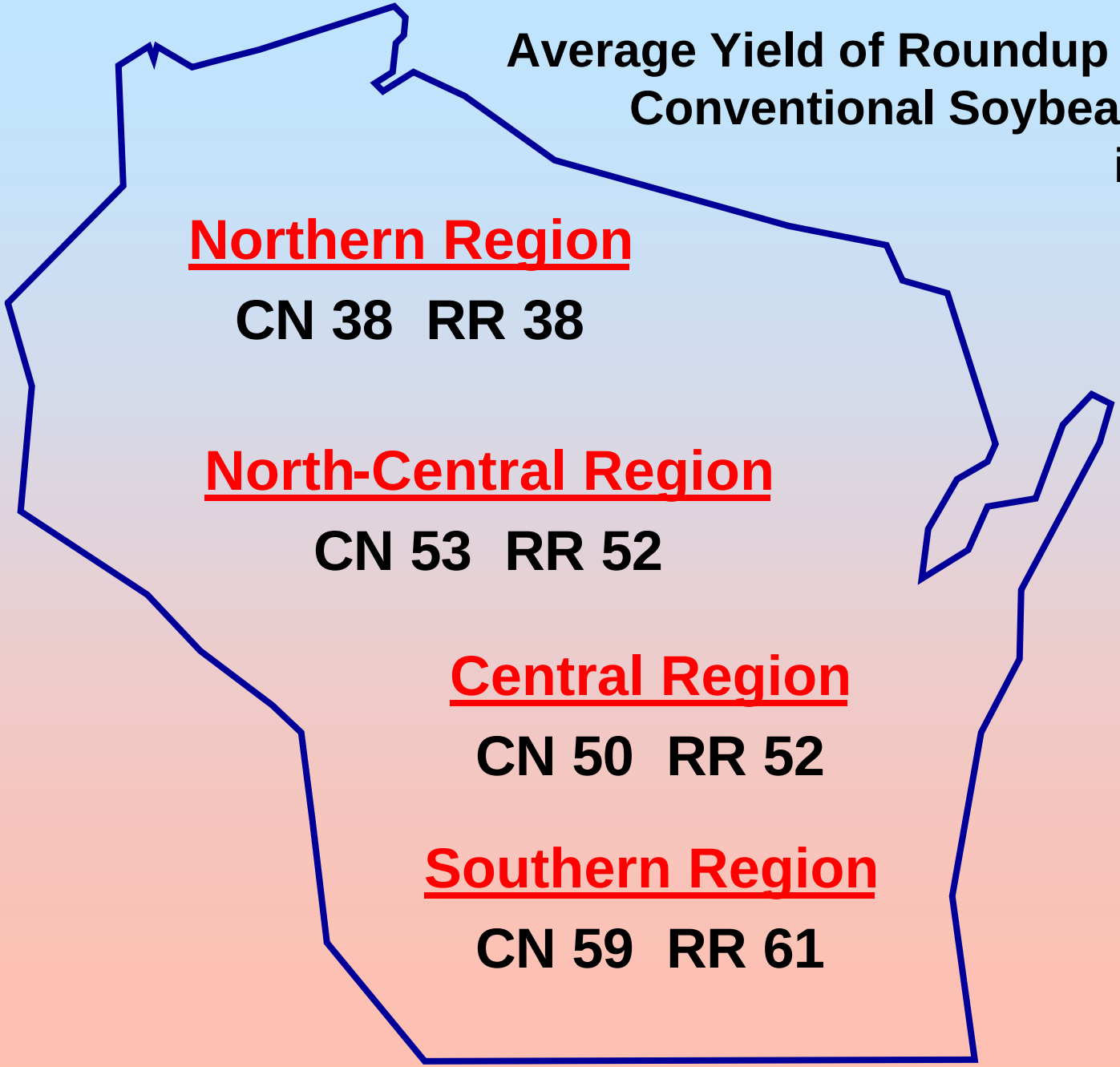
CN 54 RR 53

Central Region

CN 72 RR 70

Southern Region

CN 70 RR 68



Average Yield of Roundup Ready and Conventional Soybean Varieties in WI. 2001

Northern Region

CN 38 RR 38

North-Central Region

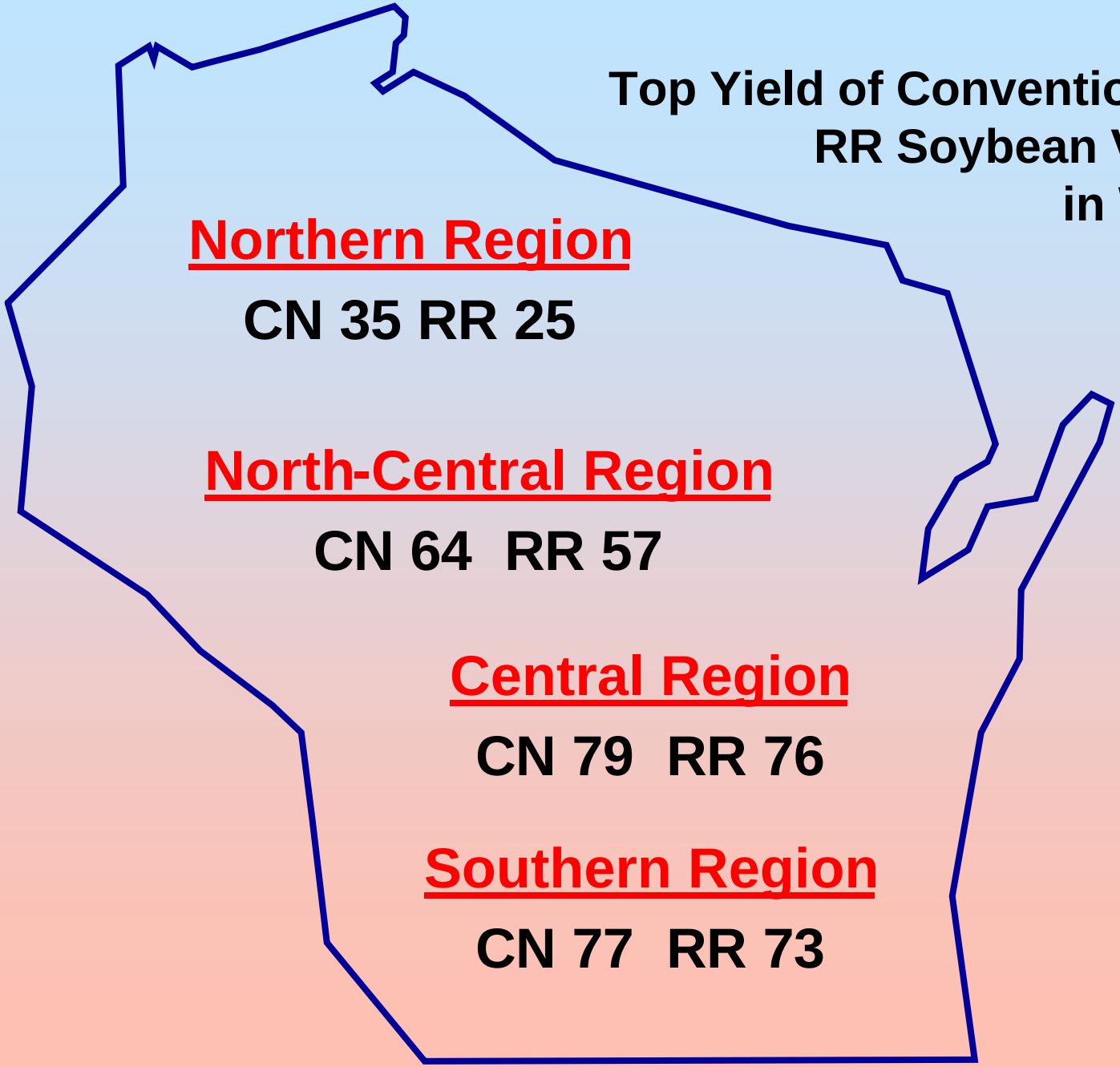
CN 53 RR 52

Central Region

CN 50 RR 52

Southern Region

CN 59 RR 61



Top Yield of Conventional and RR Soybean Varieties in WI. 1998

Northern Region

CN 35 RR 25

North-Central Region

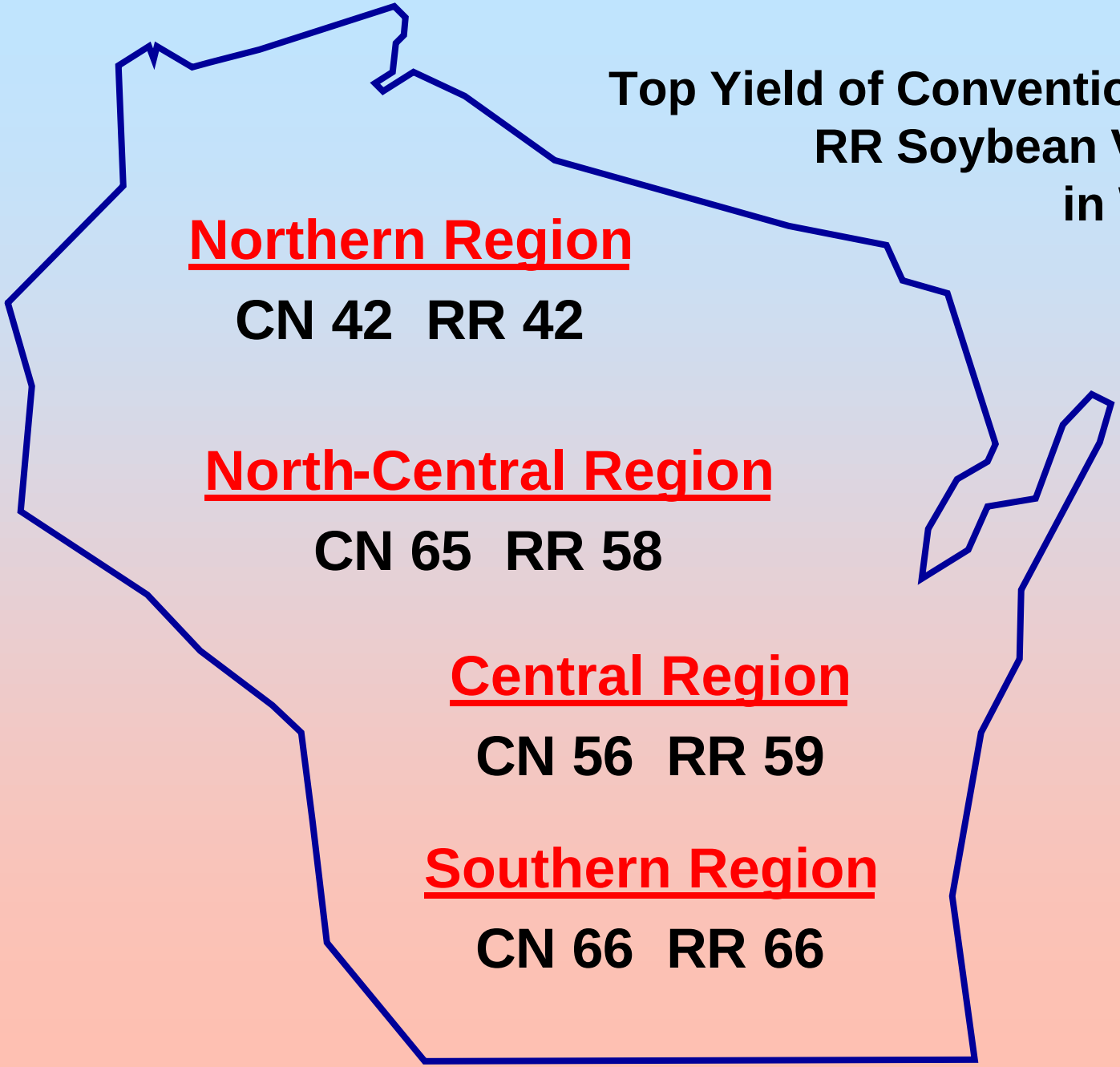
CN 64 RR 57

Central Region

CN 79 RR 76

Southern Region

CN 77 RR 73



Top Yield of Conventional and RR Soybean Varieties in WI. 2001

Northern Region

CN 42 RR 42

North-Central Region

CN 65 RR 58

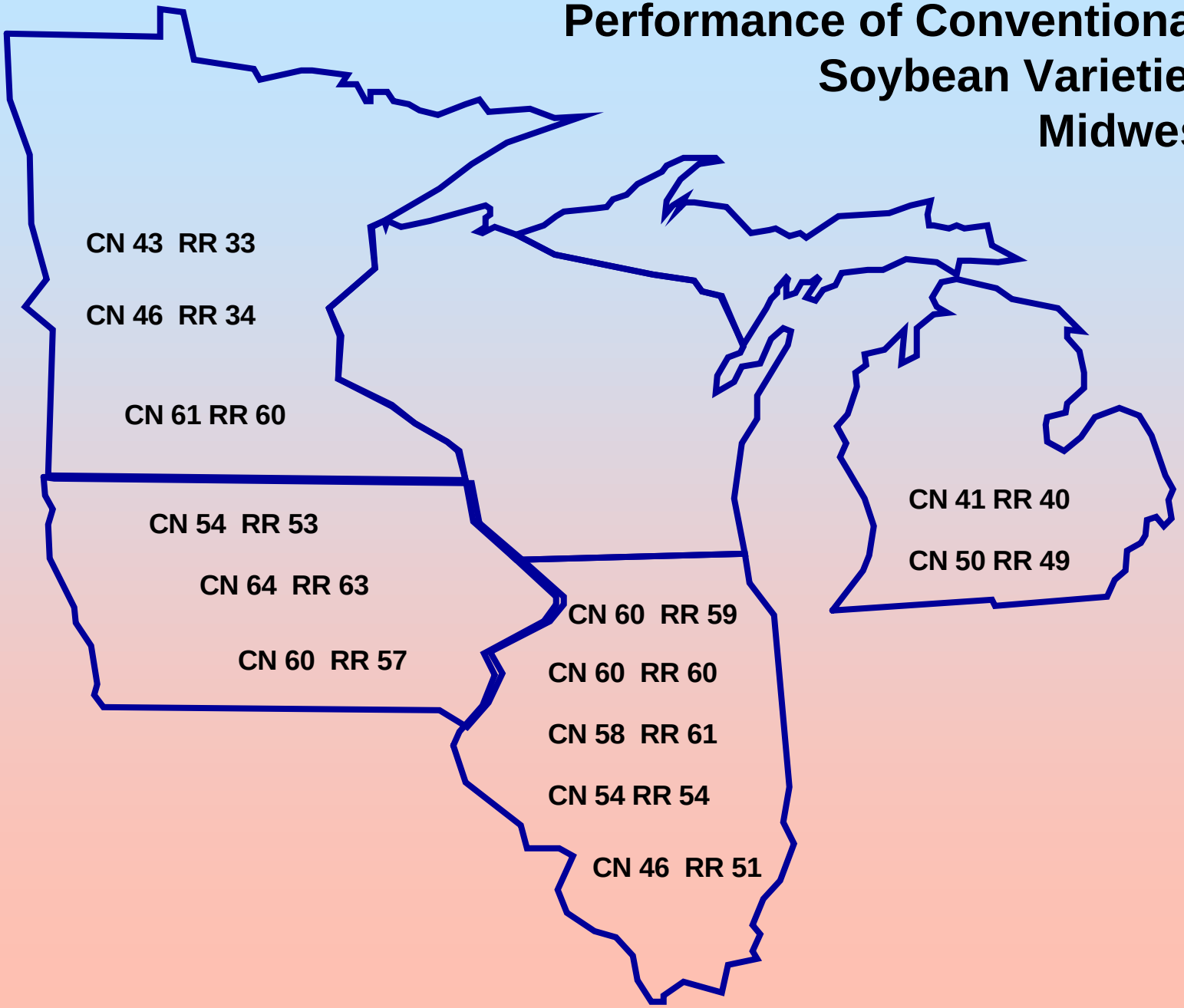
Central Region

CN 56 RR 59

Southern Region

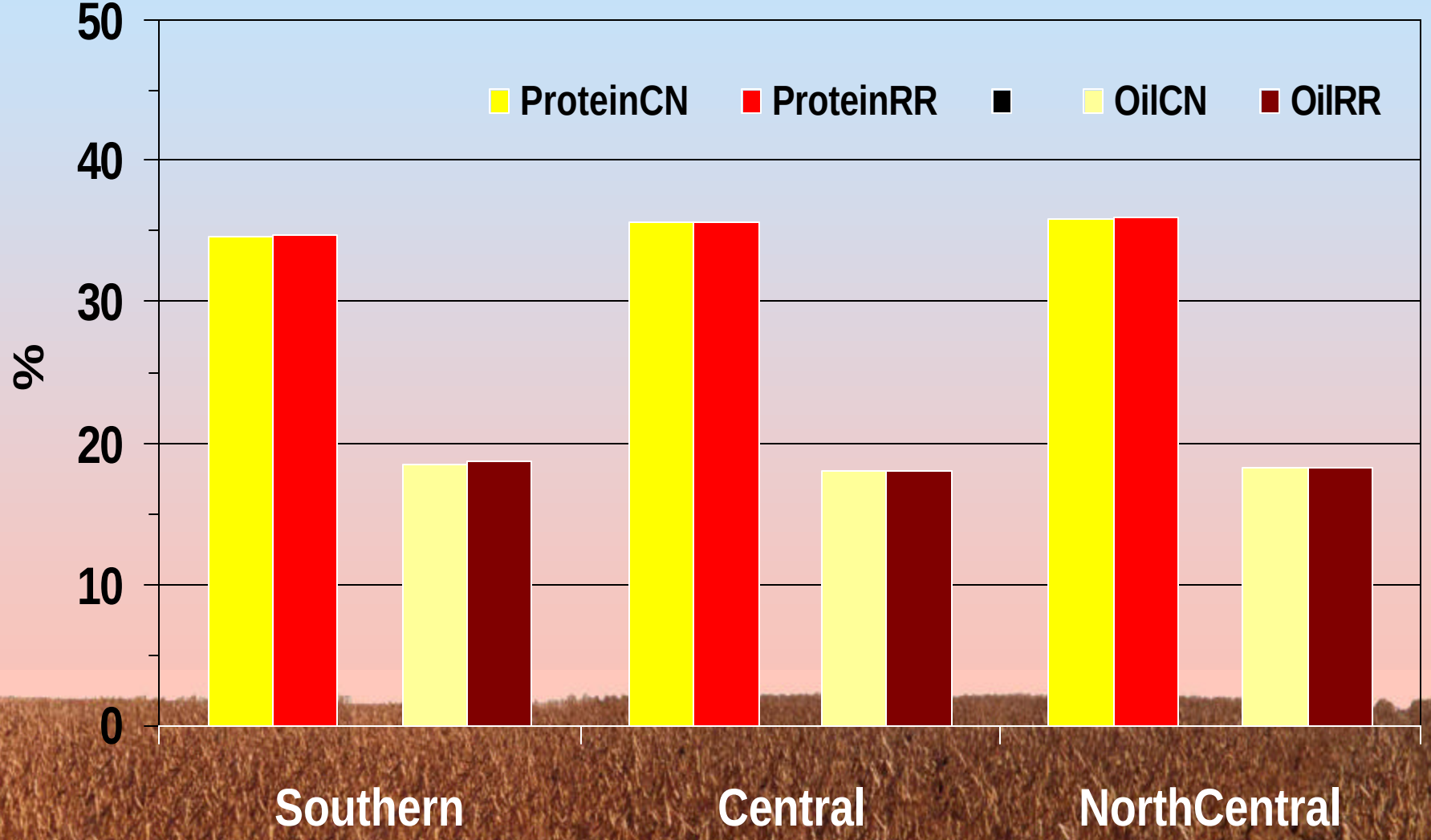
CN 66 RR 66

Performance of Conventional vs RR Soybean Varieties in the Midwest. 2001



Comparison of Protein and Oil Quality of Roundup Ready vs. Conventional Soybean Varieties

1999 Variety Evaluation Program



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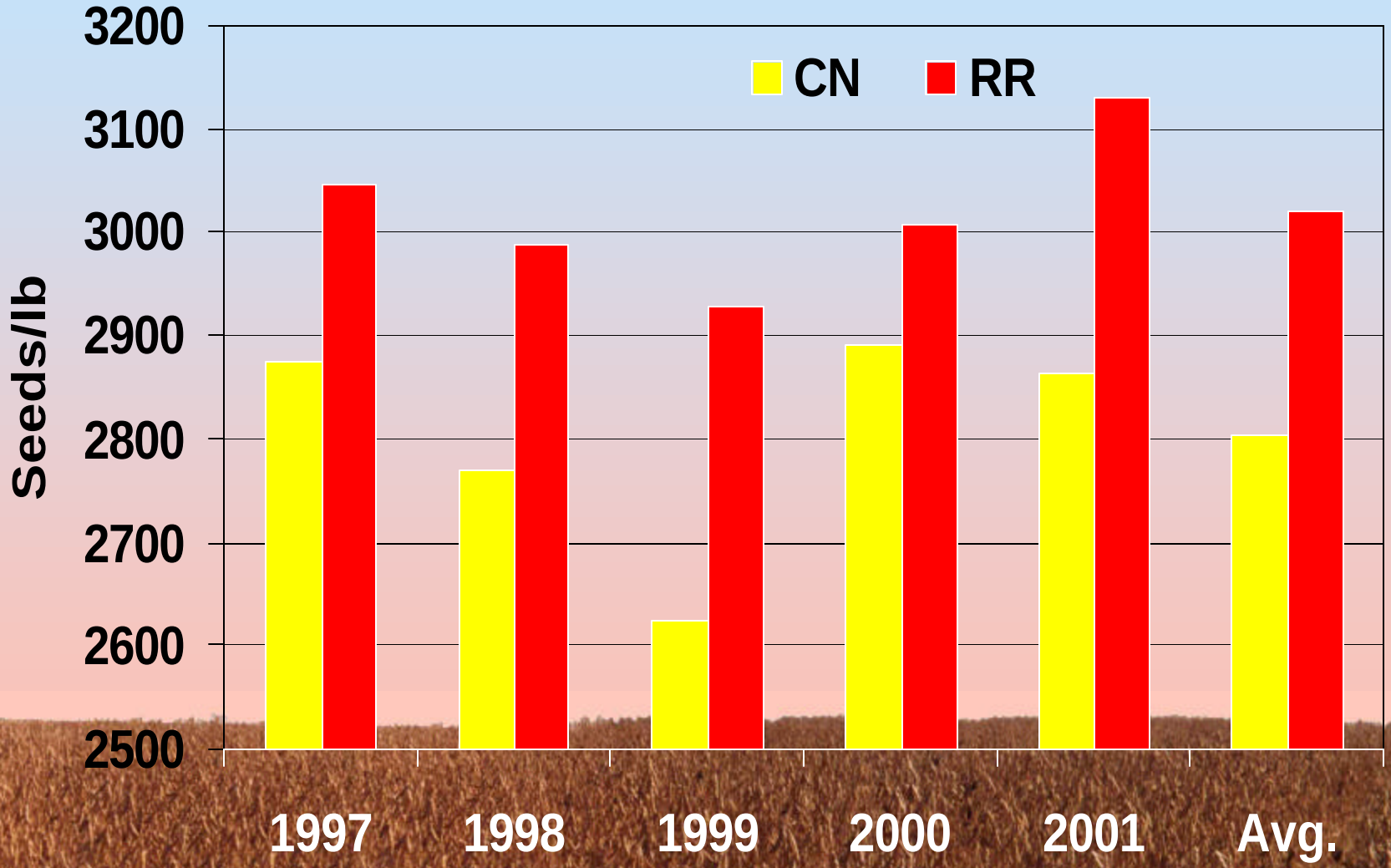
Seed Size of Roundup Ready vs. Conventional Varieties

Wisconsin Soybean Variety Evaluation Program



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Summary

What's right with Roundup Ready

- Agronomically the same yields as CN
- Tested extensively
- Many good varieties
- Ease of weed management
- One herbicide system
- Control of perennial broadleaf weeds
- Responsible for aiding in adoption of reduced tillage and increased crop residue

What's wrong Roundup Ready

- Export concerns
- Technology fees ~$7.50/50 lb
- GMO food labeling
- 5¢ to 35¢ /bu premiums for non-GMO soybeans in 20% of Midwestern elevators

Thank You!

- Questions?
- Comments?