

# **Replacing Races: Adaptation of the HG Type Test for Practical Applications**

ISPOB SCN MRA

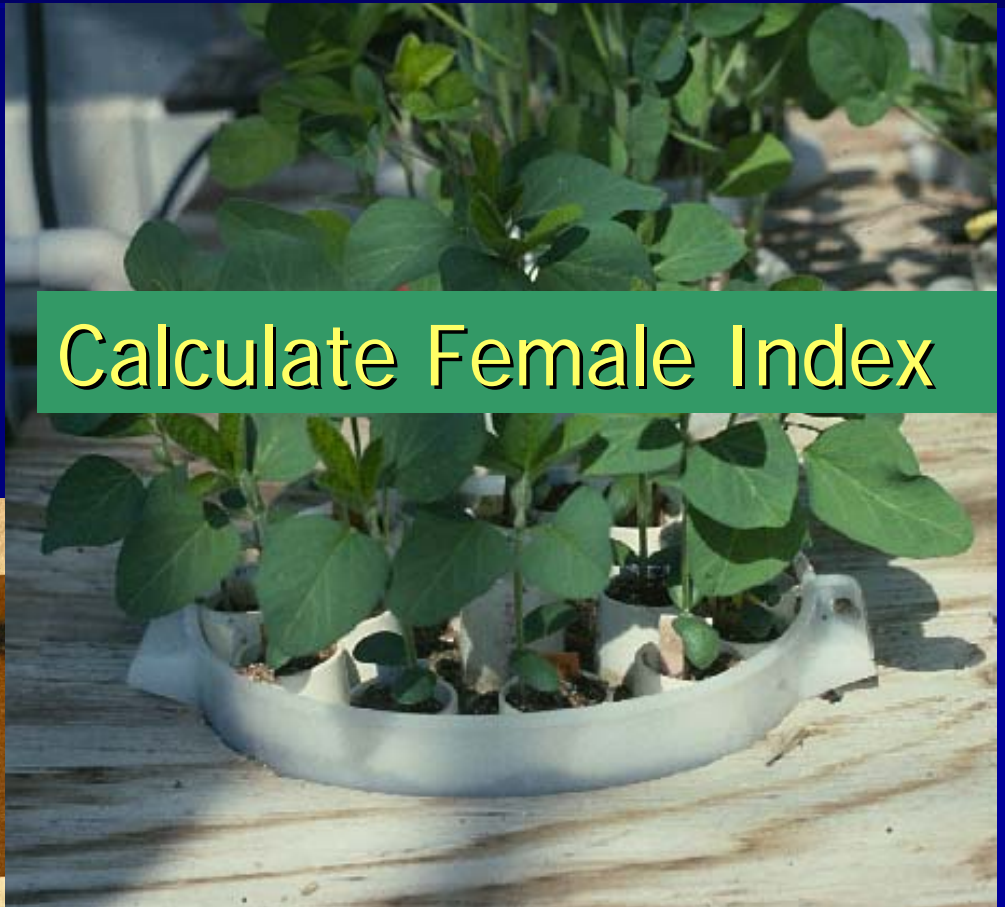
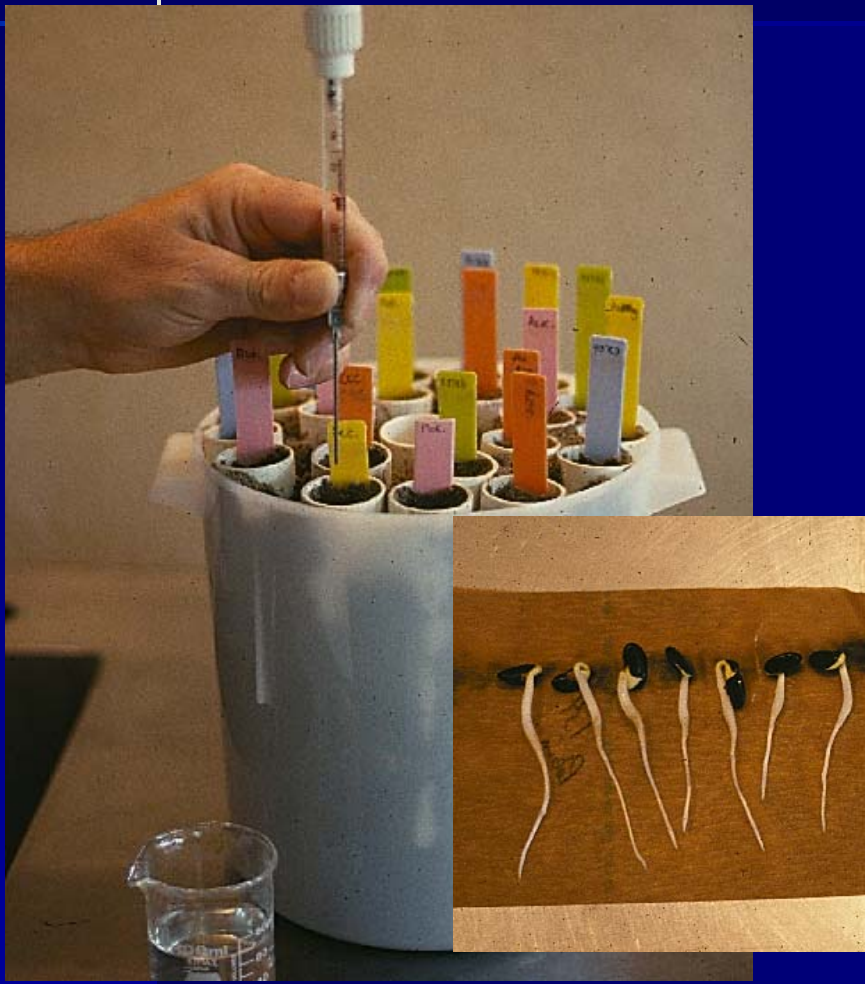
Spring Research Forum 2005



## **Plant Introductions (PI) in pedigrees of SCN-resistant cultivars or germplasm lines**

1	PI 548402 (Peking)	1966
2	PI 88788	1981
3	PI 90763	1990
4	PI 437654	1992
5	PI 209332	1992
6	PI 89772	1994
7	PI 548316 (Cloud)	1994

# HG Type Testing



Calculate Female Index

# Female Index\*

$$\left\{ \frac{\text{Mean no. females on test line}}{\text{Mean no. females on check}} \right\} \times 100$$

\* Index of Parasitism, Cyst Index, Index

# HG Type 0

Indicator	#	FI
PI548402	1	<b>0</b>
PI88788	2	<b>2</b>
PI90763	3	<b>0</b>
PI437654	4	<b>0</b>
PI209332	5	<b>3</b>
PI89772	6	<b>5</b>
PI548316	7	<b>9</b>

# HG Type 7

Indicator	#	FI	
PI548402	1	<b>3</b>	
PI88788	2	<b>8</b>	
PI90763	3	<b>4</b>	
PI437654	4	<b>0</b>	
PI209332	5	<b>9</b>	
PI89772	6	<b>5</b>	
PI548316	7	<b>26</b>	✓

# HG Type 2.5.7

Indicator	#	FI	
PI548402	1	8	
PI88788	2	22	✓
PI90763	3	3	
PI437654	4	0	
PI209332	5	26	✓
PI89772	6	4	
PI548316	7	46	✓

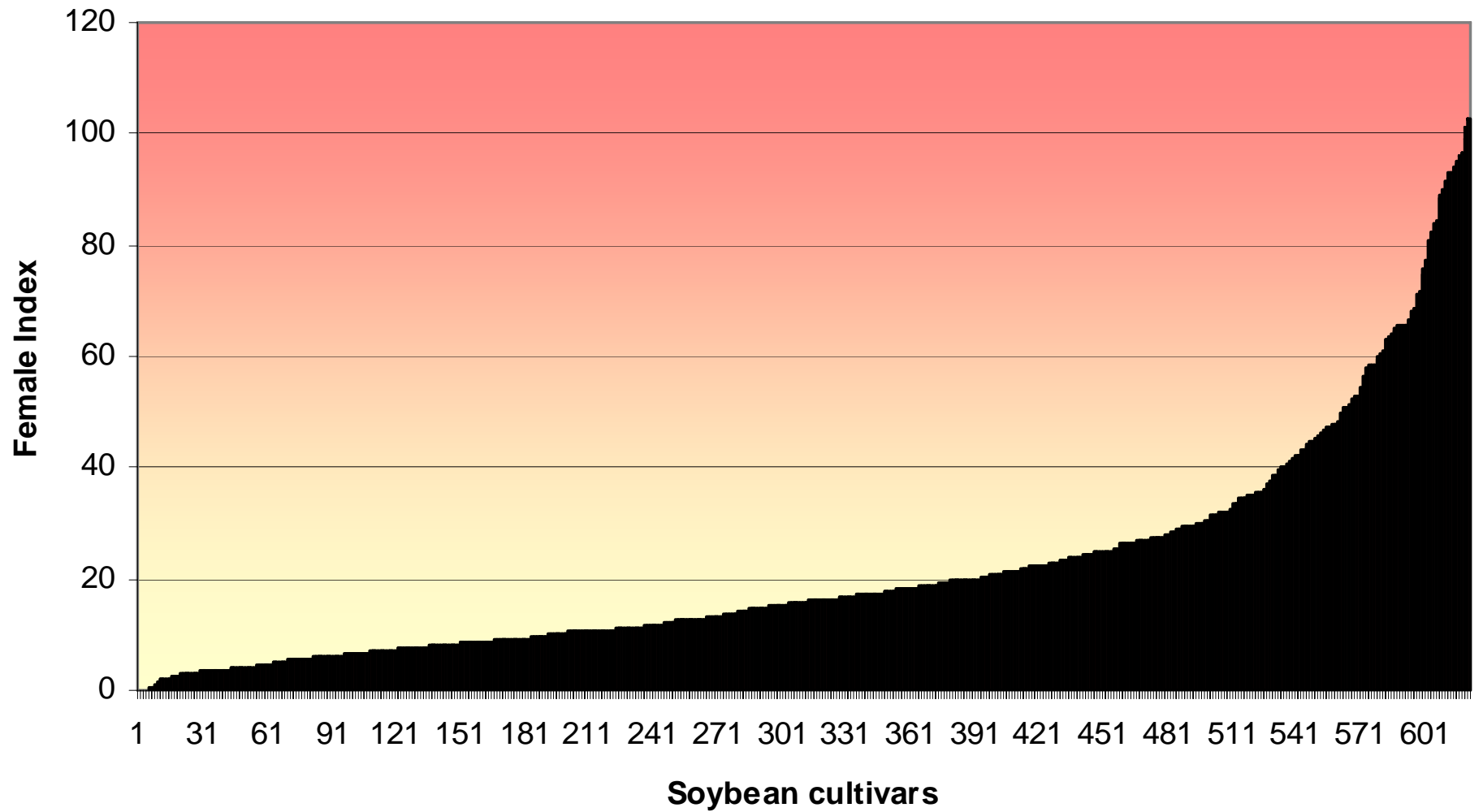
# Practical Applications

- Variety testing
- Recommendations

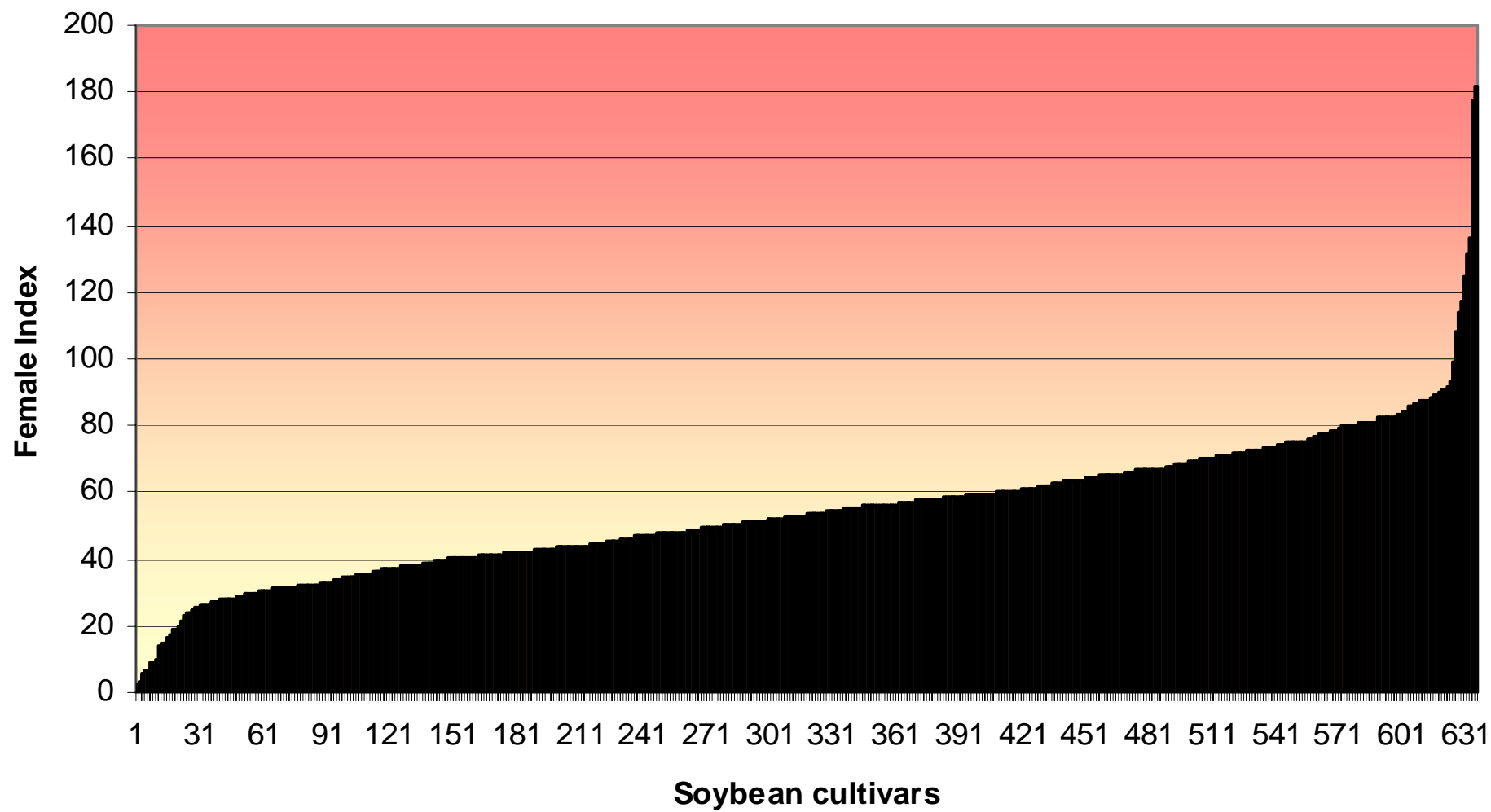
# SCN Screening Program - 2004

- 636 varieties
- 5 SCN populations
- Data published in VIPS

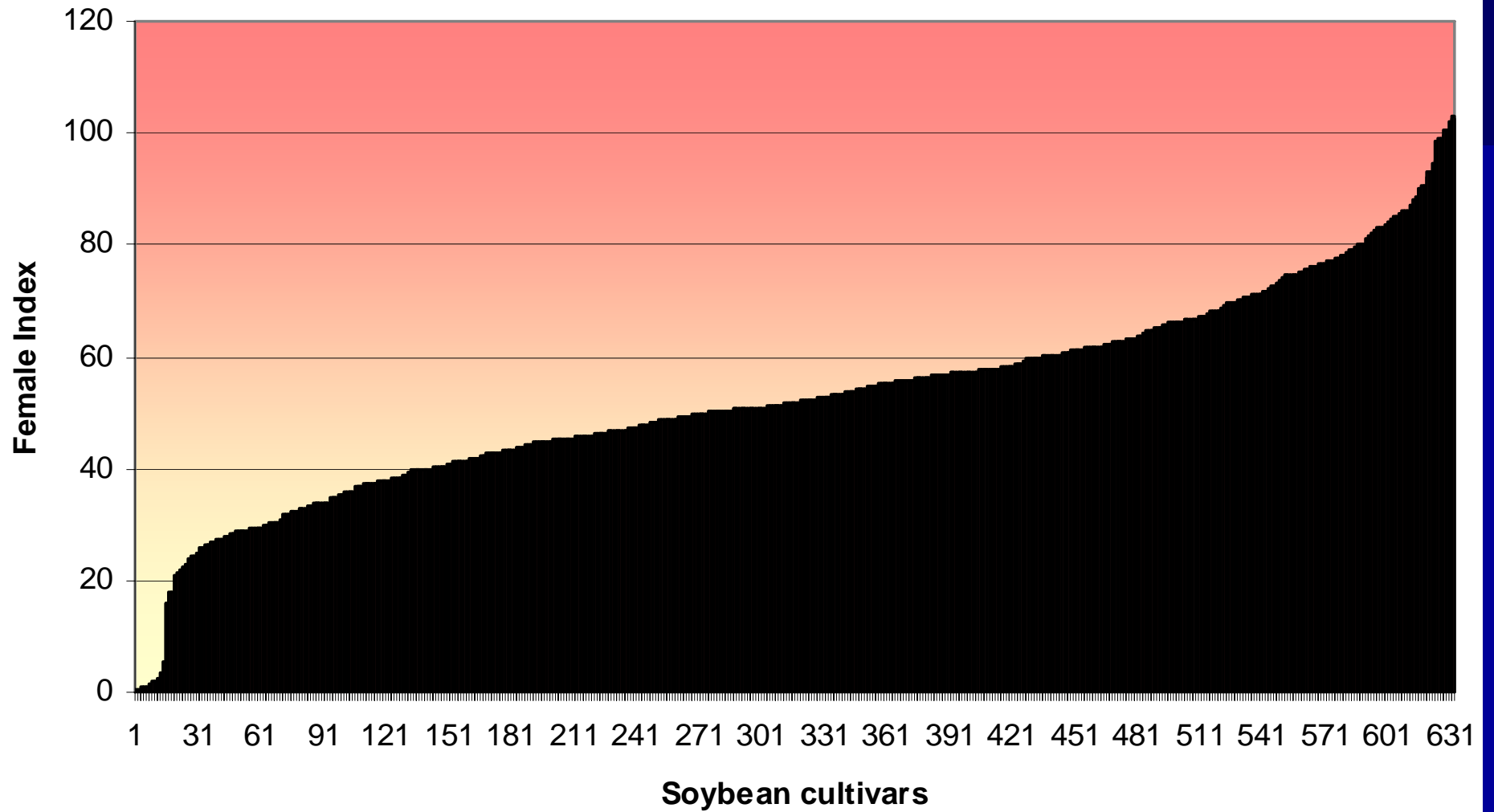
# USDA HG Type 0 2004



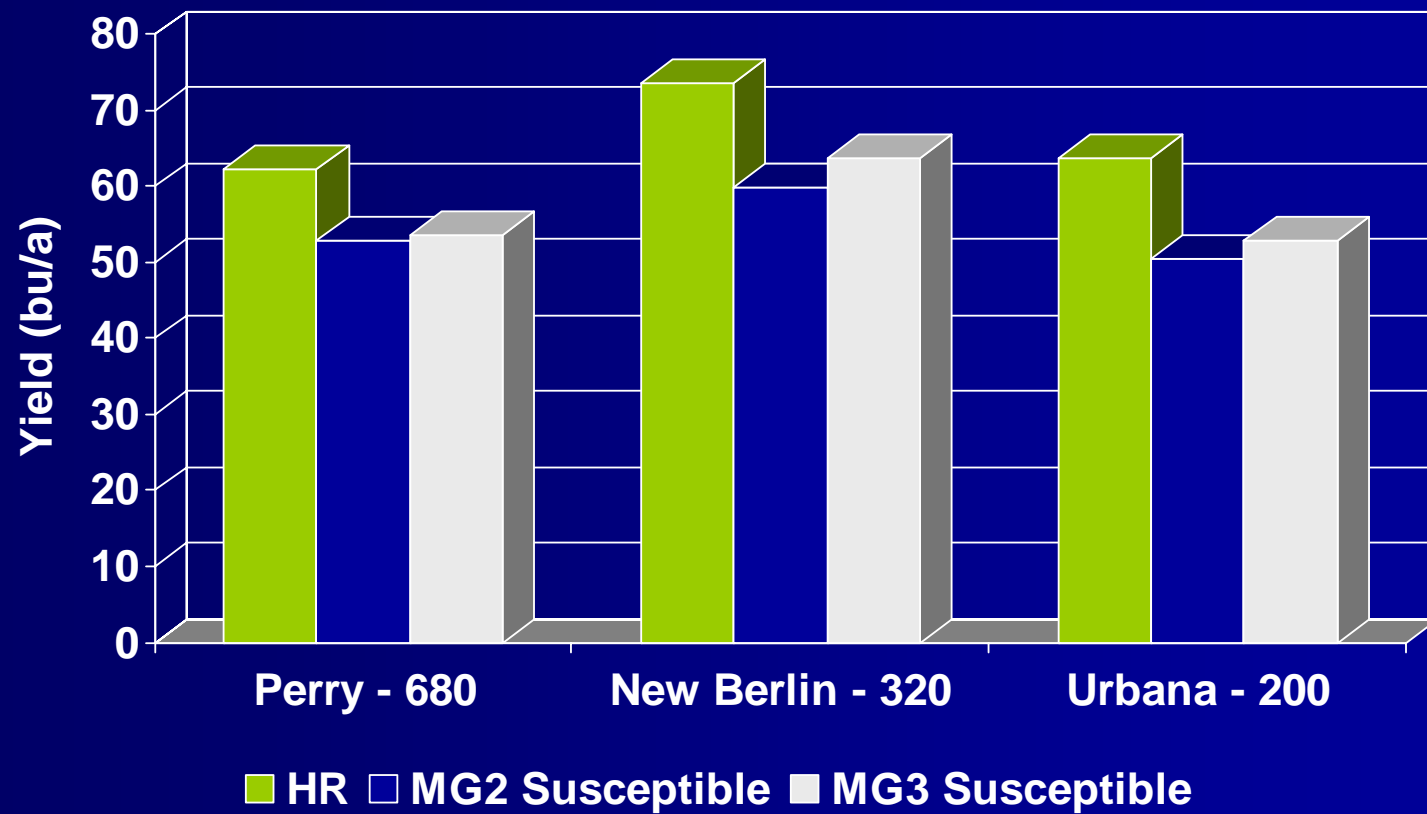
# UIUC HG Type 2.5.7 2004

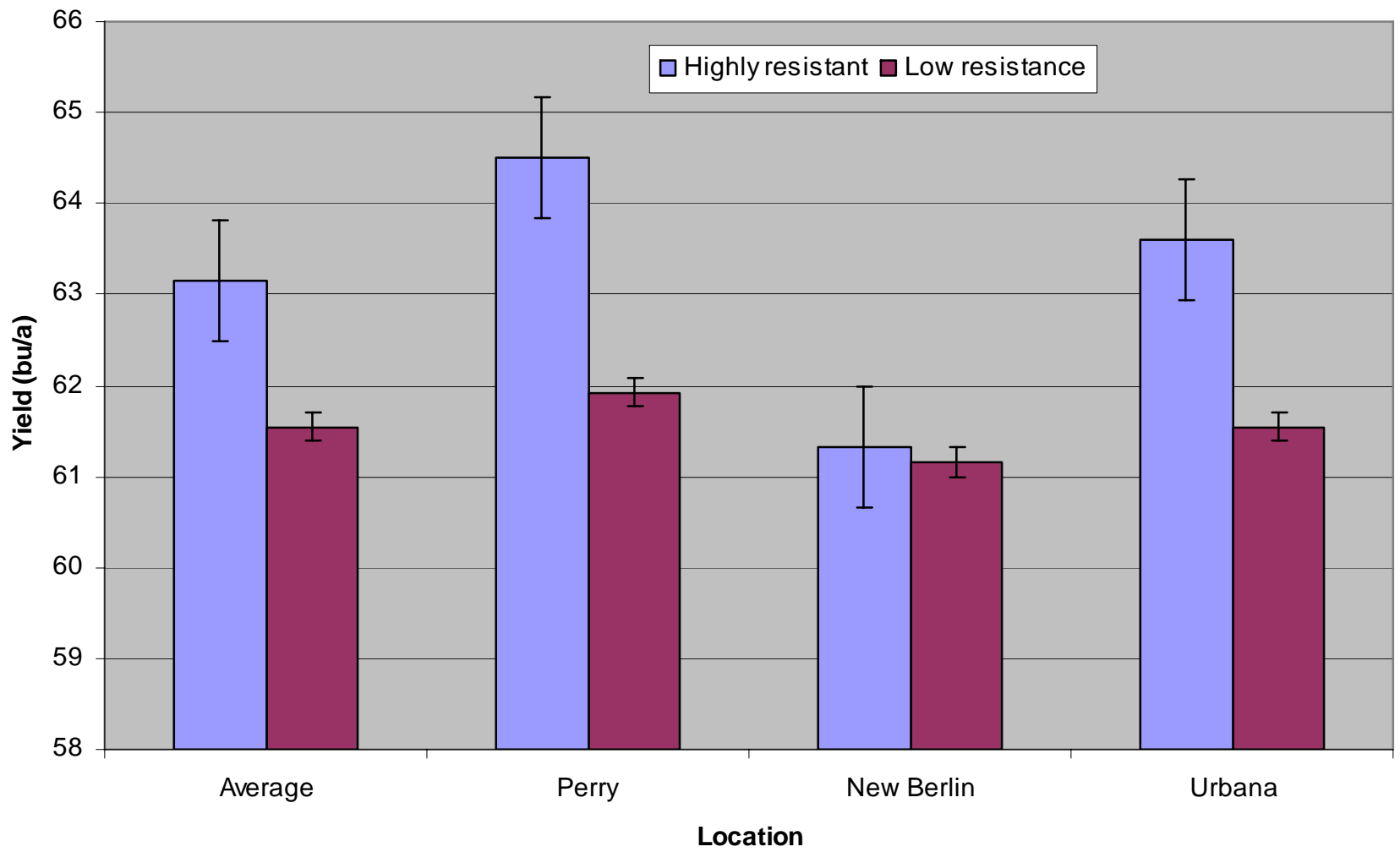


# SIU HG Type 2.5.7



# Low SCN pressure





# Practical Applications

- Variety testing
- Recommendations

# Illinois SCN Type Test

- 1 PI 548402 (Peking)
- 2 PI 88788
- 3 PI 90763
- 4 PI 437654
- 5 PI 209332
- 6 PI 89772
- 7 PI 548316 (Cloud)

# Distribution of SCN Races Southern Illinois 1999

Race	Number	Percentage
3	50	72
1	7	10
6	5	7
5	2	3
4	2	3
Others	3	5
Total	69	100

# Distribution of SCN Races Southern Illinois 1999

	SCN Type	Number	Percentage
	0	50	72
→	2	7	10
	0	5	7
→	2	2	3
→	1.2	2	3
	Others	3	5
	Total	69	100

# Distribution of SCN Races Southern Illinois 1999

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SCN Type	Number	Percentage
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0

55

78

1.2, 2

11

16

# Distribution of SCN Types Southern Illinois 2004

SCN Type	Number	Percentage	
0	5	18	
2	17	61	} 82%
1.2	6	21	
Total	28	100	

# Distribution of SCN Races Southern Illinois 2004

SCN Type	Number	Percentage
0	5	18
2	17	61
1.2	6	21
Total	28	100
(4)	(10)	(36)

# Acknowledgments

- Illinois Soybean Checkoff
- Kamron Colgrove
- Sally Stetina
- Randy Nelson