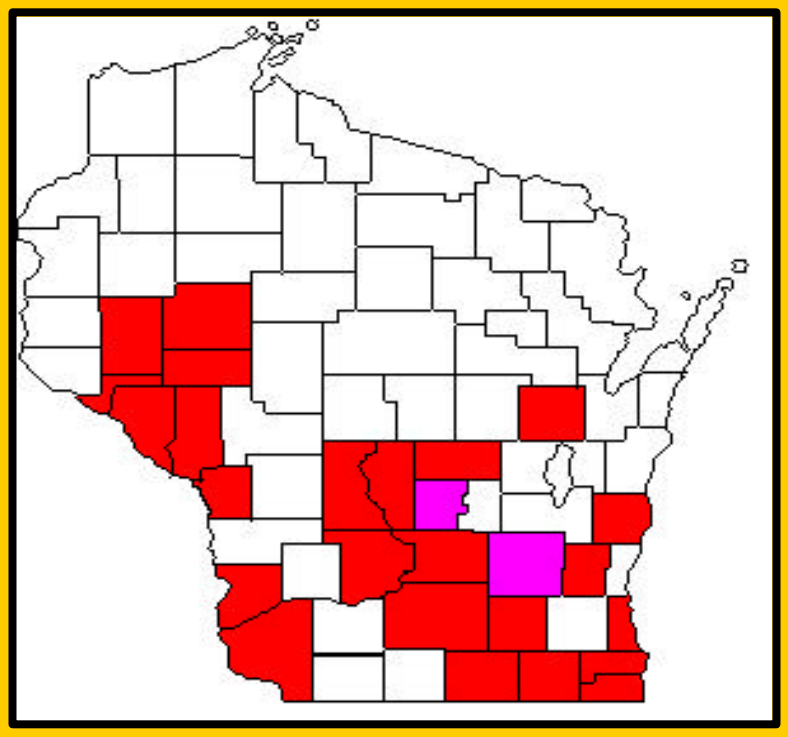
- **Distribution**
- **Thresholds for Planting a Resistant Variety**
- **Impact of host resistance on SCN**

Approximately 20% of the soybean acreage in Wisconsin is infested with Soybean Cyst Nematode (SCN). The SCN has been detected from 26 counties to date.



Counties infested:

Adams
Buffalo
Chippewa
Columbia
Crawford
Dane
Dodge
Dunn
Eau Claire
Grant
Jefferson
Juneau
Kenosha
La Crosse
Marquette
Milwaukee
Outagamie
Pepin
Racine
Rock
Sauk
Sheboygan
Trempealeau
Walworth
Washington
Waushara

Only a soil test will reveal the SCN-disease potential of a site

Manage SCN using

Rotation

SCN does not infect all plants. Without a host to feed on, the nematode population will decline.

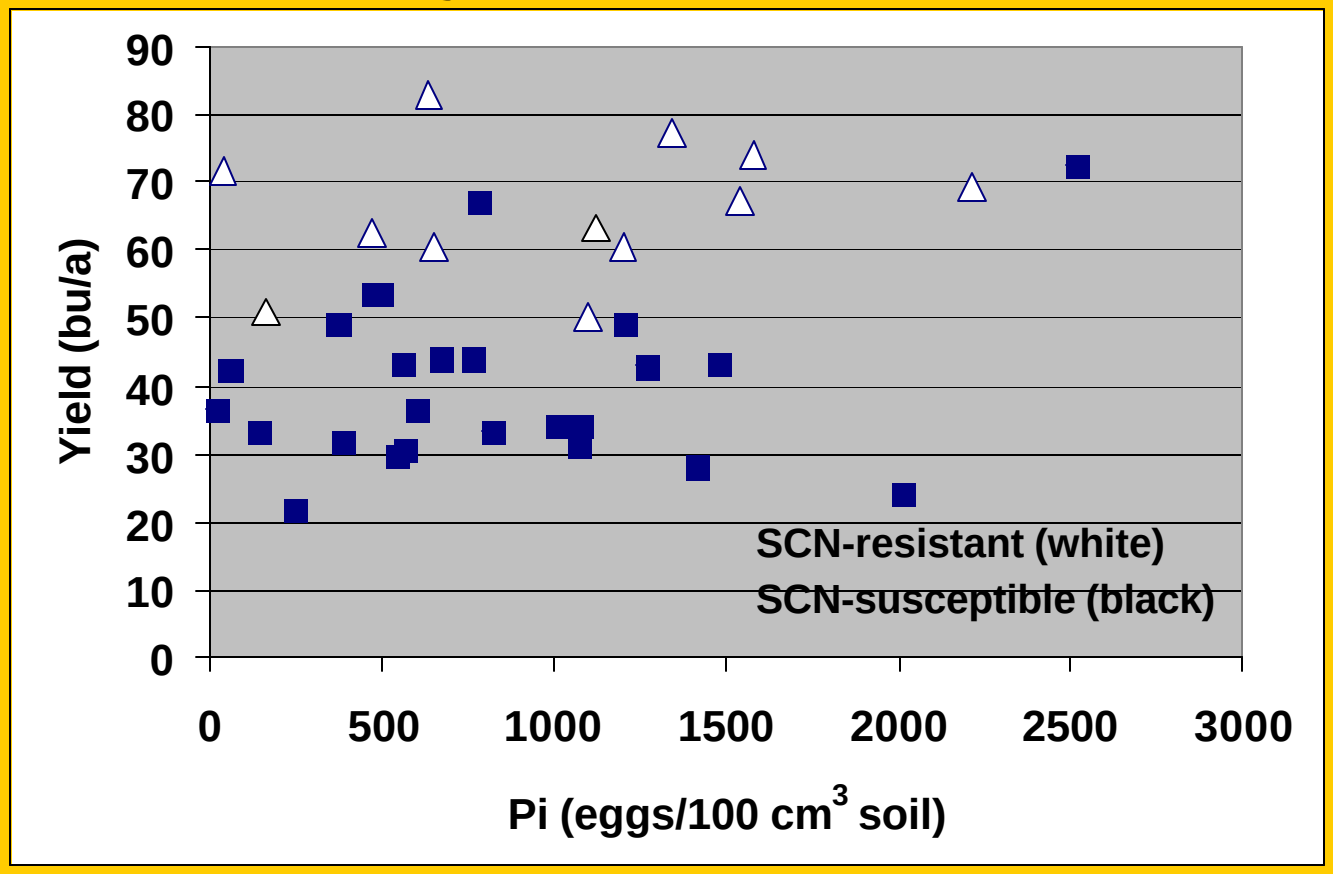
Resistant Varieties

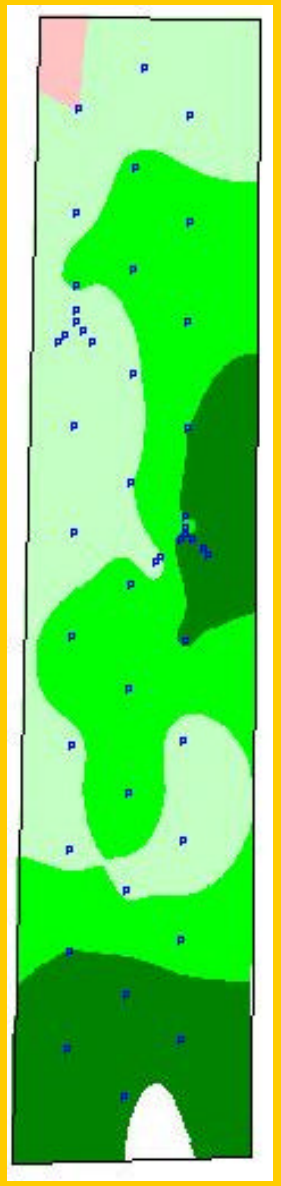
Nematodes infect resistant varieties but relatively few nematodes mature and reproduce.

Racine Field No. 2 – 2000

Pi = 905

Average yield gain of resistant variety = 25 bu/A (P = 0.01)



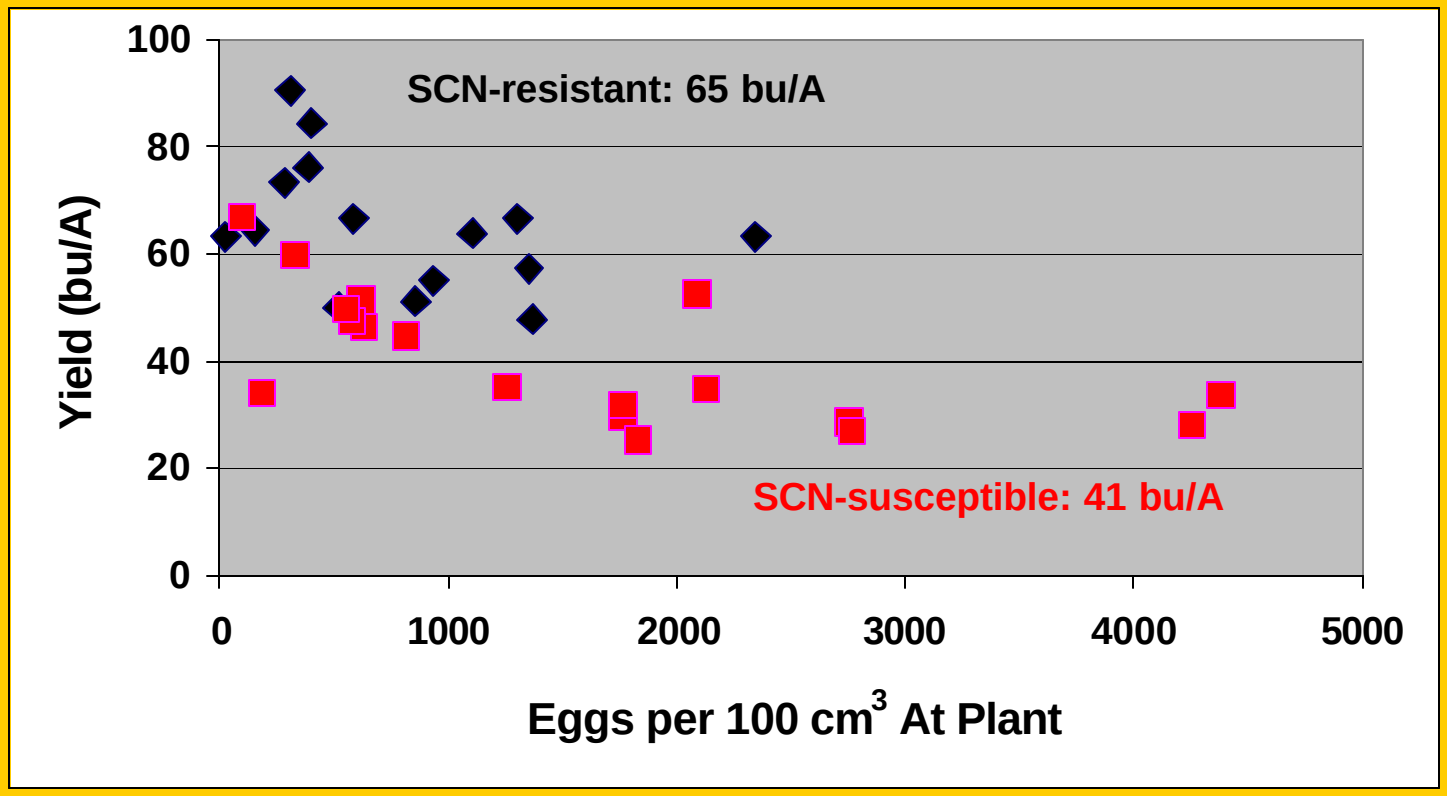


SCN Pi

Racine No. 3 - 2001

Pi = 1179

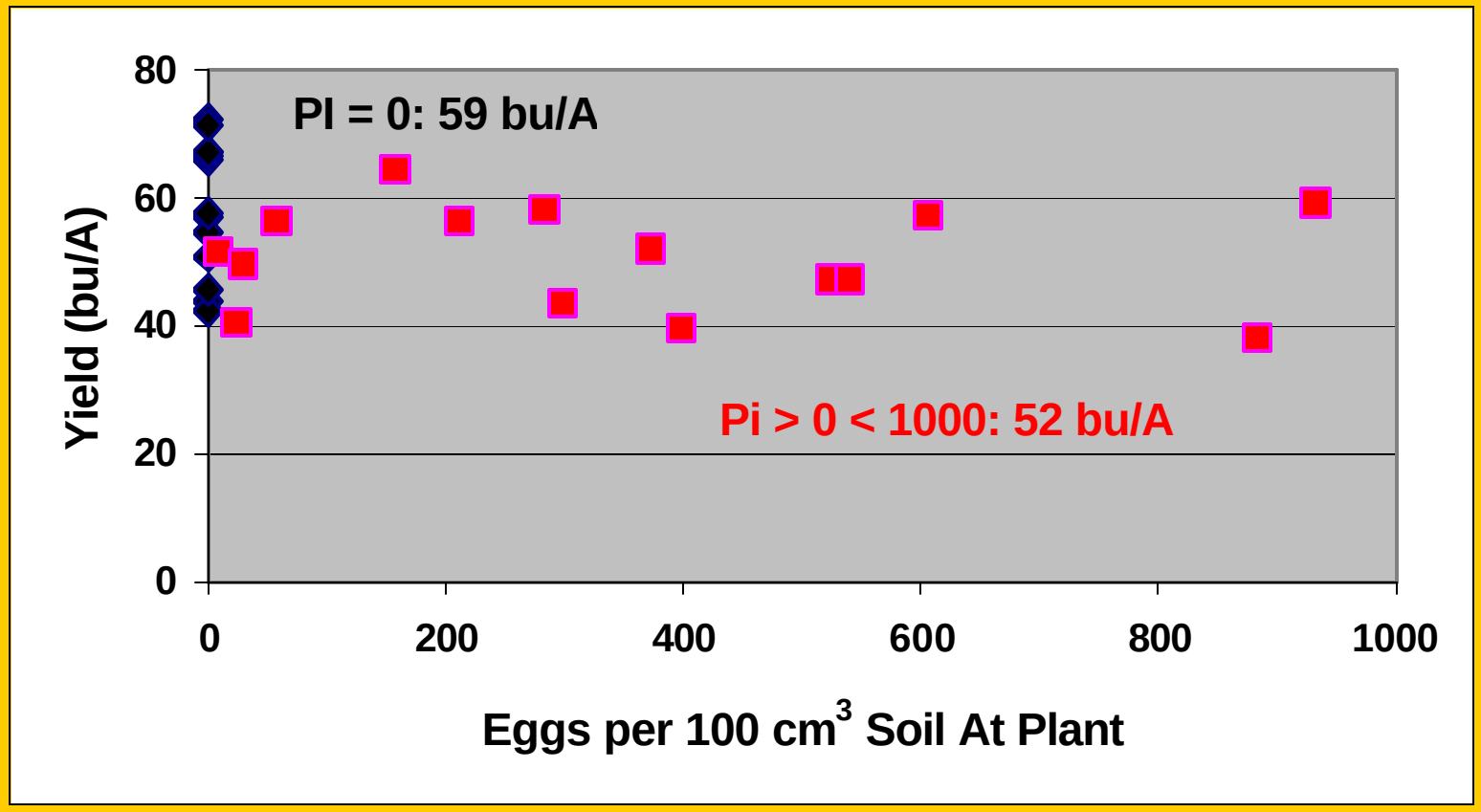
Average yield gain of resistant variety = 24 bu/A (P = 0.10)



Marquette West - 2001

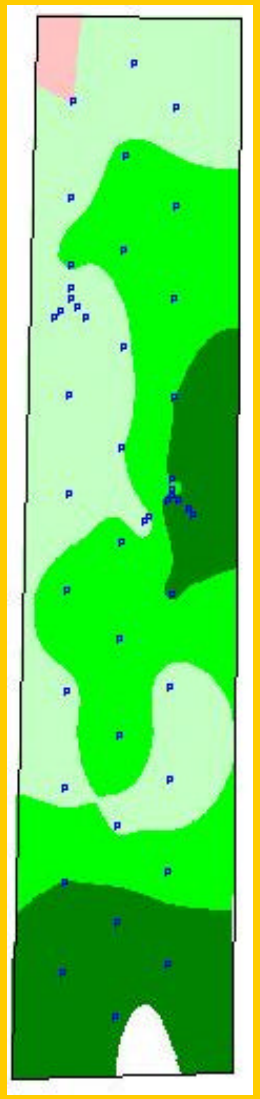
SCN-susceptible variety planted

Average yield difference between infested versus “noninfested” areas = 7 bu/A (P = 0.10)

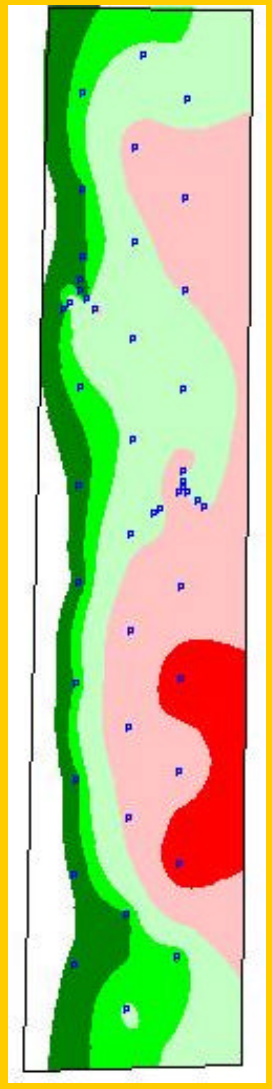


Racine No 2 - 2000

Spring
At-Plant



SCN eggs
Per 100 cm^3 soil
Green = l – 1000
Red = > 1000



Fall
After Harvest
Res./Sus.

The response of SCN populations to management varies among fields

Fate of SCN population during the soybean year (based on 22 data sets from 1999-2000)

Susceptible variety (n=10)

2 fields remained same

8 fields increased

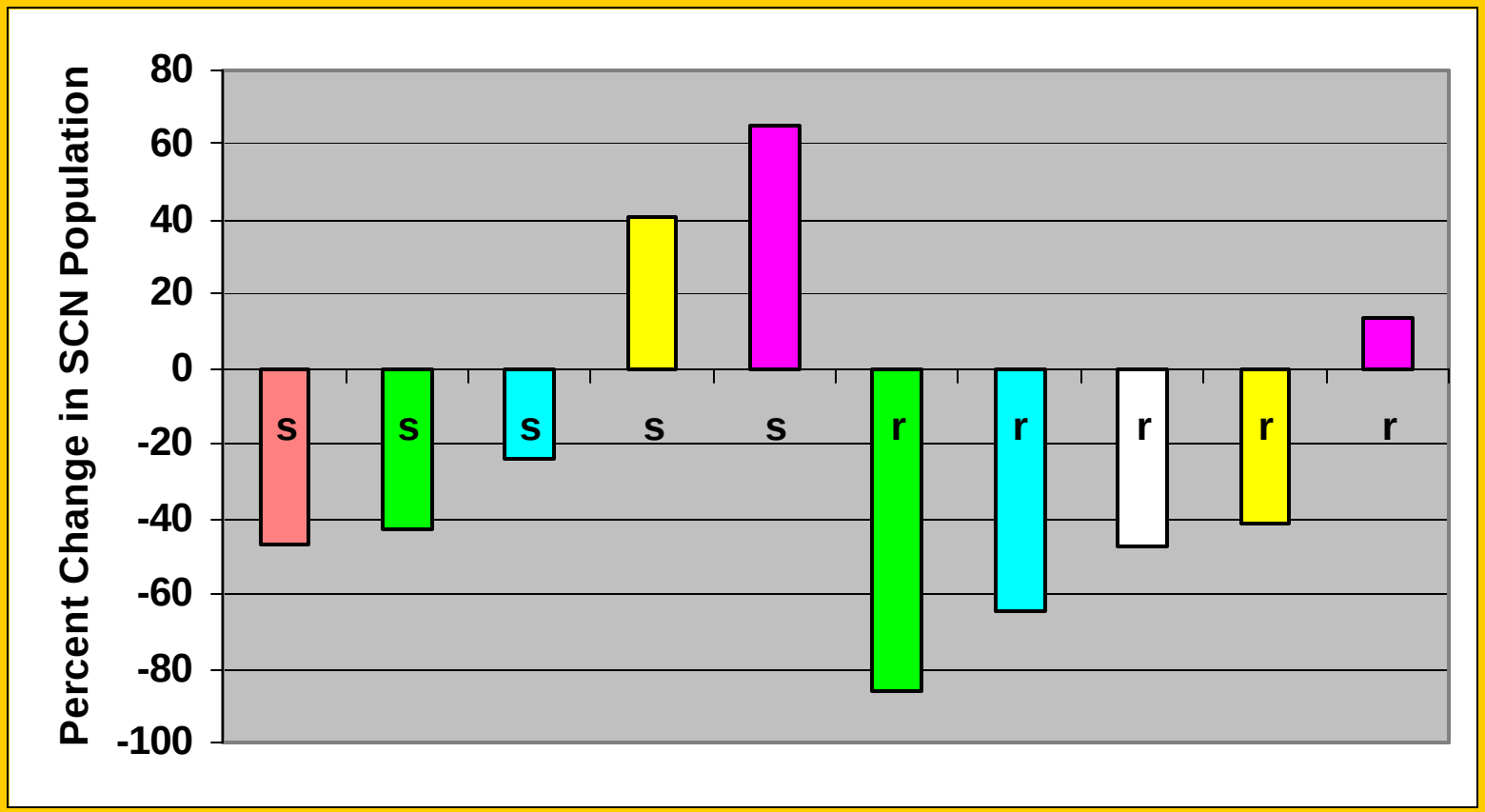
Resistant variety (n=12)

7 fields decreased

2 fields remained same

3 fields increased

Rotating with a nonhost crop helps lower SCN population densities (change from May 1999 to May 2001 including one year of a nonhost crop)



Warning..Warning..Warning..Warning..

Nematode populations change in response to resistant varieties…….

Data from a 5-year experiment at the Hancock Research Station

Rotation	Pi (eggs/100 cm^3 soil)	Yield (bu/A)
PI 88788	1231	31.8
PI 88788 / susceptible	6930	31.2
PI 88788 / PI 209.332	1813	36.1

Rotating sources of SCN resistance and including a susceptible variety when population densities fall below 500 eggs per 100 cm^3 soil will help prolong the lifespan of resistant varieties.

BUT don’t forget about other diseases…..

Summary

- **SCN-infested acreage increasing in WI**
- **Soil testing identifies disease potential**
- **Substantial (> 20 bu/A) yield advantage in planting an SCN-resistant variety when Pi > 1000**
- **Some yield advantage when Pi > 500**

Summary

- **SCN populations usually decline when a resistant variety is planted, but**
- **SCN does infect resistant varieties and some live to reproduce and to pass this ability on to their offspring**
- **Choose varieties and rotations appropriate to the disease potential of each field**

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- **Soybean Marketing Board**