Verification of SCN Resistance in Soybean Varieties

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INTRODUCTION

Over 80% of soybean fields in Ohio have soybean cyst nematode. Market analysis in the Midwest has shown that most farmers believe that planting a variety labeled "SCN-Resistant" will protect them from yield loss due to SCN. The label "SCN-Resistant" means the variety may be resistant to SCN Type 0 (formerly known as "race 3"). **However, most of the SCN populations in Ohio are SCN Type 2, not 0.** Knowing the level of SCN resistance in soybean varieties will enable farmers to make more informed decisions about varieties.

OBJECTIVE

The study objective was to test soybean varieties for their actual levels of resistance to SCN Type 2 (most common in Ohio) using a published, standard protocol.

MEASUREMENT

Female Index. The female index of each soybean variety was measured. The female index is determined in greenhouse assays where the average number of female cysts on a resistant cultivar is divided by the average number of female cysts on a susceptible cultivar and multiplied by 100.

INTERPRETATION OF RESULTS

A female index < 10 is considered resistant, 10-30 is considered moderately resistant, 30 to 60 is considered moderately susceptible, and >60 is considered susceptible. **However, most varieties with a female index rating up to 50 will yield more than varieties with a higher (more susceptible) rating when SCN is present in yield-reducing numbers.**

CONCLUSIONS

Only one variety (of 237) in the test was resistant to SCN Type 2. Sixty-eight percent of the varieties had a female index <50 indicating that these varieties would likely yield more than varieties with a higher female index if SCN was present in yield-reducing numbers.

PROJECT FUNDING

DATA USE. Inclusion of varieties in this trial does not constitute an endorsement of a particular entry by the Ohio State University, Ohio Agricultural Research and Development Center, or Ohio State University Extension.
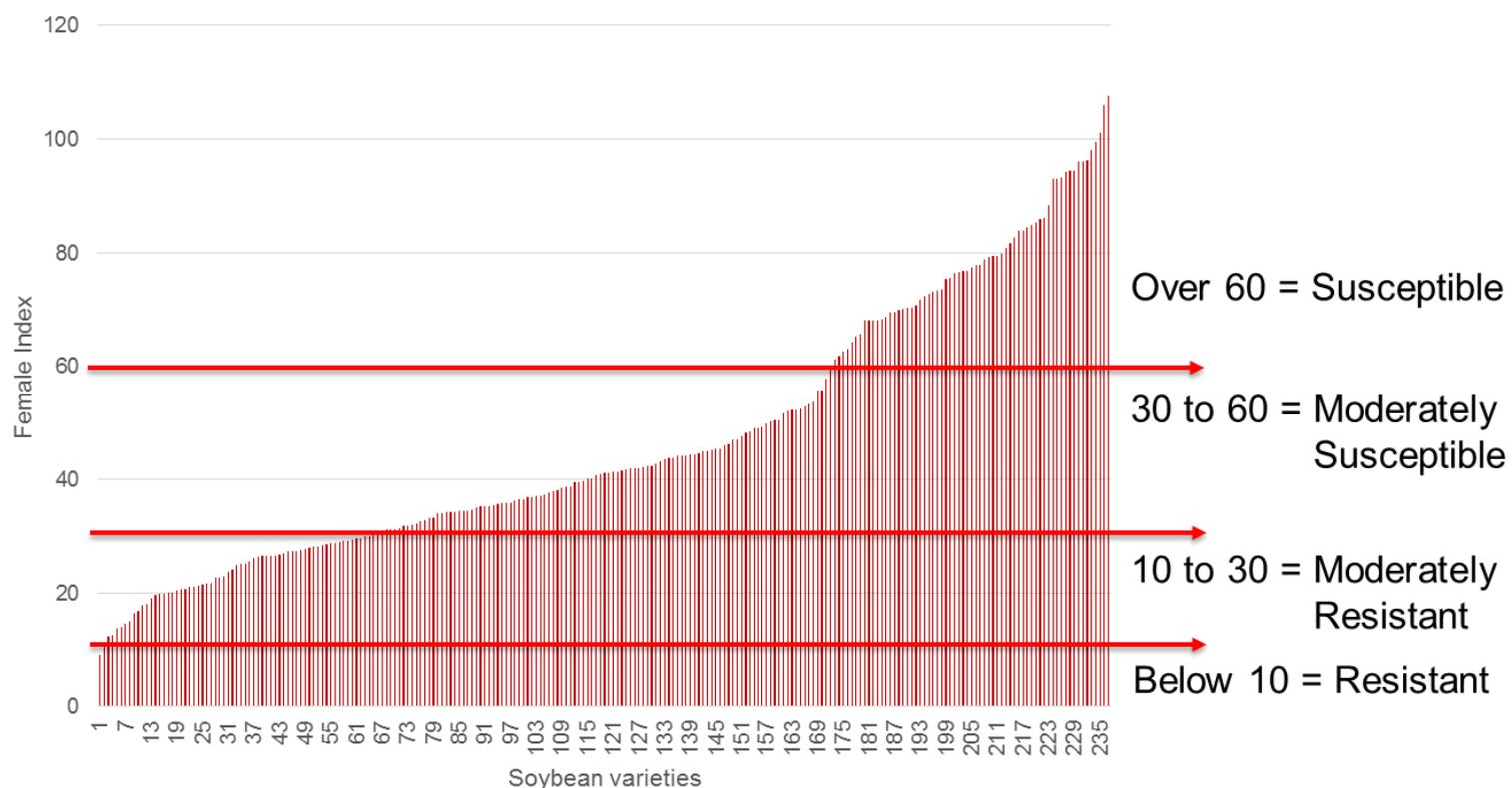

Figure 1. Female index of 237 soybean varieties to the most common SCN Type in Ohio, 2016-2017.

Table 1. Female index of soybean varieties approved for publication.

AGRA Solutions	
Variety Name	Female Index
Key 1735L	26
Key 1732L	37
Key 1726L	70

Ebberts Field Seeds, Inc.	
Variety Name	Female Index
Ebberts 357R2X	16
Ebberts 2387RR2	21
Ebberts 2366RR2	29
Ebberts 337R2X	31
Ebberts 2276RR2	35
Ebberts 377R2X	37
Ebberts 306R2X	38
Ebberts 2324RR2	40
Ebberts 2316RR2	66

Great Lakes Hybrids	
Variety Name	Female Index
GL 3267NRX	15
GL 3659R2	27
GL 3729R2	34
GL 3460NRX	68
GL 2789R2	88
GL 3852NR2	108

Public Certified	
Variety Name	Female Index
Summit	13
Highpro1	25
Lorain	28
HS6-3967B	37
Clermont	53
Streeter	77

NuTech Seed, Inc.	
Variety Name	Female Index
NuTech 7279	20
NuTech 3252L	29
NuTech 3361L	30
NuTech 7307	34
NuTech 3273L	42
NuTech 3341L	43
NuTech 3309L	44
NuTech 3386L	52

Wellman Seeds, Inc.	
Variety Name	Female Index
W 4333	11
W 5736	21
W 5627	29
W 315	29
W 5630	36
W 4732	36
W 4529	36
W 5733	47
W 295	52
W 5434	79
W 4339	93
W 4636	101