HG TYPES AND SCN RACES EXPLAINED

What's your number?

Take the test. Beat the pest.

The SCN Coalition™

Funded by the soybean checkoff

The HG type test measures how well SCN populations can reproduce on soybean breeding lines used to create SCN-resistant soybean varieties. Resistant varieties developed from the breeding lines will control reproduction of the tested SCN population no better than the original sources of resistance, and control can be less.

In the HG type test, the SCN-resistant breeding lines are called "indicator lines"and they are numbered 1 through 7 (upper table). The number or numbers in the HG type designation are the indicator lines (1 to 7) on which the SCN population has 10 percent or greater reproduction (shown as +s in the tables).

For example, an HG type 2 designation means the SCN population has at least 10 percent reproduction on PI 88788 (indicator line 2). And an HG type 1.2 indicates that the SCN population has ≥10 percent reproduction on indicator lines 1 and 2, which are Peking and PI 88788, respectively. A type 0 SCN population has less than 10 percent reproduction on all indicator lines.

The individual numbers in the HG type designation mean the SCN population has ≥10 percent reproduction on those indicator or breeding lines regardless of what other numbers are in the HG type designation. For example, the number 1 in an HG type designation means the SCN population will have at least 10 percent reproduction on Peking resistance whether the nematode population is an HG type 1, a type 1.3, a type 1.3.6, or a type 1.2.5.7.

The HG type test is similar to the previous SCN race test, but uses soybean breeding lines that are available as sources of resistance in SCN-resistant soybean varieties. The table on the bottom to the right shows how to convert the 16 SCN races to HG types. Note that multiple races have the same HG type designation.

HG type classification

Indicator lines	0	1	2	3	4	5	6	7
1. PI 548402 (Peking)		+						
2. PI 88788			+					
3. PI 90763				+				
4. PI 437654					+			
5. PI 209332						+		
6. PI 89772							+	
7. PI 548316 (Cloud)								+

Converting SCN races to HG types

Race	Pickett	Peking (HG indicator line #1)	PI 88788 (HG indicator line #2)	PI 90763 (HG indicator line #3)	Susceptible	HG type
1	-	-	+	-	+	2 -*
2	+	+	+	-	+	1.2 -
3	-	-	-	-	+	0 -
4	+	+	+	+	+	1.2.3 -
5	+	-	+	-	+	2 -
6	+	-	-	-	+	0 -
7	-	-	+	+	+	2.3 -
8	-	-	-	+	+	3 -
9	+	+	-	-	+	1 -
10	+	-	-	+	+	3 -
11	-	+	+	-	+	1.2 -
12	-	+	-	+	+	1.3 -
13	-	+	-	-	+	1 -
14	+	+	-	+	+	1.3 -
15	+	-	+	+	+	2.3 -
16	-	+	+	+	+	1.2.3 -

A + sign for races in the table above indicates a female index ≥10; A - sign indicates a female index <10. Female index is calculated by dividing the mean number of SCN females produced on a race or HG type indicator line by the mean number of SCN females on a susceptible line, then multiplying by 100.

* The - signs after the HG type designations in the right column of the table above indicate not all 7 HG type indicator lines were used in the race test. The SCN race test does not include HG type indicator lines PI 437654, PI 209332, PI 89772 and PI 548316.