

# AGRONOMIC Spotlight



## Assessing Corn and Soybean Stands

As corn and soybeans emerge, evaluating the stand is important to identify problems from planting, insects, or disease. Evaluating your stands early can help you identify concerns while there may be time to remedy them.

Three common methods for taking stand counts are outlined below. The 1/1000<sup>th</sup> acre method is widely used for corn and wide-row soybeans. A more accurate method is the wheel method, which counts 150 plants and measures the distance from start to finish with a measuring wheel. The hoop method is often used for drilled beans.

When evaluating a corn or soybean stand, only count plants that have a good chance of survival. Keep in mind that while corn plant populations are a critical component of yield, soybean plants are better able to compensate for low plant populations.

Sources: *Illinois Agronomy Handbook*. 23rd Edition. Pg. 31.

*Purdue Corn & Soybean Field Guide*. 2007.

### 1/1000<sup>th</sup> Acre Method

Count the number of plants in a length of row equal to 1/1000<sup>th</sup> of an acre based on row width (Table 1). Multiply the number of plants by 1,000 to get plants per acre. Repeat the process in several locations in the field.

**Table 1. Stand count evaluation for 1/1000<sup>th</sup> acre based on row width and number of plants in a given row length.**

Row Width (inches)	Row Length 1/1,000 <sup>th</sup> acre (feet, inches)
7	74' 8"
15	34' 10"
20	26' 2"
22	23' 9"
30	17' 5"
36	14' 6"
38	13' 1"

### Wheel Method

Count 150 plants and measure the distance from start to finish with a measuring wheel. Divide the number of feet traveled into the appropriate factor in Table 2 to determine plant population. For example, if you walked 94 feet while counting 150 plants in 30-inch rows, the population is  $2,613,600 \div 94 = 27,804$  plants per acre.

**Table 2. Stand count evaluation factors, by row width, for measuring the distance when counting 150 plants.**

Row Width (inches)	Factor
20	3,920,400
30	2,613,600
36	2,178,000
38	2,063,350

### Hoop Method

Measure the diameter of the hoop, toss it in the field, and count the number of plants inside the hoop. Do this in at least 5 locations in the field. Multiply the average number of plants by the appropriate factor listed in Table 3 to get the number of plants per acre. Notice that having a diameter of 28 1/4" allows you to simply multiply by 10,000 to obtain the number of plants per acre. This size of hoop can be made by cutting anhydrous tubing to 88 3/4 inches and joining it to form a circle.

**Table 3. Stand count evaluation factors, by hoop diameter, for determining soybean plant populations using the hoop method.**

Diameter of Hoop (inches)	Factor
18	24,662
21	18,119
24	13,872
27	10,961
28 1/4	10,000
30	8,878
33	7,337
36	6,165

**Individual results may vary**, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible. **ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.** Technology Development by Monsanto and Design(SM) is a servicemark of Monsanto Technology LLC. All other trademarks are the property of their respective owners. ©2010 Monsanto Company. 04262010ABT