

Richland Parish



Ag Newsletter: March 2013

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Suggestions for Achieving Optimum Soybean Stands

Soybean seed is more sensitive to seeding depth than corn so achieving proper planting depth is essential to maintaining high yield potential. Under most conditions, soybeans should be planted between 1 and 1.5 inches deep. If moisture is available, planting at a 1" inch depth will result in rapid germination and emergence. Larger seed contains more stored energy and can generally emerge from greater depths than large seed. However, the larger cotyledons on large seed are more difficult to emerge through a crusted soil. Soybeans will begin to germinate at 55° F but germination and emergence will be slow making it more susceptible to diseases that may result in less than desirable stands. Once soil temperatures reach 60-65° F, rapid germination will occur increasing opportunity for optimum stands.

Soybean Seed Treatments

Soybean **fungicide seed treatments** is an option to consider and is most beneficial when conditions are not favorable for germination and stand establishment such as poorly drained soils, cool weather, poor seed quality or especially when one or more of these conditions occur.

A five year study conducted by the LSU AgCenter indicates that soybean fungicide treatments will not increase yields but it is a good risk management tool if planting in less than favorable conditions listed above. In these conditions, fungicides may help produce more uniform stands by protecting seed from fungal pathogens, primarily pythium and phytophthora.

As soil temperature increases and more favorable conditions exist, you are less likely to benefit from fungicide seed treatments.

Soybean **insecticide seed treatments** provide protection against soil insects. They are particularly beneficial in reduced till, no till or other situations where chemical burn down of winter vegetation is used close to planting. Heavy amounts of winter vegetation are conducive to the build-up of soil insects. Herbicide applications made close to planting may kill weeds to the ground but have not had time to effectively kill roots, leaving an abundant food source for soil insects to live and thrive through planting. Ideally, herbicide applications should be made six weeks before anticipated planting date to insure effective kill of plants and roots. This will remove the environment and food source for soil insects thus reducing their numbers at planting.

The effectiveness of soybean insecticide seed treatments was evaluated in a seven-year study by the LSU AgCenter and other universities across the mid-south.

Results showed 79% of the time when using soybean insecticide seed treatments a positive net return was achieved. The average yield increase across all studies and years was 3.3 bushels per acre. Soybean insecticide treatments used were Cruiser 5 F @ 1.28 oz./cwt., CruiserMaxx @ 3.0 oz./cwt. and Gaucho 600 @ 1.6-3.2 oz./cwt. The rates indicated are formulated product/cwt. of seed.

Soybean Seeding Rates

Soybean seeding rates probably vary more farm to farm than any other row crop planted in the parish due in part to different row width planting systems including 40", 38", 30", twin row planters as well as grain drills at widths of 6" – 20". Knowing the approximate pounds of seed required per acre is useful in determining the total amount of seed needed for planting but proper seeding rates should be based on seed per row foot instead of pounds per acre. Soybean varieties may vary from 2300 – 3300 seed per pound or even greater. A slight shift in seeding rates can have a major impact on final plant populations, especially with narrow rows. It is also important to know the row feet in an acre based on your row spacing. This will help in planter calibrations that will determine your final plant population per acre as well as the total pounds per acre of a particular variety. The table below indicates total row feet per acre for various row spacing's:

<u>Row width</u>	<u>Row feet/acre</u>
40"	13,081
38"	13,741
36"	14,520
30"	17,424
20"	26,083
(38" twin)19"	27,570
15"	34,848
12"	43,560
10"	52,293
7"	74,716
6"	87,120

Planting too high plant populations encourages disease development, increases seed costs and increases risk of lodging which reduces yield.

To calculate number of row feet per acre:

- 1) row spacing in inches ÷ 12 (inches foot)
This converts inches to feet.
- 2) 43,560 (square ft./a) ÷ row spacing in feet per acre = row feet/a.

Example: 30 inch row spacing

$$30 \div 12 = 2.5 \text{ row spacing in feet}$$

$$43,560 \div 2.5 = \mathbf{17,424} \text{ row feet per acre in a 30 inch row.}$$

Based on the above calculations and your desired seed per foot is 6. Multiply 17,424 x 6 = 104,544 seed per acre as a final seeding rate using this scenario. You can also estimate pounds of seed per acre from this final seed population. If the variety you are using is 3000 seed per pound then simply divide 104,544 ÷ 3000 = 34.8 pounds per acre.

Below are recommendations for seed per row foot for different row widths.

<u>Row width</u>	<u>Seed/row foot</u>
36-40"	8-9
30"	6-7
19-20"	5-6
7-10"	4-5
6"	2-3
Broadcast	5-6/sq.ft.

Increased seeding rates may be warranted when planting on poorly drained soils.

