



PLANT POPULATION EVALUATION/MANAGEMENT FOR COTTON

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One of the most critical, and often most difficult, steps for the production of any crop is that of stand establishment. When considering a given stand and its condition, directly evaluating plant populations in the field can be very helpful. Cotton fortunately, has a strong capacity to adjust to a broad range in plant populations, with general ranges of 20,000 to 70,000 plants per acre (ppa), and optimal ranges described as about 25,000 to 50,000 ppa. These ranges in final plant population apply to both Upland and Pima in Arizona, and for row spacings of 30 to 40 inches. Unique field conditions or specific varieties may require higher or lower plant populations, which are often best determined by grower experience.

A person can shoot for a target population by calibrating the planter and knowing the number of seeds in a pound for a given variety, which can vary tremendously among varieties. Commonly for example, there are about 4,000 to 5,000 seeds per pound. If 14 lb. of seed / acre were planted with 4,000 seeds / lb., and if 70% of these seeds successfully emerged, a stand of about 39,200 ppa might be expected. Actual seeding rates will need to vary depending upon conditions such as soil salinity or temperatures.

The best way to check populations in the field is to actually count the plants in a given area. Row lengths equal to 1 / 1000 of an acre can be used for the row spacings in the following table:

Plant populations for several row widths based upon numbers of plants per foot or meter of row and spacings between plants within a given row.

Plants/Foot	Plants/Meter	Plant Spacing (in.)	Row Spacing		
			40 inch	38 inch	30 inch
6	19.7	2	78,467	82,597	104,623
4	13.1	3	52,178	54,925	69,571
3	9.8	4	39,034	41,089	52,046
2	6.6	6	26,288	27,672	35,051
1.5	4.9	8	19,517	20,544	26,023
1	3.3	12	13,144	13,836	17,525

Row Spacing Inches	Row Length for 1/1000 of an acre
40	13'1"
38	13'9"
36	14'6"
30	17'5"



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