



Selecting the correct seeding rate for sorghum based on its seeds per pound

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Sorghum seed, whether forage sorghum, sorghum sudan or a sudangrass, comes in varying seed size. The size of the seed (seeds per pound) will vary based on variety and/ or the growing conditions where the seed was produced from year to year. Quite often drier conditions during the seed production of sorghum will relate to small seed size. But it is very common to have seed sizes varying among sorghum types by 5000 to 7000 or more seeds per pound. This can then raise questions at the time of seeding for the grower such as how many pounds per acre of seed should I plant?

In the chart below are examples of different types of sorghum and their various seed per pound counts for 2014.

Hybrid	Type	Seeds/pound
AS6201	Sorghum Sudan	12500
AS6401	Sorghum Sudan	16000
AS6402	Sorghum Sudan	12500
AS6501	Sorghum Sudan	12000
AS5201	Sorghum Sudan	19500
AS9301	Sudangrass	26000
AS9302	Sudangrass	26500
AF8301	Forage Sorghum	14500
AF7401	Forage Sorghum	19000
AF7101	Forage Sorghum	12000
AF7102	Forage Sorghum	18000
AF7201	Forage Sorghum	13000
AF7202	Forage Sorghum	19500

When we talk about planting forage sorghum in rows like corn for a direct harvest like corn silage, we recommend per acre plant populations to be in the 80,000 to 100,000 range. The lower end of the range is recommended for the taller non-dwarf types that have a greater potential for lodging. Planted at lower populations, they often have room to develop thicker, sturdier stalks, which helps standability.

Using the seed per pound numbers for forage sorghum from the above chart, per acre seeding rates for forage sorghum based on seed size can vary from **5 to 8** lbs per acre to get our 80-100,000 plants per acre depending upon the hybrid being grown. And getting forage sorghum planned for a direct harvest at soft dough planted too thick can lead to lodging problems and harvesting headaches.

What is not often considered is the seed size difference of our sorghum sudan and sudangrass hybrids. We recommend a population on a drilled multiple harvest sorghum sudan of about 600-650,000 plants per acre. Quite often we think for a sorghum sudan a bag per acre, or 50 lbs., is fine to achieve that population. And that is correct if our seed size amounts to 13,000 seeds per pound. But what if our sorghum variety is smaller seeded, say 16,000 seeds per pound? If we plant 50 pounds per acre of that variety we have planted 800,000 plants per acre. If we were planting these 2 different varieties on our farm for a comparison we would have very different plant populations, and trying to compare their performance would not be a fair test. The most common result would be that the variety planted at the higher rate (a result of smaller seed size) would yield more, a natural consequence of having more plants per acre. Or we could have too thick of a stand that could lead to lodging problems or lower yields from too many plants per acre for our soil or the fertility levels we planned to apply. Please note that organic growers would normally want to increase their populations by 10% to 15% for better weed suppression on all multi-harvest sorghums.

Sudangrasses can also vary in seed size. With a narrow leaf and a thinner stalk we recommend a bit higher population of 650,000-700,000 plants per acre. As the chart shows, we did not see as much variability among seed sizes in the sudangrasses. There are also more growers looking at using a forage sorghum drilled in 12" to 15" rows and harvested as a mow and wilt crop at boot stage prior to head emergence. For this application of forage sorghum we recommend a per acre population of about 300-350,000 plants per acre.

Considering seed size and seeds per pound when planting sorghums crops can be beneficial in improving performance and yield. It can also help with crop seed costs by ensuring we are using the correct seeding rate and not wasting seed by planting too heavy.

Recommended seeding rates for sorghums based on population and seed size.

	Pounds needed for			Pounds needed for
Sorghum Sudan	600-650,000 Population		Sudangrass	650-700,000 Population
11,000	55-59		21,000	29-31
12,000	50-54		22,000	27-30
13,000	46-50		23,000	26-28
14,000	43-46		24,000	25-27
15,000	40-43		25,000	24-26
16,000	38-41		26,000	23-25
17,000	35-38		27,000	22-24
18,000	33-36		28,000	21-23
19,000	32-34		29,000	21-22
20,000	30-33		30,000	20-22
Soft Dough	Pounds needed for		Boot Stage	Pounds needed for
Forage Sorghum	80-100,000 Population		Forage Sorghum	300-350,000 Population
11,000	7-9		11,000	27-32
12,000	7-8		12,000	25-29
13,000	6-8		13,000	23-27
14,000	6-7		14,000	21-25
15,000	5-7		15,000	20-23
16,000	5-6		16,000	19-22
17,000	5-6		17,000	18-21
18,000	4-6		18,000	17-19
19,000	4-5		19,000	16-18
20,000	4-5		20,000	15-18
21,000	4-5		21,000	14-17