



Q: I've heard that seed companies may begin selling soybean seed by seed count rather than by weight. Is this true? Why do soybean seeds vary so much for size? Does seed size affect germination?

A: Seed industry personnel have been discussing soybean seed marketing issues including selling seed by count rather than by weight and what should be the appropriate seed unit for assessing technology and other fees. A few companies already offer soybean seed by count rather than by weight. It remains to be decided whether this becomes the industry standard.

A common standard unit for soybean seed is the 50-pound bag although a few companies still offer bushel bags. Recently, bulk seed sales have become common, but these large units are still based on weight. Soybean farmers may believe that this is advantageous to them because a 50-pound bag filled with small seed contains more seeds than a 50-pound bag filled with large seeds. This lowers seed costs per acre if they remember to calibrate planters by seed count and not weight. For this reason farmers may resist soybean seed purchases by count.

I cannot advocate either method of marketing soybean seed, but producers may want to consider several advantages of seed count purchases that may balance possible increases in seed cost per acre. Farmers recognize the value of accurately calibrating planters to precise seed number rather than some general seed weight. Knowing the seeding rate in seed number allows growers to accurately determine the amount of seed of each selected variety needed to plant their land area. However, when seed purchases are made the size of the seed is often unknown. This may result in a larger purchase than necessary because farmers cannot afford to run out of seed during planting. Although many companies allow seed returns, these returns add hidden costs to seed prices. Returning treated seed is much more difficult and there are limitations to uses other than planting for treated seed. Seed that cannot be returned increases the true seed cost per acre.

Purchasing seed by count from a trusted dealer should allow for a better estimate of seed needs than is currently possible. One possible standard seed count for a unit of soybean seed is 160,000. This seems reasonably fair. If this number of seeds were in a 50-pound bag the seed size would be 3200 seeds per pound – a size smaller than commonly considered average for soybean.

Soybean seeds vary in size because of genetics and environment. Soybean varieties differ for seed size, but the environment can exert an even greater influence on seed size. Stresses during seed-filling, especially drought and heat, can result in small seeds. Seed size also varies within a field because soil characteristics that influence water-supplying capacity vary. Even among places on a single plant, seed size varies.

Seed size does not affect seedling emergence or vigor except at the extremes. Large seeds may exhibit poorer emergence than small seeds because of the increased amount of energy needed to pull the seed parts through the soil to the surface. Seeds that are small because of premature maturity due to extreme late-season stress may be less vigorous

than normal because physiological systems required for germination did not develop properly. Except for these extremes, seed size should not be a factor in variety selection or seed purchases.