



Corn Seed Size

As planting season approaches, questions on corn seed supply, corn seed size, and corn seed quality become quite common. With profit margins being razor thin, it is understandable that farmers ask these questions of their seed suppliers.

// Is there a difference in germination across corn seed size?^{1,2,3}

A study was conducted at the University of Wisconsin using small rounds, small flats, large rounds, and large flats of two hybrids with two tillage systems (no-till and conventional tillage) and two planting dates (early and late). Under early planting with no-till conditions, and with soil crusting, the emergence of small rounds ranged from 5 to 15% lower than that of small flats or large rounds. While the no-till system resulted in slower emergence that delayed early growth and silking, which resulted in reduced grain yield, seed size was irrelevant and did not have an impact on the final yield. In another study, under ideal conditions, seed size did not influence emergence; however, plants from small seed tended to have a short final height.

// Does seed size influence seedling vigor?^{3,4}

Generally, vigor of seedlings from large flat kernels (from the middle of the ear) exceeds the vigor of seedlings from small (from ear tip) and large (from ear base) round kernels. Seedlings from larger seeds have higher weights and consequently larger seedlings. This is particularly important if planting is occurring at deeper than normal planting depths. While smaller seeds may have less vigorous plants in the vegetative stages, by the beginning of the reproductive stages the differences are negligible.

// What are the advantages and disadvantages to corn seed size?⁵

While larger seeds may have the advantage over small seeds under conditions of early planting in colder soil temperatures, smaller seeds can germinate faster in dry soils because less water is needed to initiate germination.

// Does seed size impact final yield potential?^{5,6}

The research suggests that seed size does not impact final yield when plant populations are the same. Therefore, the most important aspect of obtaining the highest yield potential of a given corn product is achieving the optimal plant population for that product, not the seed size that is planted.

// Sources

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