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Planting Depth for Corn

There seems to be a continuous discussion about proper depth for corn planting. One of the oldest rules for depth of planting is to plant corn at a depth equivalent to the second knuckle on their index finger. But since everybody's fingers are not the same length, a more definitive measurement would be better.

Most university Extension publications recommend a corn seeding depth of about 1.5 to 2 inches. This recommendation is based on two reasons. The first is to achieve good seed-to-soil contact. Corn seed needs to imbibe (absorb) about 30 percent of its weight in water to germinate. In order to accomplish this consistently throughout the seedbed, the seed needs to be pressed down into the soil where the moisture levels are more consistent. Most corn planter's compaction wheels are designed for a 2 inch planting depth.

The second reason for the recommended planting depth is to establish a strong nodal root system. The nodal root system not only helps support the corn plant structurally, but is also responsible for uptake of the vast majority of the water and nutrients the plant needs. A good nodal root system is essential in reducing early season root lodging as well as helping the plant perform better under drought stress.

There are always exceptions to the rules. If soil conditions are dry at planting time, planting to moisture is often practiced to help uniformity of emergence. Soil texture is another factor to consider. In heavy soils, corn seed should not be planted deeper than 2.5 inches regardless of the conditions. In lighter sandy soils planting 3.0 inches deep may be necessary. Some states recommend planting shallower in no-till. Planting shallower than 1.5 inches might affect corn growth and development with some herbicides, such as prowl.

The bottom line to correct seeding depth is the condition of the seedbed and the 10-day weather outlook at the time of planting. The conditions of every one of your fields may vary dramatically enough to warrant a slightly different seeding depth for each one. Conversely, you may end up using a common seeding depth for every field this year. You need to spend some time evaluating each field at the time of planting. An all-purpose seeding depth for corn that is practical under many conditions is 1.5 inches. Planting shallower increases the risk associated with a rapidly drying seedbed, shallow crown root development and the potential for feeding damage by birds and rodents. Under dry or potentially dry seedbed conditions, do not hesitate to increase seeding depth to 2-3 inches if that depth is where uniform moisture exists. Physiologically, corn can easily emerge from those seeding depths due to mesocotyl elongation in response to depth of planting. If dry conditions exist at shallower depths and the short-term

(10-day) weather forecast is dry; the risk associated with deeper planting is less than the risk of inadequate or uneven moisture at shallower depths.

In summary, corn should not be planted less than 1.5 inches deep, but depending on soil type and conditions, may be planted up to 3 inches deep without any effect on stand establishment.

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