Adjust planters when working in wetter soil

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Abstract
Spring rains have kept growers out of some Iowa fields. Although we don't want to plant when soil is too wet, as the season progresses, the potential for diminished yield may compromise what are considered acceptable soil conditions for planting. Planting equipment operators should recall important adjustments that may be necessary in these conditions.

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Adjust planters when working in wetter soil

by Mark Hanna, Department of Agricultural and Biosystems Engineering

Spring rains have kept growers out of some Iowa fields. Although we don't want to plant when soil is too wet, as the season progresses, the potential for diminished yield may compromise what are considered acceptable soil conditions for planting. Planting equipment operators should recall important adjustments that may be necessary in these conditions.

Wet, plastic soil is easily compacted. Virtually all planters have down pressure springs on closing wheels or discs. Spring pressure should be lighter in wet soil conditions to avoid compacting soil excessively in the seed zone. In wet soils, not as much surface pressure is required to establish seed-to-soil contact and moisture is readily available for seed germination. Particular problems of furrow sidewall compaction and general compaction in the seed zone often occur when the planter overcompacts wet soil and then the soil dries for several days after planting, building soil strength in the compacted areas and inhibiting early root growth.

Use no more down spring pressure on planter closing and depth-gauge wheels than is necessary if soils are wet. (Mark Hanna)

In addition to lightening down spring pressure on the planter closing system, no more force than is necessary should be transferred to depth-gauge wheels on the sides of the double-disc
seed opener. Apply only enough down spring pressure through the parallel linkage so that depth-gauge wheels are in firm contact with the soil surface. Applying excess pressure on the depth-gauging wheels compacts soil in the seed zone and builds excessive soil strength, which early roots must overcome if the soil dries after planting. Be prepared to readjust down spring pressure as necessary for different soil moisture or tillage conditions.

Summarizing, in wetter soil conditions, lessen down spring pressure on both the planter closing wheels and depth-gauge wheels to no more than is necessary. Excessive pressure compacts soil, and if it dries later, roots may have difficulty penetrating compacted areas around the seed.

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