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Harvest equipment considerations

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Abstract
Harvest conditions in fields this fall will be determined by the extent of drought damage to each crop, especially soybeans. Decisions about equipment use for harvesting the drought-damaged crops must consider the plant moisture content, crop use, and equipment availability if owned, leased, or custom. In most cases, plant moisture content has already dropped below the 60 to 70 percent recommended moisture level for ensilage. Forage material still may be collected in bales or stacks if plant material is dry enough for appropriate storage.

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Harvest conditions in fields this fall will be determined by the extent of drought damage to each crop, especially soybeans. Decisions about equipment use for harvesting the drought-damaged crops must consider the plant moisture content, crop use, and equipment availability if owned, leased, or custom.

In most cases, plant moisture content has already dropped below the 60 to 70 percent recommended moisture level for ensilage. Forage material still may be collected in bales or stacks if plant material is dry enough for appropriate storage.

Plan the use and market destination for the forage before you pursue the harvest. Harvesting a silage or forage crop with no definite plans for either animal feeding or local sale can be costly. Nonetheless, crop producers often can be found with poor quality forage a year after a drought and no plans to use it.

Be aware that harvesting a drought-damaged crop is stressful on the operator due to high field variability. Do not take short cuts or use equipment in a manner for which it was never intended. Expect variable crop conditions even within individual fields.

Grain harvest

If ear diameter is smaller than normal, stripper plates will need to be moved closer together to avoid excessive shelling on the snapping rolls. This will break off more stalks and consequently increase the load on the processing unit. Stripper plate spacing on newer combines may be adjustable from the operator's station and can ease adjustment if well-defined areas of a field have a similar ear size. Avoid making numerous on-the-go adjustments in individual rows, however, by trying to evaluate shelling on the stalk rolls visually from the cab. At least one corn head has spring-loaded stripper plates to adjust spacing on-the-go.

If ears have different sizes and shapes, adjustment of the threshing mechanism will be a compromise between adequate separation from the cob and acceptable grain breakage level. Concave clearance should be narrow enough to thresh grain from ears. Adjustment for small ears will break larger cobs and overload the cleaning shoe. Chaffer, sieve, and fan adjustment also are more critical, and grain may be fragile and more susceptible to damage. Ideally, threshing should result in whole but battered cobs exiting the separator.

Soybean threshing needs to be just aggressive enough to remove beans from pods. Beans in drought-stressed fields this fall may be smaller than usual. If beans are small, air flow may
need to be reduced in the cleaning shoe and the openings in chaffer and sieve screens reduced to maintain air speed, yet allow beans to fall through. Because more pods will be close to the ground if plant population is reduced, it is essential to keep the cutterbar low. The front drum of the feeder should be low enough so that the chain just clears the floor of the feeder house. If plants are shorter, smaller clearances may be needed between reel, cutterbar, auger, and feed conveyor chain, to make sure stalks are feeding through the platform.

Expect to spend more time checking grain loss. Traveling fast enough to keep the combine loaded will improve grain quality; however, a greater percentage of material other than grain moving through the combine may increase separation losses.

**Forage harvest**

Do not underestimate the moisture content of drought-damaged crop. Check moisture content before baling or stacking. With few exceptions, the operation of harvesting equipment in a drought crop will be similar to operation in a normal crop. Check your owner's or operator's manual for useful tips, such as to use hay harvest equipment to harvest cornstalks or soybean straw. Your dealer is another source of information.

Windrowers, rakes, balers, and stackers have all been used to harvest corn. However, expect operation of conventional hay harvest equipment in cornstalks to be more difficult or at least require adjustment and experimentation. Cornstalks are larger and may be more difficult to package. The potential variability of stalk diameter and length will put a premium on proper adjustment. Some equipment may not work in certain conditions. Expect more wear, especially on cutting components, than when harvesting hay.

The stalks should be dry enough to store. Allow the crop to field-dry as much as possible. Equipment should aggressively shred stalks to promote drying and facilitate packaging. Flail shredding may do this easier than conditioning. If using a conditioner, consider tightening the roll spacing and slowing travel speed for more aggressive action. Stalks that are damp can be hard to start and tend to wrap in baler belts.

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