

# Disaster Recovery



## Farm Equipment

### Forage harvest equipment issues for corn and soybeans

Have your intended use or market for harvested feed well in mind before you harvest a crop as forage. Harvesting a silage crop with no definite plans for feeding or local sale can be costly. Crop producers often can be found a year after harvesting a weather damaged crop with poor quality forage and no plans to use it.

Recognize that harvesting a damaged crop will be more stressful on the operator. Don't be tempted into short cuts or using equipment in a manner for which it was never intended.

#### **Check equipment first**

Before you use silage equipment this year, be sure to review the operator's manuals for implements you'll need.

If it has been awhile since you prepared crops for silage, it's a good idea to brush up on chopper operation. The operator's manual is a good reference for basic procedures and how to make adjustments, especially those that provide for your safety and efficient use of the equipment.

Remember always to stop the machine before you adjust it or check for problems. Make sure knives have stopped turning even though power has been disengaged. You may think you can react fast enough to avoid an accident, but a chopper pulls in crops faster than you can release a plugged stalk. The only way to reduce your risks is to use safety precautions around these powerful machines.

If you'll be chopping in flood-damaged areas or areas that have had standing water, review your tractor operator's manual, too. This manual provides helpful information about driving on surfaces that could be hazardous, such as wet ground or areas littered with debris.

Look for steep ditches around drainage areas and the banks of streambeds. Do not drive close to these edges because the ground stability will be greatly reduced due to wet conditions. The earth underneath the tractor could give way and slide into the ditch, or be eroded and cause the tractor to tip.

Also look for debris carried onto the field by floodwater, such as rocks, timber, fencing materials and other items. Rollovers often happen quickly; people who have been in rollovers report that they could not anticipate the rollover, nor could they correct it once the tractor tipped past a certain point.

#### **Harvesting the forage crop**

Moisture content is critical for forage crop harvesting. Suitable moisture falls into two major categories: (1) whole plant material with moisture content appropriate to complete the ensiling process (60 to 70 percent) and (2) material that is dry enough to be stored in bales or stacks without excess spoilage (25 percent maximum). A "window" exists where material is too dry to properly ensile yet too wet to bale. Mistakes often are made in estimating the moisture content of a damaged

crop. Check moisture content to determine the correct range to avoid excessive losses.

Operating procedures for harvesting equipment similar to that used in a normal crop except that plants may be smaller and variable in size. Check your operator's manual or ask your dealer for useful tips (for example: using hay harvesting equipment to harvest cornstalks or soybean straw).

Gathering chains on forage harvesters may need to be adjusted for minimal clearance if stalk diameter is small. Make sure the cut-off mechanism is in good condition.

Weather-damaged corn silage may not pack as well. Material should be finely cut ( $\frac{1}{4}$  and  $\frac{3}{8}$  inch average length). Keep knives sharp. Maintain the proper clearance between knives and shear bar. Consider the use of a recutter screen for a finer, more uniform cut. Additional information is contained in Pm-417c, *Silage Harvesting Equipment*, at your county extension office.

Fill the silo quickly to avoid spoilage. For horizontal silos use a heavy wheeled tractor and PACK, PACK, PACK and then pack some more. Tractor stability is a prime safety concern. Set wheels as wide as practical. Back up the pile and drive forward to go down slope. Use a tractor equipped with a roll over protective structure (ROPS) and fasten the seat belt. For piles with side support of unknown strength (e.g. large bales) stay at least as far from the edge of the pile as the bottoms of the wheels are from the ground surface.

Hay harvesting equipment often can be used for harvesting forage corn. Windrowers, rakes, balers and stackers all have been used to harvest corn. Expect that operating conventional hay harvest equipment in cornstalks may be more difficult or at least require adjustment and some 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. Equipment may not work in some conditions. Expect more wear than when harvesting hay. Check with the manufacturer or dealer for specific recommendations. Warranty coverage may be affected.

A major objective is to get the stalks dry enough to store. Allow the crop to field dry to remove much of the moisture. Excess moisture encourages rot before the crop can dry from mechanical wilting. Equipment should aggressively shred stalks to promote drying and present smaller pieces for easier packaging. Flail shredding may do this easier than conditioning. If using a conditioner, consider tightening roll spacing as much as possible while still allowing cornstalks through and slowing travel speed for more aggressive action.

Be sure stalks are sufficiently dry (below 25 percent) before baling. Damp stalks are rough and are hard to start rolling into a round bale. Spoilage will be excessive if stalks are packaged when too wet.

Just a few bushels of grain will usually cover variable costs of grain harvesting. If corn or soybeans will be harvested as grain and you have a need for stover, consider harvesting the windrow behind the combine. It may be necessary to wait a few days for stover to dry enough for good bale/stack storage.

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