

GUARD AGAINST ACCIDENTS Dennis J. Murphy, Professor Department of Agricultural and Biological Engineering Penn State

A number of Pennsylvania farmers lose fingers, hands, arms, and even feet in corn harvesting equipment each year.

Some lose their lives. Nearly all of the accidents are preventable, but risk-taking, carelessness, or lack of knowledge allow them to happen.

Such tragedies can be prevented, however, especially if farm workers understand the hazards these machines present and practice the safety precautions needed to avoid them.

Most serious corn harvesting accidents involve either corn pickers or corn combines. Because these machines perform similar tasks, the dangers that are related to their operation are similar, too. Burns, severe cuts, entrapment, and amputations are hazards of both.

Corn pickers are usually involved in most severe corn harvesting accidents, mainly because of their easily clogged gathering mechanisms. Characteristically, corn picking accidents occur when the snapping rolls become plugged and the operator tries to remove debris or cornstalks while the machine is still running.

As he tugs at a plugged stalk or weed, the snapping rolls suddenly free up and begin to roll, yanking stalks or weeds forward at nearly ten feet per second. Before the operator can release his grip, his hand and arm have travelled about three and a half feet and into the machine. To make matters worse, once he is entangled in the machine it is often a very difficult and time consuming task to get him out.

Fortuantely, avoiding accidents like this is easy. Simply turn off the power to your com picker before servicing it in any way!

The gathering mechanisms on corn combines do not become plugged as easily as those on corn pickers. Nevertheless, corn combine operators also run the risk of losing hands, arms, or feet if they try to unplug the rolls without first turning the machine off.

Most combine injuries occur when clothing, fingers, hands or legs are caught in the many exposed belts and gears. These accidents usually result in burns and severe cuts although amputations also occur.

As with the com picker, shut your combine completely off to avoid injury whenever you leave the operator's platform to make adjustments. If some tasks must be carried out with the machine running, wear clothing that is comfortable but close-fitting. Be especially careful to avoid wearing flappy coveralls, and loose sleeves and cuffs.

Because of their size, it is dangerous to use corn harvesting equipment, particularly combines, near ditches or streams. The banks along these channels can give way under the picker or combine and upset it.

As a rule, to prevent accidents of this nature, keep the center of gravity of your machine as far from the edge of a channel as the channel is deep. For instance, if the bank rises six feet from a ditch, keep at least six feet between the bank's edge and the center of your machine.

Another factor that affects safety during corn harvest is the weather. During the rain and cold of late fall corn is frequently wet or icy. Wet or icy corn is more likely to clog the feeding mechanisms of both pickers and combines. It is also more likly to fall over, adding to the problem of muddy and slick field conditions, which make it difficult to stay on the corn rows. If you must harvest crops under these conditions, slow your groundspeed and take in less corn than you normally would. If you harvest corn early



in the season, beware of hot and dry conditions.

Dry corn can catch fire and burn rapidly, endangering not only you and your equipment but your crops as well. Be alert for overheated bearings or belts and remove accumulations of chaff and stalks from near the manifold. For added safety and the ability to act quickly in an emergency, your harvesting machinery should be equipped with a fire extinguisher at all times.

Harvesting corn is a demanding task requiring constant alertness on the part of the machine operator. Because of poorly operating equipment and/or long working hours, farmers frequently become fatigued and then cannot maintain the level of awareness that is required to safely complete their task. This problem can be avoided, however, through careful planning before harvest.

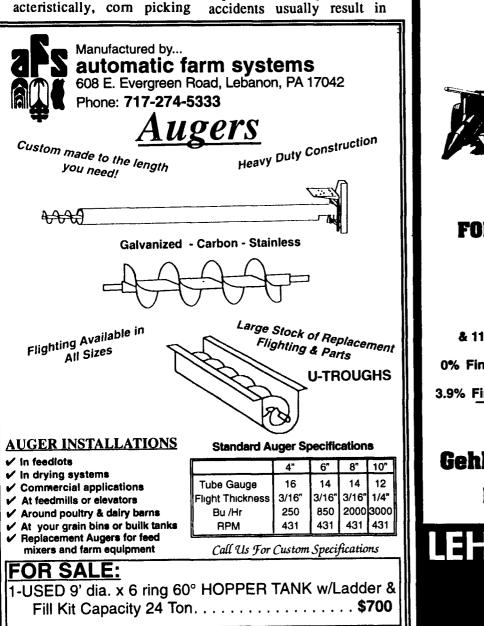
For example, "downtime" can be reduced in most cases by inspecting and repairing corn harvesting equipment before harvest day arrives. And although long hours in the field are often necessary, working time can be structured in a way that will allow you to rest periodically. This can be done by setting up shifts and changing off once or twice a day if you are able to share the work with someone else, or by shutting off the machine and taking a break every couple of hours when working alone.

On corn harvesting equipment, as with all other farm vehicles, carrying extra riders is a serious hazard. Unnecessary riders not only run the risk of falling under the machinery or getting caught in exposed belts or gears, they also distract the driver and can affect his driving performance.

When operating corn combines, make sure no one enters the grain tank or stands near the stalk chopper when the machine is running. Occasionally children may be drawn by curiosity or a sense of adventure to the corn field where the harvesting is taking place. Therefore, always be on the lookout for children in the field ahead. The best way to prevent second party accidents, though, is to keep all individuals not involved in the harvest, especially children, far away from the corn harvesting operation.

A safe, efficient corn harvest in autumn depends a great deal upon how well you prepare for accidents. Be aware of the hazards the weather, fatigue, second parties, and embankments pose. Most of all, remember that the key factor in most corn harvesting accidents is the failure of the operator to stop the power before unclogging or servicing his equipment.

Whenever you need to leave your equipment to service it, do one very important thing before you do anything else: *Turn it* off?



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