How to make plowing safe

MOUNT PLEASANT, Del. — An ancient Chinese philosopher wrote, "A 10,000 mile journey starts with the first step." The first step in spring planting activities is a safety readiness check.

Not many people think of plowing as dangerous, but improperly adjusted machinery, fatigue, or just plain carelessness can cause accidents.

Delaware extension safety specialist Ron Jester Says a thorough understanding of how to operate the equipment is fundamental. Proper maintenance and adjustment of tractor and plow are also vitally important.

Getting off to a safe start involves hitching properly. Poor positioning of the plow makes hitching difficult and could lead to injuries.

The plow should be on a firm, flat surface free of other objects. Securely block mounted plows before lowering the hydraulic lift.

A little forethought when unhitching can save hands, back, feet, tempers, and a lot of time when rehitching, adds the safety specialist.

Taking shortcuts is often asking for trouble For instance, don't try to put hitch pins in place from the operator's seat with the tractor in gear, advises Jester. Set brakes or put the transmission in park before getting off the tractor.

Also, be sure you have enough headroom when backing up inside buildings.

Jester says hitching is easier with the help of an assistant, adding that the trained tractor operator should know where the other person is at all times

An assistant should step in only to make the final pin connection when the tractor is inching forward, or is braked in the final position.

There have been many serious accidents during this simple operation, so extra care is essential.

Pins used to connect plow to tractor should be of proper size and secured with a clip of safety pin.

Check the owner's manual for details on setting up the plow properly. A safe plowing operation involves proper hitching, which produces good steering control and adequate penetration.

If adjustments are not correct (e.g. improperly set cutters), problems develop which lead to anger and frustration — ideal emotions for an accident, says Jester.

The size, shape, and slope of field affect the pattern of operations. Avoid dangerous working situations such as operating on steep slopes, getting too close to obstructions and ditch banks, and extremely tight turns where the tractor tire may catch the implement.

With the recent rain, farmers face a higher probability of getting stuck in wet fields, creating additional hazards if safety precautions are not followed.

If a farmer is struck and can't back out, it's best to get help, advises Jester. Don't chain blocks to the drive wheels because the chassis can revolve around the axle if wheels stick.

When pulling a tractor out of mut, hitch only to the draw bar. Engage the clutch smoothly, not suddenly.

Jester stresses that under no circumstances should extra riders be allowed on a tractor. This cardinal safety rule applies not only to plowing, but to all farm operations.

Indicators

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On the positive side: passage in 1980 of an Alaska lands bill which reserves 104.3 million acres of Alaska as public land and a Coastal Zone Management Improvement Act, which budgets $71 million in incentives for states to protect coastlines.

SOIL

Down. Last year, the U.S. exported more than $40 billion worth of food, and as the world's population continues its rapid climb, foreign demands on U.S. agriculture could reach staggering proportions.

Unfortunately, the U.S. is losing valuable farmland at an alarming rate Each year, about a million acres of prime farmland are permanently lost to urban sprawl, highways, and other development.

To offset these losses, about 1.3 million acres of new cropland are brought into production annually by draining swamps, irrigating deserts, and clearing woodlands-land being converted to agriculture at the expense of forests and other valuable wildlife habitat. And these new lands are subject to more serious erosion losses than prime acreage.

Currently, the U.S. Soil Conservation Service estimates that about four billion tons of American topsoil are lost annually to erosion.

Continuous cropping helps disease build in soybeans

GEORGETOWN, Del. — When no-till soybeans are grown continuously on the same soil, there's a good chance yields may suffer.

Robert Carroll, a plant pathologist at the University of Delaware's Agricultural Experiment Station, has been studying the relationship between tillage practices and root and stem diseases of soybeans.

Results from the past three years suggest that when they're grown repeatedly on the same ground, no-till soybeans have a higher incidence of Fusarium blight disease than do conventionally grown soybeans.

Fusarium blight is caused by a soil-borne fungus which can seriously reduce yields.

In heavily infested fields, losses may run as high as 20 to 25 percent, says Carroll. More often they run around five to ten percent. The disease easily represents a loss of two or three bushels an acre.

The scientist has been studying the incidence of disease in two major soybean varieties--Essex and Williams--grown under both no-till and conventional tillage after both wheat and barley. These are the two major cover crops used with no-till beans in this area.

He plans to collect data from test plots at the university's Georgetown Sub-station again this summer. He will then pass along his findings to Delaware's extension plant pathologist who will make any needed recommendations to growers.

Carroll says the jury's still out, but data he's collected so far show a trend towards a statistically significant higher level of Fusarium blight fungus on the roots and stems of plants grown in no-till, as compared to those grown under conventional tillage.

He's also isolated the fungus more often in soybeans grown after a cover crop of wheat, rather than barley. Seedcoats of no-tilled soybeans from his test plots also showed higher levels of the pathogen.

Carroll considers Fusarium blight to be the main threat to soybeans in the mid-Atlantic region right now.

"Other diseases like pod and stem blight or brown stem rot are present, but they haven't yet caused any serious losses like those we've confirmed from Fusarium blight," he says.

"I'm not condeming no-till," stresses the scientist. "It has many advantages. But you need to look closely at all aspects of any new practice.

"Depending on what we find out, it may mean that farmers growing no-till soybeans will have to think more carefully about the varieties they grow since use of resistant varieties is the best means of controlling a pathogen like Fusarium," he said.