



Toolbar-mounted drive wheel, lower center, helps monitor injection system. Note chemical injection line on rear side of cab, upper right.

## THE "UNTANK" SPRAY SYSTEM ELIMINATES THE NEED FOR PREMIXING

# "Breakthrough" In Applying Chemicals

By Mark Jacobs, Associate Editor

"Every farmer who does any amount of spraying needs our new UTM spray system to avoid wasting costly chemicals," says Gerald Gebheim, president of WALM, Inc., Arlington, Tex.

Gebheim's just-introduced UTM system — that's "Untank Mix System" — eliminates premixing of chemicals and water, and gives the applicator fingertip control of application rates by injecting chemicals directly into the sprayer on the suction side of the spray pump.

"There are a number of advantages to using the UTM direct injection system," Gebheim explains. "First, you can apply chemicals within 5% of the selected application rate. Most tank mixes are only within 10 to 25% of the selected rate. Plus, the system is easy to calibrate since most of the calibration is already done at the factory.

"Third, with the UTM system, you can apply two different chemicals that you wouldn't be able to tank mix. And, if you're in fields with varying weed problems and soil conditions, you can automatically change the chemical application rate with a switch on the control unit. The selected rate remains constant no matter what the ground speed.

"The UTM system is also safe. There's no need to handle chemicals directly. You can pump them right out of their original containers. When nozzles clog, you can shut off the chemical pump so only water is going through the booms.

"Another advantage," Gebheim says, "is that you can reuse both the chemicals and water that are left over when you're done spraying since neither was ever mixed with the other."

The UTM system consists of a ground speed indicator which is actually a wheel mounted on a non-drive tractor tire, sprayer or implement tire. The indicator is connected to a 12-V control unit mounted on the tractor.

### Direct Injection Kits

If you're interested in putting together your own direct injection package, Pleasure Products Inc., Moorhead, Minn., is selling kits that can be tailored to your spray needs.

Stuart Ystebo, owner of the company, explains that a basic package includes a ground-drive system driven by a sprayer tire. The ground drive system connects to the chemical pump injecting the correct amount of chemical regardless of ground speed.

The kit also includes a tank to hold the chemical, an injection line with check valves and an electric clutch for shutting the chemical pump off on end rows.

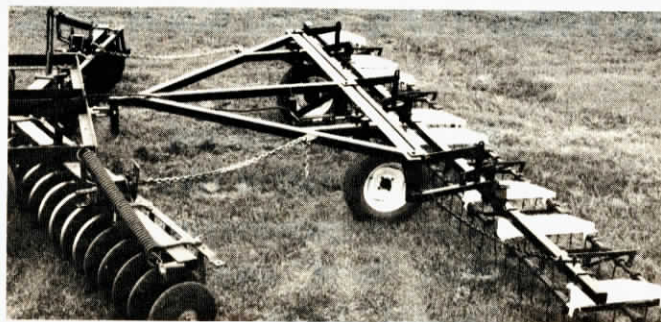
The packages Ystebo sells don't have an electronic control unit. "Chemical application rates can be easily altered by manually changing the pump stroke and we have easy-to-follow charts detailing application rates at various settings."

Chemicals are injected into spray lines on the boom side of the spray pump and chemicals and water mix in the line. Ystebo notes that on some sprayers these lines are too short so you'll need to install a small mix tank for the proper mixing action.

Ystebo sells kits on pre-assembled panels that mount on the spray rig. He reports that a

basic system including the ground drive, electric clutch, pump, 15-gal. chemical tank and filters costs right at \$1,200. If you already own some of the equipment, you can buy components separately. Systems are also available for injecting two chemicals at once.

For more information, contact: FARM SHOW Followup, Pleasure Products Mfg., Inc., 2421-16 Ave. So., Moorhead, Minn. 56560 (ph 218 236-1818).



Chains on each side of main hitch prevent damage to equipment when making short turns.

## CAN ALSO BE PULLED INDEPENDENTLY

# "Pivot Pony" Attaches To Discs, Chisel Plows

"With this 'Pivot Pony' you don't need a separate spring tooth harrow/mulcher for each implement.

You simply unhitch the unit from one implement and hitch it to another," explains Marlin Hohn, owner of M.D.S. Manufacturing Co., Parkston, S. Dak.

"You can hitch the Pivot Pony behind a wide range of implements including discs, chisel plows and cultivators for better seedbed preparation and chemical incorporation. In addition, the unit can be pulled independently to break the soil crust after a rain," says Hohn.

Most farmers mount flex tine mulchers on the Pivot Pony toolbar but, Hohn notes, you could mount other attachments on it to pull behind tillage equipment.

A unique feature of the Pivot Pony is that you don't need to worry about it climbing on the front implement when making short turns. Two chains, one on each side of the tongue, connect the Pivot Pony to the other implement. As you turn, the outside chain pulls the Pivot Pony around. Swivel wheels eliminate skidding on turns.

An 8-in. stroke ram controls the unit's height. The ram tees into the other implement's cylinder so you can control both units with one lever.

Other features include an adjustable tongue and an optional flex toolbar. You can add harrow sections of 14 to 30 ft. Wings fold manually but a cable winch is available.

The Pivot Pony, without tires, harrow sections or cylinder, lists for right at \$1,410.

For more information, contact: FARM SHOW Followup, M.D.S. Manufacturing Co., Hwy. 37 S., Parkston, S.D. 57366 (ph 605 928-7951).

## Research

USDA researchers at Ohio State University have been testing direct injection sprayers with pesticides for two years. Dr. T.L. Ladd says researchers have modified a 3-pt. hitch mounted conventional sprayer and tested it head to head against an unmodified conventional sprayer for insects in potatoes. A recent report on the tests states that, "There was no significant difference in spray effectiveness between the two sprayers." The researchers noted that because there's no need for premixing, the operator's exposure to chemicals is reduced. And, because only the amount of chemicals needed is used, direct injection costs less than conventional methods.

The control unit mounted in the tractor cab controls the amount of chemical injected per acre and monitors the miles per hour, acres covered per hour, and gives a readout of the total amount of chemicals applied per hour. An electrical pump mounted on either the tractor or sprayer pumps chemicals to the sprayer via a hose teed into the suction side of the spray pump.

Gebheim notes that the turbulence

in the pump is enough to mix the chemicals once they're injected. On diaphragm and roller type pumps you'll have to supply a bypass loop for pressure regulation. On all tanks you'll need to shut off the agitator so the water and chemicals don't mix in the tank.

A UTM system for most farm-size sprayers sells for \$1,695 and includes the control unit, ground speed indicator, one pump and tubing. Systems

with two pumps for injecting two different chemicals at once, and systems with a 1 gal. per minute output which are suited for flotation rigs and other large sprayers, are also available. Chemical tanks are not supplied with the system.

For more information, contact: FARM SHOW Followup, WALM, Inc., P.O. Box 121066, Arlington, Tex. 76012 (ph 817 265-6268).