

## TEMPERED SPRING STEEL LASTS LIKE NEW

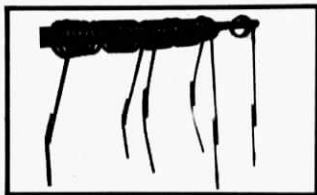
# Spring Tine Replacement Tips Save 80% Or More

"They're made with the same tempered steel used to make the original springs," says Mike Gates, Lansford, N. Dak., manufacturer of new replacement tips for spring harrow teeth.

Gates makes tips in 6, 8, 10 and 12-in. lengths and in 5/16th and 3/8-in. dia. sizes. He can also duplicate the kinks or bends in the tines being repaired. About 50% of the replacements he sells are bent and 50% straight.

"We used to manufacture harrow springs on an OEM basis for other manufacturers so we know how to make them to last. The installation is simple. The farmer simply overlaps the new piece at least 2 in. with the old tine, welding just 1-in. on either side of splice with whatever welder or welding rod he's most familiar," Gates told FARM SHOW.

Depending on the pattern of wear on the springs, farmers may want to buy more than one length of replacement tines to level out the length of all the tines. Tips can be overlapped



Replacement tines are welded onto old tines with an overlap of at least 2 in.

more than 2 in. but shouldn't be any less.

"Welding on new tips takes less than half the time it takes to remove the springs and attach new replacements. And, at 75 cents apiece for the 6-in. long tips, you'll save as much as 80% in cost of materials over new replacement springs, which can cost as much as \$8.50 for a 2-tine replacement spring," says Gates.

For more information, contact: FARM SHOW Followup, M. Gates, Mfg., Rt. 1, Box 60, Lansford, N. Dak. 58750 (ph 701 784-5434).

## "REVERSE DRAINAGE COSTS 80% LESS AND DOES A BETTER JOB"

# Iowa Farmer Using Drain Tile To Irrigate

An Iowa farmer and drainage contractor has come up with a new way to irrigate corn that uses less water and costs 80% less than conventional overhead center pivot irrigation.

Mike Pieper, Weaver, Iowa, uses "reverse drainage," a method of feeding water back into drainage tile to maintain ground water levels just below crop roots.

"It's a simple idea but it works like a charm," Pieper told FARM SHOW. He's one of the first farmers to use "reverse drainage" to irrigate crops. "I know a farmer in Illinois who's doing it and there's a 3-county area in Michigan where they've been experimenting with the idea for years."

Pieper is also a drainage tile contractor and he's started setting up "reverse drainage" underground irrigation systems for farmers.

"Any farmer who already has drainage tile can use this idea, or you can set up a system from scratch. We recently set up one farmer in Arkansas by laying tile on land that didn't need drainage. He just uses it for underground irrigation," Pieper says.

To run water back into drainage tile, he simply attaches a flange and elbow to the main tile line at the point of drainage and runs a water line into it. No pressure is required since the water level will equalize, due to grav-

ity. He can irrigate 80 acres from one spot this way, as water runs from the main line to the lateral lines. The ground water level is raised up to within 1½ ft. of the surface, or just below the root level of the crop. He monitors ground water level by burying short pieces of PVC pipe, with holes in it, vertically in the ground. One end sticks above ground so that, as water seeps into the pipe through the holes, he can easily watch it raise and lower with the ground water level.

"The water level evens out over the entire field and is only a couple inches higher over the drain tile itself. Every inch of water put into the ground raises the water level more than 10 in. Once we reach the desired level, the roots of the crop simply dip down and take what they need. You have to be careful not to raise the water level too high because it will kill the roots," says Pieper.

His corn yields were 198 bu. per acre last year on his "reverse drainage" land, while his unirrigated land yielded 75 bu. per acre. "Subsurface irrigation works better than above-ground irrigation because it wastes less water and doesn't leach away chemicals. Fuel costs are also much lower, at a rate of about \$5 per acre, versus \$25 to \$30 per acre for center pivot," Pieper notes.

## ALSO REDUCES MOISTURE CONDENSATION

# "Tank Topper" Helps Reduce Fuel Evaporation

Fuel evaporation in a 300 gal. tank can cost you 120 gal. a year, say the designers of a new "Tank Topper" protective cover designed to help prevent the costly loss.

Minnesotans Jim Kluver, of Raymond, and Earl Klinghagen, of Maynard, teamed up to develop the metal, sun-stopping "Topper". One size fits all tanks up to 1,000 gal. or up to 64 in. in dia. The white corrugated metal sheets (4 by 7½ ft.) are pre-formed to create the shelter's barn-roof shape. Steel bands and braces supporting the roof bolt into place.

Designers Kluver and Klinghagen note that evaporation rates can be as high as 10 gal. per month, or 120 gal. per year in a red, unshielded 300 gal. gas or diesel fuel storage tank. "That's a sizeable 40% loss every year," notes Klinghagen, who figures the Topper can reduce the evapora-



White corrugated metal sheets are pre-formed to create shelter's barn-roof shape.

tion loss "by at least 75%, saving you 90 gals. of fuel in just one year. The Topper also helps reduce moisture condensation inside the tank."

Sells for \$195. For more information, contact: Tebben Mfg., Clara City, Minn. 56222 (ph 612 847-2200).

## COMES ON ROLLER FOR EASY INSTALLATION, REMOVAL

# "Form-Fit" Tarp For Baled Hay

"It has form-fit, boxed corners on the starting end, and comes on a roller assembly for easy, two-man installation and removal," says Wayne Plowman, co-owner, about Interstate Tarp Company's new customized tarp for protecting outside stacks of conventional hay or straw bales, or one-ton square bales. It isn't designed for covering stacks of big round bales, Plowman points out.

Built-in straps make it easy to secure the tarp once it's rolled into position. The tarp, made of a plastic material, is 12 ft. wide with a treated weather-proof strip 9½ ft. wide running down the middle. The untreated portion hangs down along the sides of 9½-ft. wide bale stacks. Individual tarps are available in whatever length the customer wants. "The longest we've sold was 212 ft., and the shortest 54 ft.," says Plowman. "Because of the roll-up feature, this new tarp is



The customized tarp has form-fit, boxed corners on the starting end.

fast and easy to put on, and as convenient to roll up and store for reuse. Consequently, it should last for several years."

Weight of the tarp, which is water and mildew resistant, is right at 1 lb. per running yard.

For more information, contact: FARM SHOW Followup, Interstate Tarp Co., Rt. 1, Box 150, Lubbock, Texas 79401 (ph 806 762-5126).

Existing drainage tile can easily be retrofitted to "reverse drainage". All that's needed is a pump and a supply of water. Although every situation's different, Pieper says that, to be most effective, extra tile should be added to most fields. In heavy soils, tile lines should be spaced about 12 ft. apart and, in light soils, maximum spacing should be no more than about 40 ft. Any size or type of drain tile will work. The high ground water level is maintained until the kernels mature. Then, the ground is drained

and the corn allowed to dry.

For more information contact: FARM SHOW Followup, Mike Pieper, Box 195A., Weaver, Iowa 52658 (ph 319 372-2276).

Advanced Drainage Systems, Inc., Iowa City, Iowa, is promoting subsurface irrigation and has published a booklet explaining the process. For a free copy, write: FARM SHOW Followup, ADS, Inc., P.O. Box 2478, Iowa City, Iowa 52244 (ph 319 338-9448).