

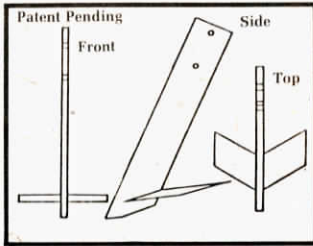
## DEEP-CHISELING WINGED SHANK SUCKS AIR DOWN INTO SLOT

# No-Till Aerator Boosts Corn Yields Up To 48%

Mike Strohm's no-till corn yields went up 45 bu. per acre over corn grown on his "conventional no-till" acres when he worked the ground with his new deep-chiseling, winged "aerator".

The new post-emergent tillage tool consists of 5 toolbar-mounted shanks that are so narrow —  $\frac{5}{8}$ -in. wide — that they leave the surface virtually undisturbed even when working at depths of 15 in. A  $4\frac{1}{2}$ -in. wide horizontally-mounted winged knife is mounted just 2 in. up from the bottom of the shank. It's canted at a 30° angle toward the rear so that as it's worked through the field, it lifts the ground 3 to 4 in., creating a suction that draws oxygen down through the slot as it breaks up the hardpan. Strohm pulls it between rows of corn when plants are from 2 to 12-in. high.

"At 5 mph, it lifts the corn rows 3 to 4 in. so you can see a wave action across the field. Cracks  $\frac{1}{2}$  to  $\frac{3}{4}$  in. wide open across the surface due to the fracturing of the soil. Air drawn down under stimulates bacterial action and the breaking up of hardpan



**Narrow,  $\frac{5}{8}$ -in. thick shank is fitted with horizontal "wings" 2 in. up from its bottom point.**

lets roots seek lower levels of moisture," explains Strohm, who has begun manufacturing the innovative new tillage tool.

Strohm has no-tilled his corn ground for 5 years but experienced an increase in compaction do to his shallow, silty loam soils with an impermeable clay layer beneath. Without conventional tillage, his unglaciated soils packed up, so moisture couldn't be absorbed and erosion increased. Running his new aerator through the soils has solved the



**Aerator leaves surface residue virtually undisturbed. Nitrogen is injected 2 to 3 in. below the surface and drawn deeper by suction.**

problem, he says.

Strohm first used the aerator in 1984. Last year he began injecting nitrogen into the slots made by the shanks at a depth of 2 to 3 in. below the surface. He says it's drawn down deeper into the slot by suction from below and forms a nitrogen "curtain" between rows.

"I've found that the increased bacterial action due to increased oxygen levels below ground has actually decreased the need for nitrogen," Strohm says, noting that other tillage tools on the market slice through the hardpan or push it to one side or the other but that his is the first that not only slices through but also lifts the soil straight up, sucking in oxygen and fracturing the entire structure of

the soil. He adds that the aerator can be used in both conventional or no-till ground and can also be used on ridged ground.

Strohm says that since he switched to no-till in 1979, his per acre costs have been reduced \$20 to \$30 per acre and his tractor hrs. per acre have dropped from 2 to .98 hrs. Yields have increased 20 to 48% since he started using his new aerator compared to no-till ground.

The aerator has 5 shanks, each with trash cutting couler ahead of it. It requires about 30 hp. per shank to pull.

For more information, contact: FARM SHOW Followup, Mike Strohm, Rt. 1, Box 48, West Union, Ill. 62477 (ph 217 279-3687).

## "Spray Box" Replaces Cattle Dipping Vats

New from Bowman Livestock Equipment, Fremont, Neb., is a portable, self-contained "Spray Box" that replaces dipping vats and hand-sprayers, and is unique in that it recycles spray liquid after it drains off the animal.

Since the new Spray Box is portable, you can take it to the cattle instead of bringing cattle to it, as is now required with most dipping vats.

It features 28 nozzles spaced throughout the chute that drench the animal with insecticide. After

spraying, you let the animal stand for a few seconds so spray can drain off into the bottom of the chute. To speed things up in a stationary set-up, you can run animals out onto a cement pad with a drain and sump tank to catch the spray.

The company notes that, by retrieving and reusing the spray, the amount of spray used per animal is only about  $\frac{1}{2}$  gal., versus about 2 gal. per animal with conventional hand spraying. The once-used spray is pumped over a sieve, then through a

20 micron filter before it's reused. A pump powered by a 17-hp. engine powers the sprayer.

The Spray Box, with pump and engine, sells for \$9,500.

For more information, contact: FARM SHOW Followup, Bowman Livestock Equipment Co., 505 North Main, Suite 202, Fremont, Neb. 68025 (ph 402 721-7379).



**Chemical spray from unit's 28 nozzles is recycled after it drains off animal.**

## Handiest Grain Sample Probe We've Seen

Handiest grain sampling probe we've seen is the new "TM" from Tansley Mfg. It samples and "temperatures" grain from anywhere inside the bin, regardless of how deep or how wide.

The probe's spear point is a built-in thermometer (Fahrenheit or Centigrade) which gives you the temperature of the grain sample. The probe's barrel has a built-in sliding door for collecting a large  $\frac{1}{2}$  lb. sample of grain from any desired area.

The probe is equipped with special auger flighting, making it easy to move it through large volumes of grain.

The model for small grains has a 9 in. long barrel, and the one for corn and soybeans, a 15 in. barrel. Using a T-bar on the end of the handle, made up of  $\frac{1}{2}$  in. dia. pipe sections, you

simply auger the probe into the grain until it reaches the desired sampling area. You then turn the handle clockwise to "auger out" and retrieve the probe. As you start to pull it back, the "sampling door" in the barrel opens and immediately fills with grain, giving you a  $\frac{1}{2}$  lb. sample (250 grams) — which is large enough for taking a moisture test with most conventional do-it-yourself testers.

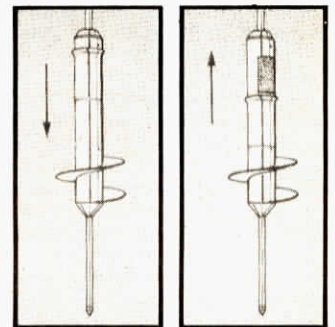
In addition to sampling grain for temperature and moisture, the TM probe lets you check stored grain for dockage, and for possible insect damage. You can sample grain from on top the pile, or through 5-in. dia. portholes installed in the sides of the bin.

The probe, made of cadmium plated steel for rust resistance, comes

with your choice of a built-in Fahrenheit or Centigrade thermometer and an optional T-bar handle. You then buy sections of  $\frac{1}{2}$ -in. pipe locally to make up as long a handle as you need, depending on the size of your largest bins.

The small grain probe sells for \$39.50, and the slightly longer-barreled corn-soybean probe for \$44.50. Prices include shipping. All U.S. orders are shipped with a Fahrenheit temperature gauge unless otherwise specified. The optional T-bar handle sells for \$7.50.

For more information, contact: FARM SHOW Followup, Tansley Mfg., Box 5, Tourond, Man., Canada ROA 2G0 (ph 204 377-4962).



**As probe is pushed into grain, left, grain sampler is closed. The instant retrieval starts, sampler opens, right, collecting a  $\frac{1}{2}$ -lb. sample. Thermometer mounts at end of probe.**