

# Grower Idea Contest 2001

## 2001 GROWERS IDEA CONTEST FINALISTS (Vol 32 Pg 375)

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This information provides a brief description of the idea. The author and the idea contest committee do not imply any guarantee of grower safety or satisfaction with the adoption of an idea. Users of any idea manufactured for resale assume all liability regarding patents on use of any idea for commercial sale. Individual growers who desire to utilize an idea are encouraged to contact the grower and/or agriculturist for specific details on use of an idea.

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### **PADDLE SHAFT HANGER BEARINGS FOR 6 ROW ARTSWAY LIFTERS**

This modification to Artsway lifters eliminates the breaking of the paddle shaft by supporting the paddle shaft in the middle. It eliminated all the vibration in the lifters, which also quieted the machines so you could hear if there were any other problems on the lifters. This idea was used for one season on 1600 acres. The cost was \$550.00 for parts and 6 hours of labor for 2 men. The savings was \$1200 to \$2500 per machine depending on how much damage was done when the paddle shafts break. We have had them do both ranges as we would break 1 or 2 paddle shafts each year on each machine in our heavy soils. This idea saved 5 to 8 hours of down time during harvest. We were surprised at how quiet the machines ran which made hearing other problems on the machines easier to detect and fix before they caused problems. Fixing broken paddle shafts in the field was a muddy and cold procedure and a lot of hard work.

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### **OFF SET WALKING TANDEM ON SPRAYER**

The idea is a high clearance row crop sprayer modified using a set of off set

walking tandem wheels instead of a set of straight dual wheels. The off set walking tandems help maintain a uniform boom height and allows the sprayer operator to maintain constant speed over rough ground. The off set walking tandems reduced stress on the boom from bouncing while traveling over rough ground or obstructions such as rocks. The off set walking tandems also allows the operator to make quicker turns on the end of the field because they do not have to worry about rough ground. This idea was used for one season on 3000 acres of sugarbeet, corn, and soybeans. The cost of the idea is approximately \$3000.00 in materials and took 30 hours to build. The off set walking tandems reduce stress on the boom from bouncing thus reducing down time for repairs. The operator does not have to slow down while traveling over rough ground that allows for more acres to be sprayed with better accuracy. A single wheel sprayer was upgraded with the walking tandem modification at a lower cost than a set of straight dual wheels.

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**24 ROW PLANTER STRIKE OUT MARKER**

This idea involves a modified danish tine tooth mounted 22-24 feet from the edge of a seedbed type finishing implement used on the final pass to make a visible mark for striking out with a 24 row planter. With the wider 24 row planters, striking out can be more difficult along an edge with power poles or around a curve. By simply removing a pin, the danish tine tooth assembly can be turned upside down when not in use or in the down position to make the mark. The tooth also has up and down adjustment to run deeper or shallower to make more or less of a mark. This was used for one season on 490 acres. The cost was about \$20 in time and materials. With a good mark to start there is less fatigue on the operator pulling the planter on the first pass. This results in straight rows which make cultivating, spraying and lifting easier. By staying 2-3 feet from the edge of the field there is no concern of getting dangerously close to power poles, trees, fence lines or having the last row planted in the ditch.

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### **GREASE STATION FROM DEFOLIATOR**

This idea was developed to facilitate single point greasing with grease lines for center bearings of the defoliator. Stand behind topper to grease the center bearings on flail shafts. It works very well. The operator can do a good job of greasing in a short period of time. It is much safer than crawling inside on slippery tops. This idea was used for one season on 800 acres. The cost was \$100.00. The savings were \$140.00 in time and \$1,200.00 if the bearings were to be replaced.

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### **MOBILE LABOR UNIT**

This idea involves a frame constructed of 2 x 2 1/4 inch tubing, which supports two school bus seats and is mounted on an ATV for transporting labor through a sugarbeet or soybean field. Combine pick-up wheels spaced 88 inches apart are used to carry the weight of the riders and will also follow the planter tracks. The frame is mounted on the ATV by a trailer hitch hook-up. It attaches and detaches quickly from the ATV using the trailer hitch. The unit carries workers and equipment through any row crop for rock picking, scouting, or cleaning up weed patches. This idea was used for one season on 200 acres of sugarbeet and 200 acres of soybean. The cost include 48 feet of 2 x 2 1/4 inch tubing for \$84.00, two bus seats picked up at a salvage yard for no cost, pick up wheels salvaged off an old combine at no cost, and one hitch purchased for \$17.00. The total cash outlay was \$101.00 plus approximately five hours of shop time to assemble the unit.

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### **SEED COLLECTOR**

This idea involves a five-gallon plastic pail modified with 6 feet of 3/4 inch soft clear vinyl hose and an adapter to connect to a shop vacuum. This allows the beet seed to be collected quickly and cleanly in the pail. The soft clear vinyl hose easily gets to the bottom of the seed hopper and the seed is in the five-gallon pail without more handling or having to clean the shop vacuum. This idea was used

for two seasons on 500 acres. The cost was \$5 and 1 hour of labor. An 18-row planter can be emptied to switch seed in less than 10 minutes. Switching seed is now so easy that you can do your own strip trial and/or use a different seed on the headlands.

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### **ELECTRIC LOST PARTS FINDER**

The new electronic stud finders also have a metal detector that could be used to find nails in wood. It was useful to have the stud finder in the pick-up at harvest since it will find metal parts dropped in the dirt or combine chaff. It works great to find connector link parts, roll pins, square keys and other small parts. This idea was used for one season. The cost was \$60. One trip to town with four truck drivers waiting to get a 1/4 inch key you dropped will more than pay the bill.

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### **LIFTER CHAIN STRAIGHTENER**

This idea was developed to straighten bent chains. A special attachment was made for a portable hydraulic unit called a porta-power. This unit hooks over a bent lifter chain and presses it straight without having to remove it from the lifter. This unit easily straightens bed chain, lifter chain, and most importantly belted chain without removal from the lifter. If a belted chain gets bent on a rock or a piece of metal, it was a real problem, but not anymore with this tool. This idea was used for two seasons on 500 acres. The cost was \$100 for the porta-power. The real savings were on belted chain. Removal of a bent rod could take 1/2 hour, straightening 5 minutes. Also links that had to be replaced can now be reused at a saving of \$3 per link.

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### **MAXEMERGE SPACER BLOCKS**

Spacer blocks are 3 1/2 x 2 x 1/2 inches with a 7/16 inch x 1 inch piece of key stock welded to it. A key stock is plug welded from the top of the block. Block and key stock need to be flush on one side when welded. The hole in the block was 3/8 inch counter-bored to 5/8 inch to facilitate welding. Blocks fit in middle slot and handle rests against blocks instead of in slots resulting in lessened down force. Blocks weigh approximately one pound each, so they do not rattle out and were very easy to take in or out. Blocks should be painted in a bright color to aid in seeing the blocks. This idea was used for three seasons on 1200 acres. The cost was about \$10.00 for a set of 12. The benefit received from the spacer block was less down pressure on the closer wheels while planting in a de-ridged ridge. After de-ridging, the excess moisture needs less closing wheel pressure, otherwise the soil becomes too compact for seedling emergence. The block helps reduce the pressure. Three different sets of block with varying key stock lengths were made for different soil conditions. Those key stock lengths were 1 inch, 1 3/8 inch, and 1 3/4 inch. The 1-inch blocks were used most frequently. The weight of the block and the spring pressure of the closing wheel handle hold the blocks in place during planting operation.

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### **PLANTER TEST STAND**

This grower constructed a mobile planter unit test stand. This test stand allows the grower to test the planter unit on the manufacturer's planter bar, while in a stationary position. The grower can use the test stand to adjust for desired vacuum, adjust for various seed varieties and sizes flowing through each planter unit, and allows for adjusting of ground speed for accurate seed spacing. With this unit the grower can simulate ground speed allowing for calibration of insecticide rates on individual planter rows. Grower can inspect and lubricate chains, bearings and planter drives in a stationary environment. Several growers used the test stand in the 2001 crop year. The total cost was \$5,000 (\$4,000 for parts and equipment and \$1,000 for labor). This idea will promote uniform stands and reduce weed competition in the field.

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