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FARMER-BUILT CONVERSION

Revamped Tandem Disk Loosens Compacted Soil

"It works better than any tillage tool on the market and I saved at least \$5,000 on a new commercial subsoiler," says Minnesota farmer David Bachaus, of LeSueur, about the New Holland tandem disk he converted last summer into a deep till disk.

Bachaus bought the 15 ft. wide disk 7 years ago. "It was made for New Holland by the Miller Disk Company and had done a fine job of loosening the ground up to about 6 in. The problem was, my soil was becoming hard and compacted under the mulch. Ag universities are telling us that our biggest yield robber is compacted soil.

"By taking the back disk gang off and attaching six parabolic shanks in their place, I feel it makes the best tillage tool on the market," says Bachaus, who field tested the conversion on 500 acres of corn, soybeans, wheat and pea ground last fall. "The front gang can be set however deep you want so you can leave as much residue on the surface as you want. The back shanks also go in however deep you set them and won't come out of the ground, even on ends of the field where soil is tough and compacted. The tractor will stop before the shanks will come out of the ground."

To make the conversion, Bachaus dropped off the rear gang of the disk. Using a chain and hoist, he then lifted the two 4 by 4 in. frames which originally extended diagonally into the middle of the disk, repositioning them in a straight line at the rear of the disk. Then, he used four clamps to tie the frames together as a unit. Finally, he clamped and bolted six parabolic shanks onto the frames.

"With the frames in a straight line across the back of the disk, the shanks exert minimum stress," says Bachaus, who spent about a week rebuilding the disk. "It took some planning. Now that the bugs are worked out of it, I could build another one like it in two days."

Two hydraulic rams control the disk. One tilts it front to back, the other raises and lowers it.

Bachaus runs the front disk shallow in soybeans. In corn and wheat, he drops the front disk 4 in. to mix residue. In all crops, he pulls the shanks 12 to 15 in. deep to break up the hardpan.

"The important thing," says Bachaus, "is that I was able to make good use of what I had and not spend extra money on a new deep till machine. There are a lot of cheap disks out there and other farmers could save a lot of money by making similar conver-

sions. At auctions, used disks sell for \$1,500 to \$3,000."

Bachaus says he spent \$270 apiece for the 6 shanks and another \$65 to have holes drilled in the frame and a couple of brackets made. "My total cost was \$1,685, whereas a new deep tiller would have cost over \$7,000," he points out. Bachaus almost bought a commercial deep tiller. "I came within \$50 of buying a DMI Colter Champ, a 5 shank demonstrator model. The dealer wanted about \$7,000 for it and said he'd give me \$2,000 in trade on my disk. I took the Colter Champ home, used it for 2 days, then backed it inside the shed next to my disk and started comparing them. That's when I decided to convert my 7-year-old disk into a deep tiller.

"Although the Colter Champ is a good unit, I believe mine is even better. If the Champ is worth \$7,000, I'd say mine is worth \$10,000. Coulters on the Champ run in a straight line and do nothing to work the ground. They only cut a path for the back shanks. On my tiller, the tandem disk blades in front are notched and run at an angle to tear up the ground and mix soil in with trash."

Bachaus also compared his "hybrid" deep till disk to the popular M & W Earthmaster, a deep till rig with offset disks up front. "Tandem disks let me pull my rig 5 ft. closer to the tractor so it pulls easier than the Earthmaster," Bachaus told FARM SHOW.

He says either tandem or offset style disks are candidates for conversion to deep till, provided the disk has enough clearance to keep the shanks from dragging, and provided the frame is heavy enough to withstand the shank pressure. "You must be able to straighten out the rear frames and they have to be fairly strong because the shanks pull hard. Luckily, my New Holland tandem disk was a perfect match for the shanks," notes Bachaus.

The parabolic shanks on his converted tiller are set 30 in. apart but slide on the frame for unlimited adjustment. "In a year when the ground pulls hard, I can make a 5-shank model with one shank in the middle and two on each side. Or, I can make a 4-shank model by dropping the two outside shanks," Bachaus points out.

For more information, contact: FARM SHOW Followup, David Bachaus, Rt. 2, Box 24, LeSueur, Minn. 56058 (ph 612 665-3180).



Some butterflies at "Butterfly World" have wing spans as large as 6 in. across.

SOME 56 BUTTERFLY FARMS HAVE BEEN ESTABLISHED SINCE 1980

Butterflies: Latest New "Cash Crop" In England

Butterfly farms are cropping up everywhere in England.

Since the first butterfly farm was established near London in 1980, at least 56 more operations have been launched. The idea has also been exported to countries around the world.

Most butterfly farms are set up as tourist attractions. Greenhouses with suitable habitats are built, and then hundreds and thousands of butterflies are brought in from around the world. Some farms have also planted fields with varieties of plants that attract native species of butterflies. Walkways and ponds are established through the butterfly fields so that tourists can get up close looks at the colorful insects.

Butterfly World, on 10 acres of farm land in Shropshire, is one of the larger butterfly operations. Hundreds of species from all over the world thrive in the farm's big screened-in tropical enclosure. Some of the butterflies have wing spans as large as 6 in. across. Visitors can observe and photograph the creatures at all stages of their life cycle. Butterfly World has also established a 4-acre butterfly meadow outside with a nature trail and brookside walk for observation of native species.

The farm charges an admission fee of about \$4 and is open from April to November. There's a cafe on the farm that serves light refreshments and ice cream.

Because of the rapid growth of butterfly farms in the past 8 years, demand for butterflies is growing. An average butterfly lives for about 3 weeks and since at least 2,000 are required at any one time for an average operation, demand for the insects has grown rapidly. Initially, nearly all stock came from tropical countries. But in the past couple years that has changed as many of the farming operations have begun to learn to breed their own stock. Now more than 50% of the butterflies are bred and raised within the country.

Clive Farrell, who established the first butterfly farm in England, still obtains much of his exotic stock from far corners of the world. He notes that in many countries - such as Sri Lanka - there are professional butterfly breeders who can provide a steady supply of pupae, which is what the caterpillar's called once it's in the cocoon. More and more knowledge is being gained about the best plants and environment for successful butterfly raising as British butterfly farmers get together to pool the knowledge they have gained. Farrell is also involved with butterfly operations in Scotland, Switzerland, and Malaysia.

For more information, contact: FARM SHOW Followup, Butterfly World, Yockleton, Shrewsbury, SY5 9PU England (ph 074384 217).

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