



Brown used a 1959 701 Uni-Harvester to build his self-propelled "Spraymaster".

COST \$5,000 TO BUILD

"Uni-Harvester" Crop Sprayer

"We wanted a crop sprayer that wouldn't cost much yet could cover a lot of ground fast," says Jim Brown, Oto, Iowa, about the 45-ft. wide, hydraulic-fold crop sprayer he built out of an old 1959 model 701 Uni-Harvester.

"We paid \$800 for the Uni-Harvester and spent about \$900 to build the boom. My total cost was about \$5,000. A commercial self-propelled sprayer of comparable capacity sells for two or three times as much. We've used it for four years, mostly for post-emergence application of herbicides. It works great."

Brown used 1-in. steel tubing to construct the boom which is built in five sections. The boom is raised and lowered by the hydraulic system that was used to raise and lower the header and is folded for transport by four hydraulic cylinders. It has two sets of nozzles. One set is tipped forward at an angle, allowing Brown to run both sets of nozzles at the same time without their spray patterns interfering.

The boom's center section is fastened directly to the Uni-Harvester toolbar carrier. Foam marker nozzles are mounted at both ends of the boom. There are also extra nozzles on both ends of the boom, allowing Brown to spray Roundup along field borders and terraces.

The rig is equipped with five different tanks - a 500-gal. tank, two 100-gal. tanks (one for the end nozzles and one for the second set of nozzles), a yellow foam marker tank, and a small tank for rinse water to wash hands. There are five different pumps. The cab is equipped with a bank of electric toggle switches that control the main and secondary booms, end nozzles, foam markers, and ground-driven pump.

"I call it my Spraymaster 4500 because it has a 45-ft. boom," says Brown. "I bought the Uni-System power unit at a salvage yard. It had only 1,400 hours on it and was in ex-

cellent shape. It's powered by a 6-cyl. Chevrolet 292 cu.in. 6-cyl. gas engine and has a variable speed transmission. The boom can be raised from 2 to 6 ft. high. I can raise or lower the entire boom on-the-go and raise or lower each wing independently. Works great for lifting the boom over terraces or fences when I turn at the end of the field.

"The main sprayer pump is hooked directly to the drive axle, which allows me to vary the speed as I go through the field yet keep a constant application rate. I don't have to adjust spray pressure or flow to compensate for my speed. It also eliminates the need for an expensive sprayer monitor. I do have an inexpensive Micro-Trak Calc-An-Acre acre counter in the cab that shows speed and acres covered. I apply about 25 gal. per acre and can cover 20 acres per tank full.

"The two sets of boom nozzles allow me to spot spray parts of the field while spraying the entire field with another chemical.

"I had some trouble with the boom breaking so I mounted springs on it where the center section attaches to a pair of upright pieces on the toolbar carrier. I cut two holes in the boom large enough for a 1-in. dia. steel shaft to go through, then mounted two heavy duty springs on the bottom side of the boom and a single spring on top. The boom actually 'floats' on this shaft to reduce the shock when the sprayer tires hit a ditch or other obstruction.

"I pump soapy water from the wash tank into the 500-gal. tank. I designed my own self-cleaning filters which eliminates the need to remove the filter body whenever I want to clean the filter screen. I installed a 1/2-in. dia. valve on the bottom of the filters. I just crack the valves open to let the filters flush themselves."

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The 45-ft. boom is folded for transport by four hydraulic cylinders.



Cox likes the heavy-built frames on Gleaners because they remain structurally sound.

GLEANERS WORK BEST, HE SAYS

"Best Way" To Make A Combine Sprayer

If you've ever considered building a self-propelled crop sprayer out of an old combine, you might want to listen to Richard Cox who turned a 1975 M Gleaner with hydrostatic drive into a fast, smooth-riding spray rig.

The Franklin, Ill., farmer says Gleaners are the best machines to use.

"What I like about Gleaners for this purpose is their big, heavy-built channel iron frames," Cox says. "The tin work isn't used to hold them together like some other combines, so you can remove just about everything and they remain structurally sound."

He started by removing the header and all grain-cleaning components from the machine, which he bought specifically to build the sprayer. He shortened the rear end of the combine by 2 ft. so it would better fit into his machine shed.

The sprayer is equipped with a commercial 54-ft. boom with 21-ft. wings and 12-ft. middle section. Nozzles are on 20-in. spacings for broadcasting pre-emerge and post herbicides on 700 acres of drilled beans and 700 acres of corn on 36-in. rows.

The front-mounted boom mounts on a shock-absorbing bracket Cox built out of steel tubing and strap iron. It's equipped with a used combine header spring on each side to reduce bounce, as are larger 18.4 by 34-in.

tires that he installed.

"There's hardly any bounce to the boom. And front-mounting allows the operator to clearly see every nozzle," Cox notes. "The taller, narrower front tires smooth out the ride and allow you to operate in drilled beans without running as many down. Plus, they gear it up faster for field speeds of up to 11 mph."

Cox removed the combine's grain tank and replaced it with an 800-gal. tank he found at a farm sale. The 8 ft. long by 4 ft. dia. stainless steel tank is ideal for the M Gleaner, he says.

A big, shop-type air compressor is installed on the left side of the machine to power the marker system and to clean nozzles. It runs off the clutch that originally powered the header and is connected to a 30-gal. tank mounted inside the rear of the combine.

"Running at field speeds of up to 11 mph, we can spray 300 acres in a short day, no problem," Cox says.

Out-of-pocket expense was about \$6,000, including DICKEY-John monitor system, stainless steel tank and combine.

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The 54-ft. boom has nozzles on 20-in. spacings for broadcasting pre-emerge and post herbicides on beans and corn. Wings are 21 ft. wide; middle section 12 ft. wide.