

## REMOVES TALL-GROWING WEEDS FROM LOW-GROWING CROPS

# Look! A Cultivator That Pulls Weeds

You've never seen anything like it — a mechanical weed pulling cultivator that removes tall growing weeds (such as volunteer corn) from low growing crops (such as soybeans). "We think it may eventually replace certain chemicals for weed control," says Dan Bourquin, Colby, Kan., inventor and manufacturer. "It provides an economical way to mechanically remove weeds that up to now have been pulled or chopped by hand."

Here is how it works:

A series of rubber-wheels rotate tight against each other and are driven hydraulically at high speed. Tall-growing weed passing between two tires, each rotating in opposite directions, are immediately grabbed and jerked out of the ground — roots and all. Dual wheels add extra pulling power for extra large weeds.

Simple machine design and adjustment makes the mechanical weed puller easy to operate, and extremely versatile, for front or rear mounting, says Bourquin. For example, the unit can be used in conjunction with a conventional cultivator to till the soil and pull weeds in a single operation. The machine has been used experimentally with good success in mechanically thinning sugar beets, according to Bourquin.

Here are his answers to questions FARM SHOW asked concerning various features of his unique new weed-pulling and crop thinning machine:

Will the machine pull out all weeds in the row?

"In most cases, it will pull most of the tall growing weeds and generally sever the tops of remaining weeds, reducing their ability to compete for sunlight."

How tall must weeds be before the weed-pulling cultivator works?

"We estimate 4 to 6 in. above the crop. However, this varies with the crop, the type of weeds and soil conditions. Some crops will permit some trimming back with little yield reduction. The machine can be operated at a low height in these crops as long as you aren't uprooting the crop."

Under what conditions does the weed puller work best?

"It can be best utilized by pulling weeds at the earliest possible time since the longer you wait, the longer the roots become. A key design feature is that it pulls from the top to the bottom over the entire area of the stem, resulting in an increase in pulling power without breaking off the weed. When incorporating cultivation with the weed puller, weed roots will be cut between the rows, leaving only those roots directly in the row to

be pulled loose. Naturally, the machine works best when the soil is mellow, and after a recent rain or irrigation."

How fast does the machine move through the field?

"It appears that the ideal ground speed is about 3 mph. However, this may vary with field conditions and the type of hydraulic pump."

Which is best — a front mount or a rear mount?

"Front mounting would normally be used in pulling larger weeds, such as shattercane in corn, soybeans or sorghum or when pulling velvetleaf and sunflowers. When pulling tall weeds with a rear mounted unit, the tractor tends to bend tall weeds making it somewhat more difficult for gripping wheels to grab the weeds. Higher crop clearance is obtainable through the front mounted machine."

The advantages of rear mounting include relatively simple installation on a 3 pt. hitch, and farmers can cultivate as well as mechanically pull weeds in a single operation."

Here, according to Bourquin, is a rundown of the machine's effectiveness with various types of weeds:

**Velvetleaf:** "We've had good success in pulling velvetleaf in soybeans when the weed's stalk was approximately 1/2 in. in dia. There was some stalk breakage but this was still considered acceptable weed control in that it reduced harvesting problems and also stopped seed development."

**Johnsongrass:** "The weed puller, used in combination with certain root restricting herbicides to control this weed, could well become one of the popular uses. Once rhizome growth has been stopped with chemicals, the plants are pulled relatively easy."

**Volunteer corn and sunflowers in soybeans:** "Farmers that have used the weed puller in this application felt it did a good job. They said that they wouldn't have believed the weed puller would pull stalks of sunflowers and corn that size if they hadn't seen it. They felt that this op-



"Works great for removing volunteer corn, sunflowers or other weeds in soybeans," says Dan Bourquin, inventor of the mechanical weed puller. Double rows of tires on unit pictured rotate tight against each other. Adjacent tires rotate in opposite directions to "grab" tall growing weeds and pull them out — roots and all.



**Pigweed:** "The machine does an excellent job on this weed. It's almost uncanny how it hunts them down and pulls them out."

**Weeding and thinning sugar beets:** "Experimental testing with this crop looks promising. For this application, the weed puller could be rear mounted on a 3 pt. hitch to incorporate the weeding process with cultivating, using a choice of shanks or shovels of the farmer's choice. Beet growers we've worked with feel the weeding operation should be fairly early. It might best be done during the heat of the day when the beet leaves tend to lay down."

It's expected that initial interest in the machine will come from custom operators, and from dealers who will rent or lease the machine to farmers. Cost for the six-row (30 in.) weed puller is in the neighborhood of \$3,000.

For more details, contact: FARM SHOW Followup, Bourquin Design and Mfg., Dan Bourquin, Pres., Route 3, Colby, Kan. 67701 (ph. 913 462-2998).

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