

HIS ELECTROSTATIC SIZER USES VOLTS TO SIZE SEED

New Seed Sizer Boosts Yields, Says Inventor

A new electrostatic seed sizer that uses up to 120,000 volts to divide seed into groups by size is attracting a lot of attention to retired electrical engineer Richard Helmuth, of Carmel, Ind., the inventor.

Helmuth's sizer can size anything from tiny grass seed to corn. Although seed sizing is standard practice in commercial corn seed, it's not commonly done for soybeans and other crops. Helmuth thinks it should be.

"Our tests show tremendous differences in yields between big and small seeds. In Kansas, we have found that big wheat seed out-yields certified seed of mixed sizes by 10 to 20%. We have obtained similar results in soybeans," Helmuth told FARM SHOW. "Seed companies do not want to size seed because they want to sell all their seed to farmers, but our research indicates that only big seed should be used for planting."

Large seeded plants have more vigor and larger root systems, says Helmuth, so you should be able to plant less seed and yet obtain similar results. He has also found that large seed tends to produce large seed.

Although tests are continuing on big seed versus small seed, Helmuth's "seed sizer" is already on the market. Several universities have bought machines and there has been interest from seed companies and from farmers who want to size their own seed.

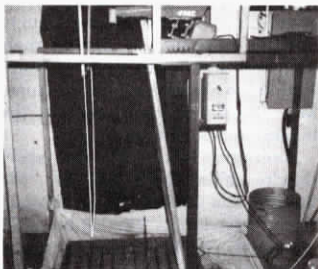
Here's how the sizer works:

Seed drops through an electrically charged zone that zaps seed with a 30,000 to 120,000 volts negative charge. A large, positively charged ground plate at one side of the electrostatic zone exerts a pull on the negative charged seed. Depending on how heavy the seed is, it is pulled toward the plate. When it reaches the bottom of the zone, seed falls into compartments. The smallest seed falls closest to the ground plate and the largest seed the farthest away.

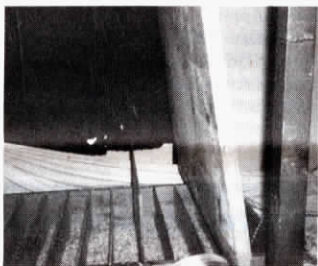
Helmuth notes that although seeds are charged with high voltage, the current generated is so small there is no danger to the operator. "A shock from it would feel like the jab of a needle," he says.

Moisture content of the seed does not affect the sizer's efficiency since it acts only on the surface of the seed. However, the sizer does detect the mass of the seed, and several seed companies are interested in the machine to divide same-size seeds by weight to detect any differences in plant viability.

The system is designed to operate on 110-V single phase power. It is totally adjustable to size of the seed being sized. The standard model



A laboratory model of Helmuth's sizer. Seed, fed evenly through an electronic "shaker", free-falls through an electrically charged field. The electrode, left, zaps falling seed with a negative charge of up to 130,000 V. The negatively charged seed is attracted to a positively charged "ground plate", at right.



The smallest seed is pulled closest to the ground plate while the largest seeds fall straight down. Seed falls into partitions, divided by weight.

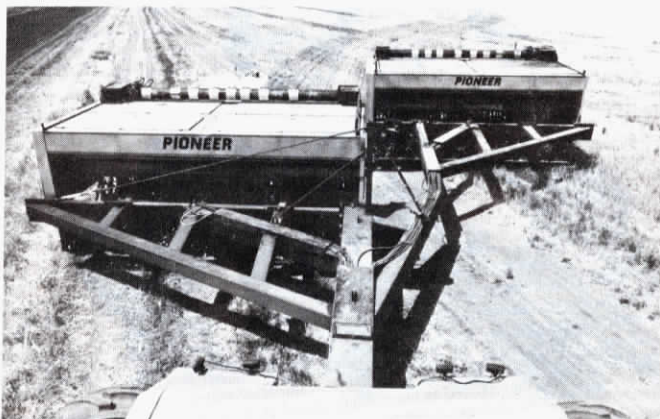


Any number of partitions are possible on production models to select for the largest, or smallest, seeds.

sizes at the rate of 100 bu. per hour and sells for \$10,000. The unit measures 5 ft. long, 5 ft. high and width is variable. Helmuth also builds sizers with a capacity of up to 500 lbs.

If you want to run your own experimental plot, Helmuth will size a sample of seed for you if you pay the postage. He can also provide research results on small versus big seeds.

For more information, contact: FARM SHOW Followup, Richard E. Helmuth, Helmuth Corporation, 828 East 116th St., Carmel, Ind. 46032 (ph 317 846-2634).



The 75,000-lb. pair of drills carry an additional 70,000 lb. payload, making it one of the largest farm implements in the world.

PLANTS DIRECTLY INTO STANDING STUBBLE

Giant No-Till Drill

That giant no-till drill first featured in FARM SHOW 18 months ago has been teamed up with a second drill to make what inventor-manufacturer Guy Swanson of Spokane, Wash., calls "one of the largest farm implements in the world".

The huge Pioneer drill can apply as much as 2,000 lbs. pressure per seed opener while banding phosphates and nitrogen around the seed and applying herbicides to control weeds.

The drill's deepband fertilizer box holds 25,000 lbs. of fertilizer while the starter fertilizer box holds 12,000 lbs. The seed box handles 250 bu. of seed and the insecticide box holds 2,000 lbs. The two drills together are 40 ft. wide with 10-in. row spacing.

"Our drill works as well in stubble ground as a conventional drill in fine-tilled soil," says Guy Swanson, noting that the drill has a unique double-disc opener with a slicing couler. A "scuffer" disc kicks straw and other debris out of the seed trench ahead of it.

A major feature of the machine is

that it allows the use of liquid, gas or dry fertilizer. Phosphate can be planted with the seed, while nitrogen is banded to the side and below. "There's no interference from surface residue as there is with top-dressed fertilizers," points out Swanson. Liberal quantities of herbicides — particularly Roundup, Paraquat, Hoelon, Sencor and Fargo — as well as insecticides can also be applied with optional equipment.

"Fuel use per acre is reduced. Each extra inch of moisture trapped in the ground — translates into 7 bu. of grain. This coupled with the precise placement of our fertilizers, gives us about a \$50 per acre increase in income with this drill," says Swanson.

"Other benefits, especially when you get into hilly grain areas, include ten times less soil erosion with the drill and the ability to seed slopes as steep as 55°," Swanson points out.

For more information, contact: FARM SHOW Followup, Guy Swanson, Pioneer Drill, South 4305 University Road, Spokane, Wash. 99206 (ph 509 922-2958).

THEFT AND RUST PROOF

Spare Tire Carrier

"Stow-A-Spare", a rust and theft proof spare tire carrier you can install on your truck in 30 minutes is new from Indy Automotive Industries, Goshen, Ind.

Designed to fit full-sized 1/2 and 3/4 ton pickups, the Stow-A-Spare is made of rust resistant, zinc diachromat plated, 4 ga. steel. To install, you simply bolt it to the truck frame using preexisting holes in the frame. The carrier is adjustable, allowing it to accommodate different size tires.

The existing truck bumper bolts to the carrier. When you need the spare, just swing the bumper down and the spare pulls out.

To make the carrier theft proof, you can install a padlock which prevents the bumper from swinging down.

Stow-A-Spare sells for \$139.



Your existing truck bumper bolts to the tire carrier, which swings down when you need the spare.

For more information, contact: FARM SHOW Followup, Indy Auto Products, Inc., 1607 Elkhart Road, Goshen, Ind. 46526 (ph 219 533-7028).