

In above photo, toggle arms of the compactor will eventually become horizontal as the machine fully compacts a 6 ft. long bale (6 ft. dia.) to 2 ft. Photo below shows the bale after being compacted and the arm withdrawn. Steel bands secure the compacted bales.

EXPERIMENTAL PROTOTYPE REDUCES 6 FT. LONG BALES TO 2 FT.

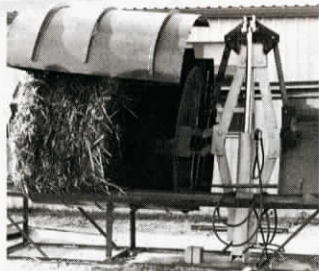
Compactor for Big Round Bales

"It's the coming thing," predicts Dr. Wesley Buchele, Iowa State University agricultural engineer who, along with undergraduate students he teaches, is exploring the possibility of compacting big round bales to one-third their original size to make them easier to transport both domestically and overseas.

About 20 years ago, Dr. Buchele designed a prototype big baler that sparked one of the fastest-growing new trends in haymaking history. He predicts that compacted big bales will soon enter channels of commerce: "We'll eventually ship compressed giant round bales from the Midwest by barge to Europe, Alaska, Japan, Hawaii and other countries needing alfalfa hay."

The accompanying photos show a prototype compactor designed and built by Iowa State University students enrolled in a design course taught by Dr. Buchele. It features a double toggle mechanism connected together by two double acting hydraulic cylinders which serve as the driving link to compress bales 6 ft. long and 6 ft. in dia. to only 2 ft. long.

Compacted bales are double strapped with steel bands to prevent them from springing back to their original shape after being compressed. Density of the bales when baled in the field is approximately 6 lbs. per cu. ft. Density after compacting them is about 18 lbs. per cu. ft. which, Dr. Buchele feels, is minimum for economical shipment by various common carriers.



In their project report, the students note that "as density of the bales increases, moisture content must be lower to prevent spoilage. Before bales are compressed, they should be allowed to dry down to 25 or 30% moisture content to prevent spoilage that could occur after compression. For this reason, and because cost of the machine is prohibitive for a single rancher or farmer unless he has a very high volume, the compacting machine need not be portable. We foresee the demand for a single machine for each town or township at a central location. Farmers or ranchers could transport bales to the machine. The compressed bales could then be loaded immediately onto trucks for transport."



This prototype Spencer Dispenser was mounted on forage chopper to apply bloat-preventative to green chop alfalfa.

ACCURATELY DISPENSES FERTILIZERS, INSECTICIDES EVEN ON SIDEHILLS

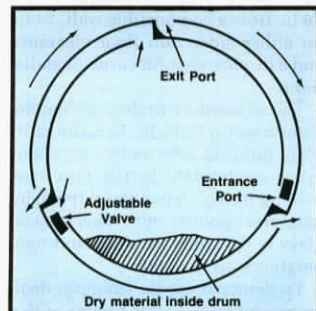
New-Style Dispenser for Dry Materials

New uses are busting out all over for the unique "Spencer Dispenser", invented by Spencer Hanson, of Blair, Wis.

Designed to accurately dispense a wide variety of dry materials, such as fertilizer, insecticides or feed additives and preservatives, it's reportedly the only dispenser on the market that works accurately even on steep slopes or sidehills.

As it rotates, it accurately dispenses dry materials ranging in size from small crystals to large granules. Any number of materials may be dispensed simultaneously with each being tubed to the correct place. The unit can also be timed to deliver materials close to the seed, and for coating seeds with inoculants or fungicides as it dispenses.

The unit is made up of individual plastic rings each about 18 in. in dia., about 2 in. wide, and with two rectangular shaped grooves about 3/4 in. deep around its circumference. Individual rings can be ganged together to make up a hollow drum of 10 or 12 rings, or larger if needed. Individual rings have three "input" and three "output" openings. The "input" openings can be adjusted via special plugs to be wide open, partially open or completely closed. Delivery rate is determined by adjusting these openings, by the number of rings making up the drum, and by rotation speed of the drum.



Six of the three "input" openings built into the outer circumference of each ring can be regulated by inserting plastic plugs. As disks rotate, dry material is picked up by the openings and channeled via rectangular-shaped grooves to the "output" openings. Individual disks are ganged to form a drum, with solid disks at each end to seal the drum.

"We've used the dispenser on planters to apply insecticides, and on a chopper to apply a bloat preservative on green chop alfalfa," explains Hanson. "It can also be used on balers to apply hay preservatives, or on feed bunks or blowers to dispense feed additives."

There are no moving parts to wear out and the unit is rust and corrosion proof. Plans for putting the patented dispenser into commercial production were being finalized as this issue of FARM SHOW went to press.

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