

MANUFACTURERS, RESEARCHERS FINDING WAYS TO TURN STRAW INTO AN ASSET

New Straw-Use Ideas Catch On In Europe

Wheat yields in European countries routinely run as high as 150 to 180 bu. per acre and the big, bushy crops leave a lot of straw for farmers to get rid of before seeding their next crop. Most farmers solved the problem until recently by burning straw off

but new laws may soon outlaw straw burning. As a result, there were at least a dozen new machines at the recent Royal Show in Britain aimed at getting rid of straw, or turning it into an asset. Here are the machines and ideas that drew the biggest crowds.

Parmiter "Strawgon" Subsoiler

Developed by farmer Ferris Whidborne and marketed by Parmiter & Sons Ltd., Wiltshire, England, it uses a twin rotor chopper to chop up straw and bury it in slots created by two trailing subsoiler shanks.

"We wanted a machine that would get straw out of the way without changing our basic cultivation practices. This machine performs two vital field operations — chopping straw and subsoiling — in one pass. Also, because the chopper mows the field as it chops, combine operators can set the header higher, improving combine performance," says Whidborne, noting that the blades chew the straw up into 2-in. lengths which blow easily into the 4-in. wide slots.

The prototype Strawgon is 8 ft. wide and fitted with two subsoiler

shanks on 4-ft. centers. The twin rotor straw chopper is fitted with J-shaped blades on the bottom rotor and twisted flat flails at the top. They chop straw into a divided chute which guides it into the two slots created by the subsoilers. At least 90% of the straw is deposited between 8 and 14 in. below the soil so that toxins, which are produced by the rotting straw, cannot affect germination of the next crop. And yet, as the company points out, the nutrient value of the straw is not lost. A 120-hp. tractor is needed to power the Strawgon and, at 5 mph, it'll cover 4.8 acres an hour.

Contact: FARM SHOW Followup, P.J. Parmiter & Sons Ltd., Station Works, Tisbury, Wiltshire, SP3 6QZ England (ph 0747 870821).

"Turbovator" Straw Vacuum

T & F Equipment, Ltd., Lincolnshire, has come up with the Turbovator, a two-barrelled straw vacuum equipped with rotary blades that pick up straw by suction, chopping it into 1-in. lengths and forcing it out the back and down between the stubble. Rows of spring tines and discs behind the choppers lift the soil and bury straw to a depth of 3 to 4 in.

"The blades in the drums create suction that draws nearly 100% of the

loose straw up off the ground," explains company representative J.J. Smith. "Four pto-powered, high-speed blades inside the drums chop it up and throw it out the back. The leading edge of the drums runs just several inches above the ground, sucking everything up into it."

Contact: FARM SHOW Followup, T & F Equipment Ltd., Spalding Road, Sutterton, Boston, Lincolnshire, England (020586 588).

Cubed Straw Fuel

"It burns cleaner than wood, coal or oil and it's just as easy to use," says Peter Cullen representative of New Air Technical Services, Ltd., Leicester, England, about the company's new straw briquetting machine.

The machine uses incredibly high pressures of up to 52 tons per square inch to compress hay into 2-in. dia. mini-logs of varying lengths. The process uses no liquid to bind the straw together. The high pressure of the compactor causes the straw to heat up enough so that it binds itself together, making it 40 times more dense than unpacked straw. The straw is then extruded through a long, 90-ft. cooling tube.

The New Air machine can make as much as 1/3 ton of



briquettes per hour. Bales of straw are fed to the machine's shredder by an automatic conveyor. A complete straw briquetting turn-key operation sells for about \$47,000.

Contact: FARM SHOW Followup, New Air Technical Services Ltd., 34 Bell Street, Wigston Magna, Leicester, England LE8 1DR (ph 0533 887464).



Parmiter straw chopper blows straw into slots made by rear-mounted subsoiler shanks.



Whirling blades in up-front "Turbovator" drums suck straw off ground, chop it, and then blow it out the back where it's incorporated by spring tines and discs.



Ammonia is automatically injected into each bale through bale spears on tractor loader.

Straw Bale Ammonia Injector

"We estimate that 50,000 round bales — about 20% of all straw treated in this country this year with ammonia — will be injected using this recently-introduced system," says E. Tjeerby, marketing representative for the Armako, a new machine for bagging big round bales in long plastic bags.

Ammonia is automatically injected into each bale through the bale-spearings on the front of the tractor loader.

Contact: The Jutland Technological Institute, 135 Marselic Blvd., Aarhus, Denmark DK-8000 (ph 6 14 2400).