



Chopper blows forage directly into baler's top-loading chamber.



Operator manually operates a hydraulic cylinder which opens rear baler gate. Bottom six-roller bale wrapping unit then slides out, bringing bale with it, and wrapping begins.

TOP-LOADING MACHINE BALES AND WRAPS

World's First Plastic-Wrapping Baler

New from Finland is the world's first big round baler with its own built-in plastic wrapping device.

Designed for making silage bales, the combination machine doesn't have a conventional front-mounted pickup feeder. It's coupled to a chopper which loads freshly-chopped material directly into the baler's top-loading chamber.

Here, courtesy of Konnevisi, Finland's leading farm magazine, is how this first-of-its-kind combination baler-wrapper, developed by Esko Rantalähti, works:

The basic concept of the machine is an enclosed chamber roller-baler with the rollers running parallel to the direction of travel. Six rollers at the bottom form the bale wrapping device. When each bale is finished, a hydraulic cylinder pushes the built-in bale wrapper, supported by internal axles, out the rear of the baler. It carries the bale with it, then pivots to turn and spin the bale as it's wrapped with plastic.

After wrapping, which takes about 3.5 minutes, the wrapper unit tilts to drop the bale on the ground and then returns to its tucked-in position inside the baler. Because the wrapper is contained inside the baler, the entire hookup — tractor, chopper, baler

and wrapper — is coupled much closer together than recently-introduced hookups involving separate tow-behind plastic wrappers.

The accompanying photos show the prototype machine which inventor Rantalähti successfully field tested late last summer. It baled and wrapped about 50 silage bales. Rantalähti, who has applied for a patent on his invention, plans to have several improved models ready for further field testing this summer. He's confident that the plastic wrapping procedure can be automated and controlled right from the cab (on the prototype, the operator has to get off the tractor to manually operate the wrapper).

Other engineering modifications slated for production models include revamping direction of the feed flow to ensure that silage bales are equally firm at both ends, and to redesign the roller ends so they don't get entangled with forage and malfunction. Production models will be designed to produce silage bales right at 4 ft. in diameter.

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FEATURES "ADJUST ON THE GO" AXLE

New-Concept Tractor

Tractor mechanic Veikko Lifflander from Finland has developed a "new concept" tractor featuring bi-directional steering and adjustable axle. Operated by two hydraulic cylinders, it slides along the frame and can be moved forward "on the go" up to 5 ft.

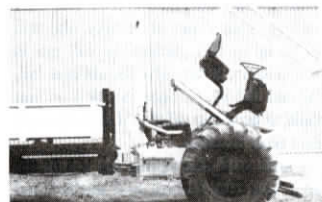
The telescoping axle, used in conjunction with a cable and winch, allows the operator — without leaving the driver's seat — to pick loaded cargo beds off the ground, tilt them up and slide them onto the tractor's main frame.

The seat, steering wheel and hydraulic control panel pivot 180° to provide bi-directional operation in a matter of seconds. The cab tilts for easy access to the engine and other components.

The 52 hp prototype is equipped with a 3 pt. hitch and pto. Fuel tanks and hydraulic lines are imbedded in the frame beams.

Inventor Lifflander feels the basic design could be readily adapted to a wide range of tractor sizes, and with a wide variety of options, including four wheel drive and steering, and hydrostatic drive with equally fast operating speeds in either direction.

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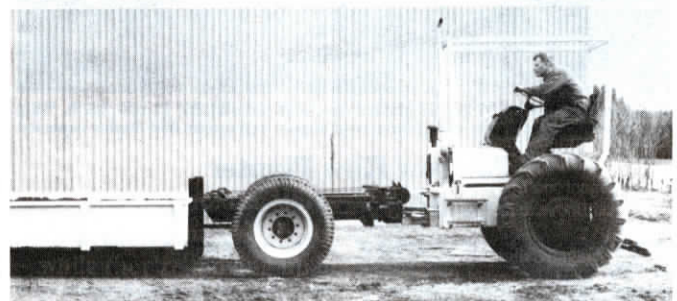
Seat and steering wheel tilt with cab when it's raised to service engine.



Six bottom rolls slide out hydraulically on built-in axles and convert into bale-wrapping rollers.



Entire roller assembly rotates to wrap bale and then pivots backward to drop bale on ground.



Loaded cargo bed is picked off ground and winched onto tractor frame. Note in bottom photo how axle is moved forward to position wheels under the cargo bed.