

Forage Harvest and Preservation

All livestock operations must deal with the need to produce feed during the active growing season to carry animals through periods when forage is not growing due to low temperatures or drought. Retention of forage nutrient values requires that forage be harvested at appropriate growth stage and properly cured and stored. Accomplishing these goals depend to a large extent on the equipment available to the grower. In the following paragraphs machines appropriate in scale and function will be shown.



Syclebar mower with Sulky

Even very small scale growers can choose from two types of mowers and two types of rakes, can use a round baler and even a bale wrapper to work with a 2 wheel walk behind tractor. Those who use mini 4 wheel tractor of 20 HP can add disc mowers, basket rakes and wheel rakes as well as square balers to the choices of tools as well as wrappers.



2 counter rotary drums cut and windrow in one pass.



Belt rake on 2 wheel tractor.



60 lb. round bales made with just 16 HP.



Disc mower for Mini Tractors.



Baler for walking tractor just 12 HP needed.



Small Square baler requires just 20 HP



Bale wrapper for 20 HP Tractors does round or square bales.



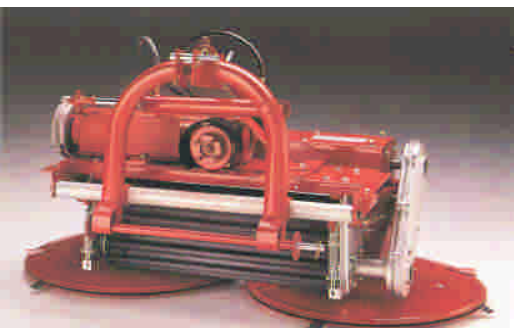
Bale wrapper for 2 wheel tractor.



Double acting Syclebar mower front mounted.



Rear 3 pt. mount disc mower.



Drum mower front mounted with conditioning rolls . Note lateral off setting capability

A new generation of mowers known as disc mowers and drum mowers have come into use offering faster cutting with less tendency to plug. The drum mowers offer simultaneous windrowing of the cut material. Both these types can be mounted on rear 3 pt. or front mounted and each can be had with conditioning rolls.



Frontal mount on bidirectional tractor.

Tractors with front 3pt systems and Bidirectional tractors can be equipped with front mounted mowers ideal for steep and irregular fields. Several types of conditioners can be incorporated in the system, either built into the mower or as a second machine. With larger tractors equipped with front 3pt and PTO, there are ganged disc mower combinations to cover large fields more efficiently.



Front drum mower with rear conditioner distributes weight equally.



Disc mowers set up for maximum cut-

For windrowing and for turning windrows there are many types of rakes either PTO driven or ground driven mounted in front or behind the tractor. Traditional type such as wheel rakes and basket rakes (also known as Bar rakes) are available in many sizes as are newer types such as belt rakes and gyro rakes.



Basket Rakes fit most any size tractor here on 35 HP Bidirectional



Front mount basket rake.



Front mount belt rake



Gyro Rakes in front mount version



Gyros can rear mount also



Note small multiple Gyros mounted on front of Bidirectional Tractor. Note Center mounted double cyclebar mower on rear 3 pt.



Belt type makes bales 32" - 65" diameter, loose or high density.

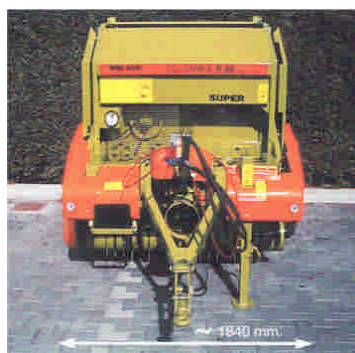
Baling forage and other material is facilitated not only by balers of every size but by unique designs and options. Some balers can produce bales of many sizes with varying densities. Some round balers can, like square balers, produce a continuous output of bales without needing to stop to wrap and drop the bales. Even the traditional square baler can be had in some unique forms to deal with special conditions and products such as very long straw or prunings. Both the round and the square baler can be found with unique propulsion systems to deal with difficult terrain.



Large square bale wrapper



Fixed bale size but 2nd bale is started before 1st bale is discharged for continuous run.



Narrow row baler makes 47" X 38" Round bales with a net wrap.

MB

The handling of loose hay can also be mechanized with use of trailer mounted or transporter mounted automatic hay loaders. These machines pickup hay from windrow and transport it to then dump it in hay loft or self unload into feed bunkers for confined feeding systems. Both single axle and tandem axle versions can be had with capacities from 20 cubic yards to 54 cubic yards.



Self loading forage wagon



Specialized baler recuts long straw before it enters baler



Baler equipped to bundle vine prunings



Self propelled baler for small steep fields



Self loading hay collector on transporter

A similar self loading system is combined with an integral mower to cut and load long green feed for confinement feeding or can be used in compost manufacture. In another variation a flail mower chops green or dry vegetation and blows it into a covered wagon for transport to silage pit or compost site.



Baler for mount on Transporter or 4 X 4 Truck.



Forage is cut with drum mower and then lifted into wagon



Large round bale wrapper

Two events have increased the interest in wrapping bales; one is the ever rising cost of building barns for forage storage and the second, the increasing interest in making Haylage as an alternative to silage. Many models suitable for all the sizes of bales noted above can be readily supplied. There are models for both round and square bales.

DG



Flail chopper with wagon tracks tractor or offset to right

Ferrari Tractor CIE
"Appropriate Technology for Agriculture"