

GETTING THE MOST FROM YOUR ROUND BALER

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Preparation for baling begins with the cutting and windrowing of the hay crop. Windrows should be as heavy as possible to make use of the high capacity of a round baler. This means using a wide windrower when cutting light crops or raking two smaller windrows together. Raking, however, should only be done when hay moisture content is above 40%. Heavy windrows help reduce losses at the pickup and also minimize the time required to form a bale, reducing machine losses.

Use a conditioner with the windrower, if possible. Experience shows that conditioned hay will dry in the windrow just as quickly as unraked mowed hay. Conditioners decrease windrow drying time by crimping coarse stems and leaving a fluffy windrow that allows better air circulation. If the windrow is rained on, don't turn it unless it can be baled before the next rain. Each turning of the windrow shatters additional leaves and contributes to nutrient loss. Additional turning should only be done in specific situations to prevent spoilage.

Bale the hay when it reaches about 18% moisture. Maintain the fastest ground speed possible and avoid baling on very hot dry days. Measurements carried out at PAMI show that total round baler losses can be as low as 5% when proper crop preparation techniques are followed and the baler is used properly. Alternately, losses in excess of 25% have been measured when poor haying procedures were observed. Pick-up losses increase substantially at speeds greater than 5 or 6 mph.

Large round balers are of three basic types as illustrated in the figures below.

FIGURE 1 illustrates the Ground Roll Baler. This type uses a pickup to roll the windrow forward on the ground, where it is formed into a bale by a series of belts, grids or cables. Bales produced by this type of baler usually have a low density and are the lightest of the three baler types. Overall capacity with these balers is very dependant on operator experience and can vary from 1 to 5 t/h (1.1 to 5.5 ton/h). Power requirements usually do not exceed

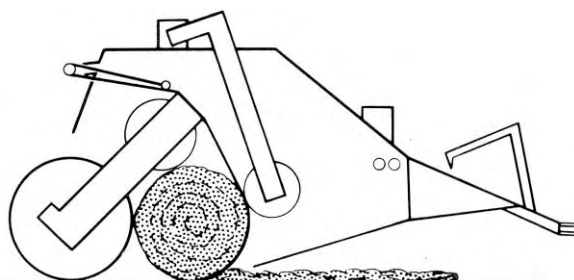


FIGURE 1. Schematic of a Ground Roll Baler.

20 kW (27 hp) in average hay crops, although at least a 34kW (45 hp) tractor is recommended to fully utilize the baler's capacity.

FIGURE 2 illustrates the most common type of round baler seen today, the Expandable Chamber Round Pickup Baler. A pickup lifts the windrow into a bale chamber which gradually expands as the bale forms. The bale chamber usually consists of a series of belts, although rollers and apron chains are also common. Bales produced by this type of baler usually have a high density and weigh from 0.5 - 1.0 tonne. This type of baler is usually easy to use and has an overall capacity ranging from 2 to 12 t/h (2.2 to 13.2 ton/h). Power requirements vary from 10 to 25 kW (13.4 to 33 hp) but a tractor with at least 48 kW (65 hp) is recommended to fully utilize the baler's capacity.

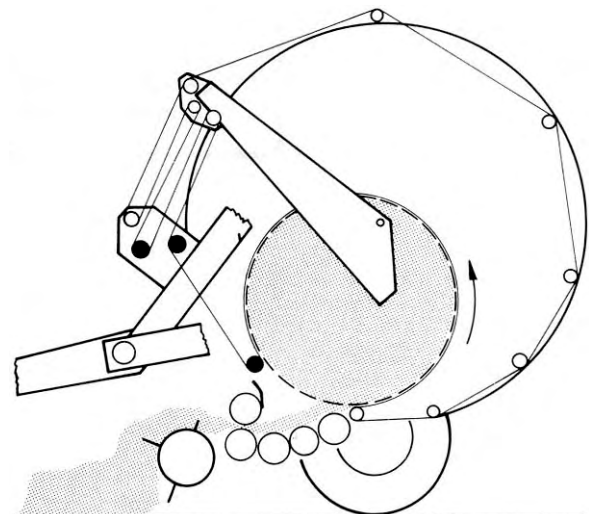


FIGURE 2. Schematic of an Expandable Chamber Round Pickup Baler.

FIGURE 3 illustrates a principle developed in Europe, the Fixed Volume Round Pickup Baler. Again, a pickup lifts the windrow into the bale chamber. However, as the bale chamber is of fixed volume, forming of the bale does not take place until the bale chamber is nearly filled. This type of baler produces a bale with a lower density core than an expandable chamber baler. Overall capacity for this type of baler is the same as for the Expandable Chamber Round Pickup Baler, but power requirements of up to 45 kW (60 hp) have been measured.

Have the baler and the tractor maintained and properly adjusted before going to the field. Missing pickup teeth must be replaced to minimize pick-up losses. If your tractor

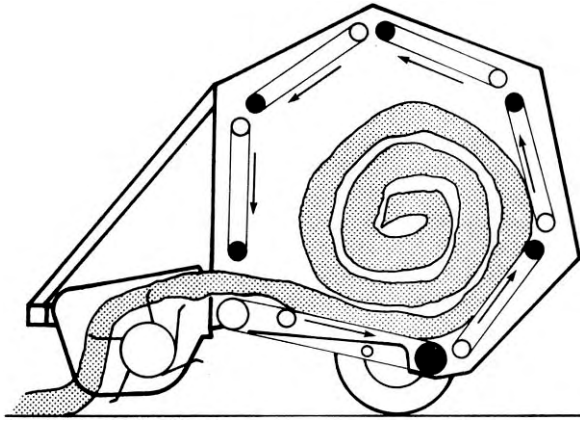


FIGURE 3. Schematic of a Fixed Volume Round Pickup Baler.

has adjustable wheel tread, widen the width between the wheels to at least 1.5 m (5 feet) to prevent losses caused by driving the tractor wheels on the windrow. Read the operator's manual and follow the operating procedures re-

commended. Both bale quality and baler capacity are dependent on proper baler operation.

And remember safety! Disengage the power take-off before working on the baler, and use the locking devices provided before entering the bale chamber area when the tail-gate is raised. Don't become the guy we hear about on the news tomorrow!

Specialized bale moving equipment adapted to moving round bales is available and recommended. If a front-end loader is used, ensure that the tractor and the loader are rated for handling the load. Special attachments available for front-end loaders are convenient to use and are recommended to prevent bales from rolling back on the cab and operator.

Decide where the bales will be stored well in advance. A well drained area that does not accumulate a large amount of snow during winter is desirable. Bales should be stored without contacting one another to reduce moisture penetration. Bales should not be piled up unless they are to be covered. Use good quality twine and apply 8 or 9 wraps per bale. An increased number of wraps will improve handling ease and weatherability.



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