

SAVE WINTER FODDERS

By Putting the Grain-Grinder and Cutting-Box in Shape.

It Pays in Time and Money to Overhaul Farm Machinery—Hints on Knife Adjustment—How to Estimate the Speed of Pulleys.

(Contributed by Ontario Department of Agriculture, Toronto.)

TIME in farm work will be saved by systematically overhauling the implements and machinery. This should be done after the season's work is over. Use tends to disorganize machinery: the fixed parts become loose through vibration, wear, stress, and strain; bearings, gears, joints, all bright and moving parts are attacked by rust, particularly if left out in the weather; oil holes and grease cups become clogged with gummed oil, dust and trash. All this accumulated matter should be scraped off and the parts wiped down with a rag saturated with kerosene; afterward covered with a coating of grease or oil as a protective measure against the devastating action of rust. To render efficient service and to prevent possible accidents these machines should be kept clean, properly adjusted, and run at correct speed.

The grain grinder shaft and bearings should not be allowed to become gummed up with oil and dust; the flurs or plates should be renewed when worn. In replacing them see that they are attached so that they do not wobble, and that the sieves are free from rust, chaff, sand and gritty matter. All running parts should be kept well oiled.

Every working mechanism of the cutting box should be carefully examined and all trash and gummed oil removed from flywheel shaft, feed rolls, bearings and gears; guards and shields placed in position and securely fixed; the feed rolls should move freely up and down and the safety devices in working order. Attend to the cutter knives, have them properly ground and correctly adjusted to the flywheel in relation to the cutter bar; if too far the fodder will not be properly cut; if too close to the cutter bar the draft of the machine is increased, the knives acting as a brake on the flywheel, dulling both knives and cutter bar. Used with a blower it is important that the proper speed be developed as the fan can only create sufficient blast by running fast enough to force air through the pipe at a rate of 9 to 10 thousand feet per minute. Speed is an important factor in operating these machines for efficient service, not only as to the amount done, but also as to the quality, or the amount of work accomplished, but most manufacturers state in their catalogues the speed at which the machine should travel. The operator should figure out the size of the pulley to attain the speed required.

The rule for speeds of pulleys is the diameter of the "driving" pulley multiplied by its speed is equal to the diameter of the "driven" multiplied by its speed; or $D \times R = d \times r$ in which "D" is the diameter of the driving pulley multiplied by "R" its speed, and "d" the diameter of the driven pulley multiplied by "r" its speed. If we know three of these items we can easily figure out the fourth.

The driving pulley is the one that causes the belt to move.

The driven pulley is the one that is moved by the belt.

Possibly a farmer may have on hand an engine rated 2 h.p., speed 400 revolutions per minute with an 8-inch pulley. He buys a grinder without considering what relation its speed bears to that of his engine. When the grinder is hitched up to the engine it does not deliver the capacity expected of it. This promises buying and want of force-though in purchasing machinery is responsible for a great deal of trouble and dissatisfaction. More attention should be given in this regard when buying additional machinery for the farm. We'll suppose that the grinder bought is rated 2,000 to 2,500 R.P.M., 4 inch or 5 inch pulley; capacity per hour 3 to 10 bushels depending on the condition of the grain.

Relating this grinder to the engine, we find, taking the above formula that

$8 \times 400 = d \times r$ $3200 = d \times r$

R.P.M., but the manufacturer's rating calls for 2,000 to 2,500 R.P.M. Hence the grinder is delivering only two-fifths of its rated capacity or something like 1.5 bushels per hour. To get the required speed the driving pulley on the engine should be 20 inches in diameter, worked out as follows:

$D \times R = d \times r$ $4 \times 2000 = 20 \times r$

or the speed of the engine with an 8-inch pulley should be 1,000 R.P.M. worked out thus

$D \times R = d \times r$ $20 \times 1000 = 4 \times r$

This method applies also to finding the speed and size of pulleys of the cutting box.—Prof. Jno. Evans, O. A. College, Guelph

Something About Egg Circles.

There are about fifty Egg Circles in the province, ranging in membership all the way from four to 400. The story of all these egg circles and others which have failed would give an almost complete picture of how co-operation should, or should not, be carried on. In reading over the names where the circles are established, we find many of them whose previous market was the small-town local dealer, with his uneconomic method of marketing eggs. Such circles are now receiving, in spite of their distance from the central market, wholesale prices while unorganized points nearer often receive lower prices.

By Way of Remembrance.
Grogan—Oh hate to mention it, Mrs. Casey, but your husband owed me ten dollars when he died. The Widow—Indade! Shure it's nice for ye to have something to remember him by.

High rents in Detroit forced a young bookkeeper to send his wife home for a season. On the Big Four, near Pontiac, O., his daughter, Dorothy Beatrice, was born.

A twig on a hydrangea bush in the yard into which he fell entered the nose of an 11-year-old Freeport, L.I., boy and pierced his brain. He died of spinal meningitis two days later.



The Red Cross Approved of Black Jack

If you want to know who likes Adams Black Jack Gum, ask the Red Cross. Millions of packages of Adams Black Jack reached the soldiers through the Red Cross. And in war days there wasn't cargo space for anything but essentials.

The soldiers liked the old-time licorice flavor in Adams Black Jack.

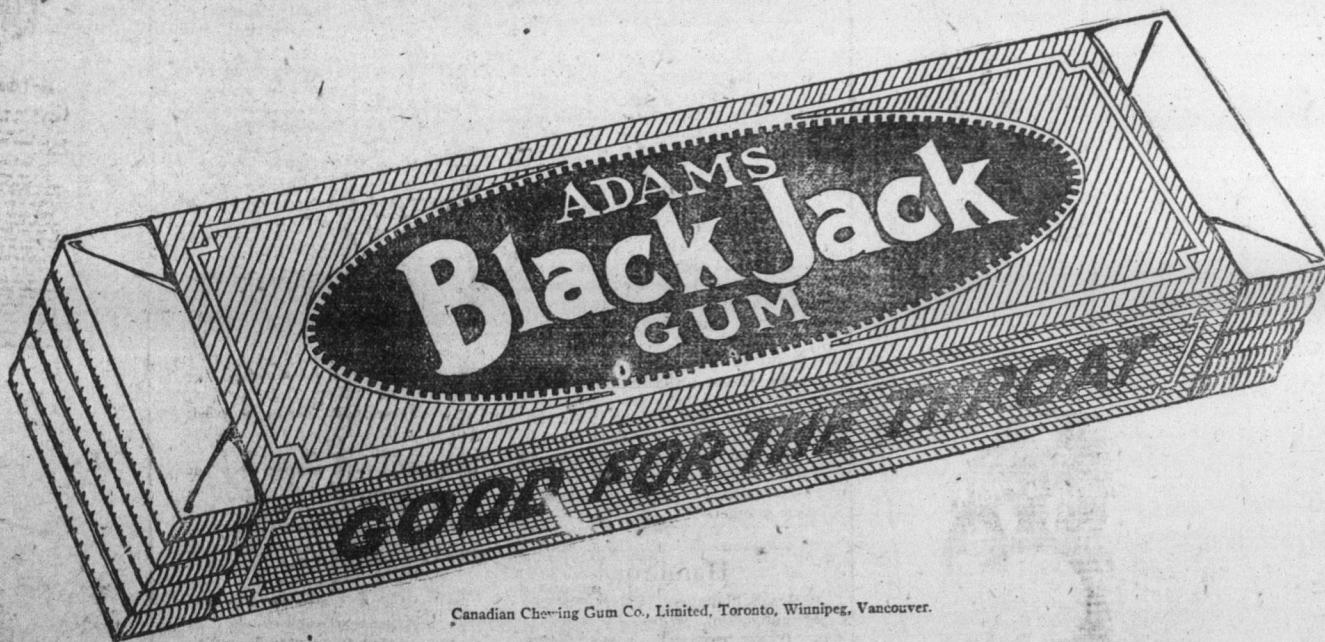
The Red Cross liked the benefits which come from the use of Adams Black Jack—it

promoted clean teeth when clean teeth were vital—it gave better digestion where meals were not too regular—*nerves were relaxed where nervous strain was greatest*—throats were eased and refreshed, thirst quenched, by the soothing licorice.

Its war record makes a pretty good case for Adams Black Jack at home.

The blue package is sold everywhere—5c.

—an Adams product, particularly prepared



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