

tained by taking the total value of the corn and fodder and subtracting the costs of cutting and husking by hand, cutting with sled harvester and husking by hand, and cutting with corn shocker and husking by hand.

The net value of the crop by utilizing the fodder in the shredded form (\$24.68 for hand harvesting, \$25.45 for harvesting with large machines, and \$26.45 with small machines) is obtained by assuming a greater value of shredded fodder over whole cornstalks of 33 per cent., adding this value of the fodder to the value of the corn, and subtracting the various costs of cutting, husking and shredding the corn by the various hand and machine methods.

Conclusions.—The farmer who would secure the full value of his corn crop should secure the fodder with as much care as he gives his clover hay, harvesting it at the proper period, and not allowing it to become ruined by rain or frost. By the use of the proper machinery for harvesting the corn crop, the farmer may considerably increase the net income from his crop over hand methods of harvesting the ears and wasting the stalks, and still allow full price for the use of the different machines.

There is a limit beyond which it is not profitable for a farmer to invest in corn-harvesting machinery, and the amount of work to be done by the machine each year should be carefully considered before a purchase is made.

LIGHT AGRICULTURAL MOTORS.

"Many as are the labor-saving appliances now to be found upon the farm, yet another is about to make its debut upon the prairies of Western Canada, viz., the light agricultural motor. Farmers everywhere may be heard discussing the subject, and, judging from what one hears, something very great is expected of but little," writes A. Burness Greig, in "The Farmer's Advocate and Home Journal," of Winnipeg. While his remarks apply specially to Western conditions, they are not without interest in the East as well. It is good to know what Westerners are doing.

"On the surface, there does not appear to be much of a problem to solve in producing a satisfactory light agricultural motor; but, on closer investigation, it will be found that there is more in it than meets the eye.

"Although many of these small tractors are now in use in European and other countries, giving satisfactory results, it is in Canada that we are interested, and where a practical demonstration of their capacity must be made, for it does not follow that what will give satisfaction in other countries will meet requirements in ours.

"Now, what is a light agricultural motor? When does it commence to come under this category, and when does it cease? This is for the user to settle, not the manufacturer.

"The light agricultural motors thus far introduced into Canada are a sort of a compromise between a heavy automobile and a miniature traction engine. The aim of the manufacturer would appear to have been to produce a machine with the maximum of power and the minimum of weight, irrespective of the adhesion obtainable upon the ever-varying classes and conditions of soil it may have to travel over. What is there to be gained by having a very powerful engine, if the grip upon the land is not sufficient to absorb the full power developed?

"The problem before us is an entirely different one from that of the automobile or motor-truck, and the sooner this is fully realized by both user and manufacturer, the better. We should rather commence with the ordinary traction engine, a

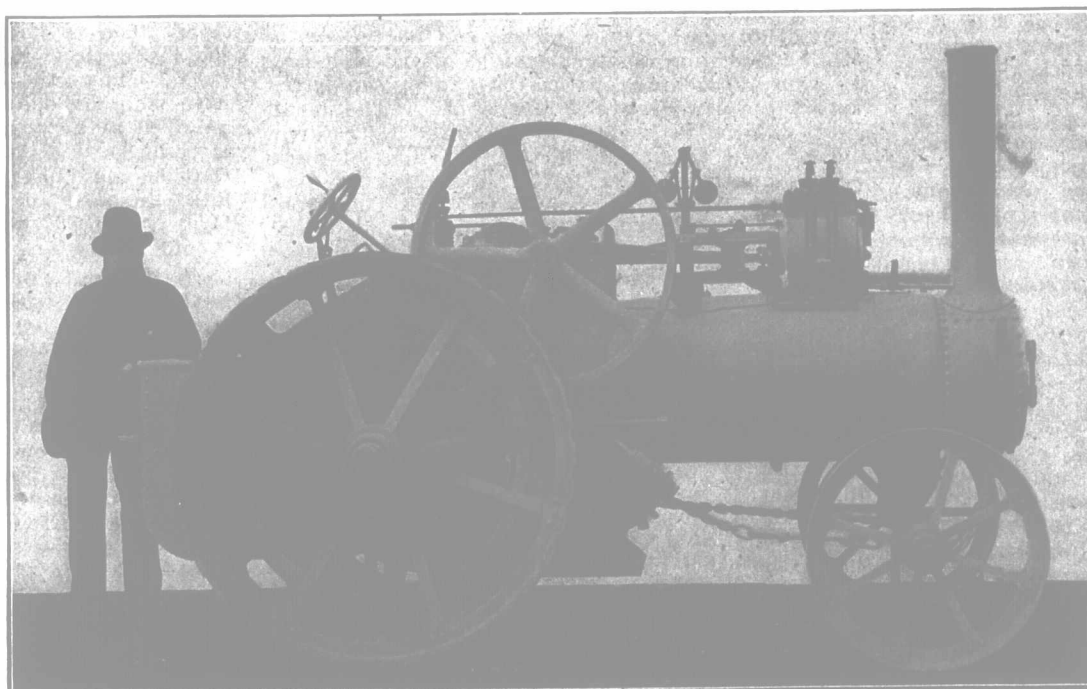
machine which for many years has undergone the most severe tests upon all classes and conditions of land and roads, and endeavor to arrive at something considerably lighter, though still powerful, be the propelling power by steam or the employment of the internal-combustion engine. The light agricultural motor is in reality nothing more nor less than a small traction engine of high power, the attainment of which is due to the running speed of the engine, increased pressure, and the employment of materials of the very best quality.

"There are two classes of power in demand upon the farm, viz., tractive force, and belt power. Which of these is to form the basis upon which the power of engine is to be determined?

"The separator would appear to be the ruling factor. This must be driven at its proper speed in order to give good results, but in the case of the plow, seeder, binders, etc., the load can be diminished or increased, to suit the tractive force of the motor. Assuming, then, that the size of the engine has been determined, the next point is to be sure that the motor has the necessary weight to enable the full power of the engine to be utilized.

"Besides weight, there are other methods of obtaining a better grip on the ground. Grabs are made use of, which increase in width, and some machines have all the wheels driven. The two former are indispensable, but whilst the driving of all wheels will doubtless give increased grip of the ground, it means greater complication, increased wear and tear, and no small amount of the power of the engine will be absorbed by the friction of the extra working parts.

(Continued on Page 1386.)



An English Steam Motor for Farm Work.

WOODEN HOOPS FOR SILO PREFERRED.

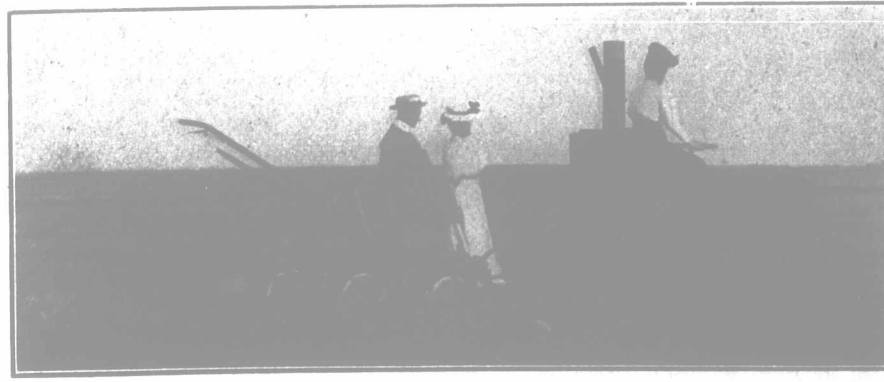
Editor "The Farmer's Advocate":

I notice in "The Farmer's Advocate," August 8th, a reader wishes to know how to build a silo. Your directions in reply are all right, but I would very much prefer wooden hoops. My silo, 13x24 ft., has 5-ply 4-inch elm hoops, which I think are a great advantage. I have the only wooden-hoop silo in the vicinity where I live, and think they are much ahead of iron hoops. There are a great many of silos here, mostly with iron hoops. My neighbors have quite a time trying to keep their silos tight in summer. When they get loose they swing either one way or the other; several have blown down altogether. My silo is as good to-day as when it was built three years ago. Your description, given a few weeks ago, as to making wooden hoops is correct. I would say, make wooden hoops. I intend to sheet my silo outside with matched lumber, which will make it perfect, and protect the hoops from rotting.

JOHN A. DODDS.



Cutting Oats in Manitoba.



Gasoline Motor Breaking in Manitoba.

THE CHEMISTRY OF FALL-WHEAT FLOUR.

Editor "The Farmer's Advocate":

With reference to the inquiry in your communication of the 30th ult., I would say that the general principle, as enunciated by your correspondent, namely, that fall-wheat flour is superior to spring-wheat flour for pastry-making, is correct. The reason is that fall wheats give a flour of less strength than spring wheats. Such flour, speaking broadly, is of low gluten content, and is better suited to pastry-making than the stronger flours which result from the milling of spring wheats. Breadmaking, on the other hand, requires a strong flour; that is, one characterized by a fairly high percentage of gluten of good quality. It should be noted in this connection that though fall wheats as a class give a more or less starchy kernel, there are exceptions, and several varieties are known which contain more gluten, and gluten of a better quality, than certain spring wheats.

FRANK T. SHUTT.

Chemist.

Central Experimental Farm.

THE MILLER'S VIEW OF HARD VS. SOFT WHEAT.

Editor "The Farmer's Advocate":

Referring to your inquiry as to the relative merits of hard-spring and soft-winter wheat flours for pastry purposes, we may say that discriminating pastry cooks find that they can obtain much better results from hard-wheat flour which is milled specially for household purposes, and from our trade experience, as well as from the experimental work done in our laboratory and baking department here in Montreal, it has been clearly demon-

strated that a properly-milled hard spring-wheat flour will give more and better pastry, with about one-half the amount of flour which is necessary when using soft winter-wheat flour. It is not at all necessary to use more shortening; use less flour. The result is a better-flavored, crisp and more digestible pastry than it is possible to obtain from any fall or soft-wheat flour, however made. We confine our milling for both bread and pastry flour exclusively to hard wheats, and we have not for years ground a pound of fall wheat in any of our mills. In a few sections in Eastern Canada there is an impression that fall-wheat flour is necessary for pastry purposes, the lower prices at which this flour is sold no doubt aiding in the maintenance of this misconception, but we find that, with the wider distribution and better knowledge of the merits of hard-

wheat flours, the demand for fall-wheat products is decreasing.

THE OGILVIE FLOUR MILLS CO., LTD.

FALL WHEAT PREFERRED BY McCORMICKS.

Editor "The Farmer's Advocate":

Replying to your inquiry, would say Manitoba hard-wheat flour is not satisfactory for our use, although we do use a little of it in one or two lines of goods. It seems to be a little too hard. We much prefer Ontario fall red and white wheat, which gives us good satisfaction.

THE McCORMICK MFG. CO., LTD.

[Note.—The McCormick Co. is one of the oldest and largest manufacturers of biscuits and all kinds of confectionery in Canada.—Editor.]

Every farmer in Canada needs "The Farmer's Advocate."