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Home Course In Modern Agriculture

XII.—The Selection and Care of Farm Machinery

By C. V. GREGORY,
Agricultural Division, Iowa State College
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THE methods of farming followed today are made possible only by the use of modern labor saving machinery. The farm hand of today needs brains more than muscles. The ability to handle a complicated machine successfully is more valuable than the power to do a hard day's manual labor.

With the coming of improved machinery the problem of what to buy and what to get along without has become a serious one. The farmer has more money tied up in machinery than in any one thing besides his land. Having too much machinery is nearly as bad as having too little. What is needed is a wise selection.

It is always well to do a little figuring before buying a new machine. Dividing the cost of the implement by the number of years it may be reasonably expected to last will give the amount that must be charged to depreciation each year. Add to this an allowance for repairs, storage and each year's share of the interest, and you will have the yearly cost of the machine. A little further figuring will show whether the benefit received from it in a year will warrant this cost.

Machinery may be roughly divided into five classes—tillage, planting, haying, harvesting and miscellaneous. Of the many tillage implements there are some that are absolutely necessary on any farm. Among these are the plows. For the farmer on a quarter section a sixteen inch riding plow will be all that is needed for the field work. In addition it may be well to have a cheap walking plow for plowing the garden, turning out potatoes and for use in case of an emergency. A gang plow requires too many horses to be practicable on the average 160 acre farm. On larger farms, where plenty of horses are available, a gang plow will save the time of an extra man. It is a good plan to have the plow supplied with two or three moldboards of different slants. A steep moldboard pulverizes the soil more and for this reason is a good thing to use on stubble land. On clover sod, however, a longer moldboard should be used in order to lessen the draft.

One of the most important tillage implements is the disk. No other machine will pulverize the soil so quickly or thoroughly. The use of a tongue truck—a small two wheeled arrangement—under the rear end of the tongue is of considerable advantage in taking the weight off the horses' necks. Solid wheel disks pulverize the ground more thoroughly than spaders or cutaways.

A good harrow is a necessity on any farm. The flexible type is best for all conditions, as it gets down into the hollows and rides over trash better than will a solid frame harrow. Spring tooth harrows, rollers and weeders all have their special uses, but can hardly be said to be necessary on the average quarter section.

Next in order come the cultivators, and there are so many styles of these that choosing is a difficult matter. The most important part of the cultivator is the shovels. A happy medium is struck in the six shovel type. The shovels on this can be run deep

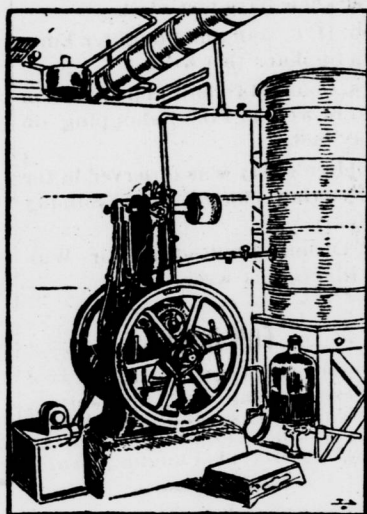


FIG. XXIII—A HANDY TYPE OF GASOLINE ENGINE.

enough to loosen the soil well the first two times over the field and can later be set shallow enough to avoid serious injury to the spreading roots. If you are in the corn business extensively enough to afford two sets of cultivators it is well to have special surface machines for the last two cultivations. Some companies make surface blades which can be attached in place of the shovels when so desired. In the hands of a careful man the two row cultivator does good and rapid work.

First in the line of planting machines come the seeders. While costing a little more at first, there is no better implement for sowing small grain than the disk drill. The disks cut through cornstalks and other trash, and the seed is deposited evenly and at a uniform depth. The resulting evenness of stand will cause an increased crop sufficient to pay the entire cost of the drill in a year or two.

In selecting a corn planter the run-

ner type of furrow opener is preferable to the disk, since the latter is hard to guide. The essential point in planters, however, is the drop. If you are in the habit of grading your seed corn carefully so that the kernels are all about the same size the edge drop plates will give a more even stand than will the round hole drop. Planters in which the plates are turned by a chain from the axle and the wire used only to open the shoe are sure to drop every time than those in which all the work is done by the wire.

There are two haying implements that are absolutely essential, the mower and the rake. Be sure to pick a wide cut mower. Six feet is a good width. The extra draft amounts to little, and considerable time will be saved in going over the field.

Where much hay is made the old way of raking in bunches and pitching it on to the wagon by hand is too slow and laborious. A much better plan is to rake the hay into windrows with a side delivery rake and gather it up with a hay loader. Where the hay is put in the barn a set of double harpoon forks will make short work of the unloading. If it is to be stacked some form of stacker will save a great deal of hard work.

The most important harvesting machine is the self binder. The binder is

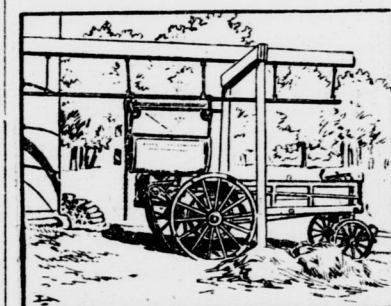


FIG. XXIV—LOADING THE MANURE SPREADER DIRECT FROM THE BARN WITH A LITTER CARRIER.

the most complicated machine on the farm and the one most likely to get out of order. In buying a binder simplicity of construction, ease of adjustment and handiness of oiling are important points to look after. A tongue truck is an attachment that should go

with every binder. This is the only means of eliminating side draft that has yet been discovered. A tongue truck is rather expensive, but so are sore shoulders and necks on the horses at harvest time.

Where much stock is kept the corn binder is a necessary implement. By cutting a large share of the corn and using it as fodder or silage much feed is saved that would otherwise be wasted. About 40 per cent of the entire feeding value of the corn plant is in the stalk. When these are left standing in the field the greater part of this feed is wasted. The shocked fodder may profitably be run through a shredder before feeding. This will husk the corn and leave the stalks in the best shape to be fed or used for bedding.

One of the most important of the miscellaneous implements is the windmill. No farmer can afford to pump water for his stock by hand when the wind will do it for nothing after the mill has once been put up. In erecting a windmill be sure that it is put on a high enough tower so that it surrounds trees or buildings will not cut off the wind. A mill which is geared back so that the wheel makes three revolutions or so to one stroke of the pump will run in a lighter wind than will the straight geared type. A three legged tower is just as strong as a four and considerably cheaper.

A machine that is almost indispensable on a stock farm is the gasoline engine. The original cost of these engines is reasonable, and the amount required for fuel and repairs is small. With a gasoline engine to furnish the power to run a sheller and grinder feed can be cheaply and easily prepared for the stock. The engine will also saw wood, if you are fortunate enough to have any to saw, run the slage cutter, grindstone, separator, churn and washing machine. It may also replace the windmill as a source of power for pumping.

In selecting a gasoline engine be sure to get one large enough to do the required work easily, remembering at the same time that where much light work is to be done a small engine will do it with much less gasoline than will be used by a large one. This objection to a large engine can be overcome to a large extent by so arranging the work that several light machines may be run at the same time. The most reliable type of engine is the four cycle, in which there are two revolutions of the flywheel to one explosion. The water system of cooling is the most efficient, though air cooled engines are all right for light work.

Another necessary machine of the stock farm is the manure spreader. Not only does this save a great deal of work, but it also applies the manure more evenly and will cover a greater amount of ground with a given quantity of manure. There should be little wood in a manure spreader, since it rots out quickly.

REAL ESTATE TRANSFERS

In the eastern part of Benton Co. as reported by the Kennewick abstract Co. from May 24th to 27th inclusive.

P N Harris to A C Hobbs, war deed fr. n $\frac{1}{2}$ ne $\frac{1}{4}$ ne $\frac{1}{4}$ in sec 15-9-28

A S Harsha et al to F E Evans war deed tract 5 of Chicago ten acre tracts

B J Ellis to E A C Smith war deed s $\frac{1}{2}$ sec 17-7-29 320 acres

F E Evans to Meadow Brook Farm company, war deed, east 5.5 acres of tract 5 of Chicago ten acre tracts

Hover Investment co to L A Amundson wa deed 5.77 a in sw $\frac{1}{4}$ sw $\frac{1}{4}$ sec 31-8-31

S C Emmons to F W Brown war deed lots 3 and 4 in blk 7 Amons add

J J Cole et ux to Forrest I Gill war deed tract no. 18 of the Kennewick Gardens

Hover Investment Co to T J Cook Q C Deed, tract 35 and fr. 1 tract 36, 1st add to Hover

H S Amon et ux to St. Paul & Tacoma Lumber company war deed all blk 2 of Amon addition to Kennewick

T T Maynard et ux to the N C Ry, war deed a strip of land 80 feet in width over and across lot 1 in sec 18, and nw $\frac{1}{4}$ nw $\frac{1}{4}$ of sec 17, and a strip of land 100 feet wide over and across the w $\frac{1}{2}$ of sw $\frac{1}{4}$ of sec 8 and lot 5 in sec 7-17, 6.9 acres

A H Richards, et ux to John W Kirk et ux, contract, sec 27 and 29, twp 7 n r 30 E W M nw $\frac{1}{4}$ sec 20-7-30

D N Van Dusen et ux to N C Ry co, war deed, a strip of land 80 feet wide over and across the w $\frac{1}{2}$ s $\frac{1}{2}$ ne $\frac{1}{4}$ sec 15-8-30

John Behrmann of Independence, Kansas is here visiting his old friend Christ Kruse. He is in the general merchandise business and is looking for a location in the west. Mr Kruse located him in Kansas when he came there from Indiana and he followed him to the Pacific Northwest to have him locate him again so he must have done a satisfactory job the first time.

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