HOW BIG A TRACTOR FOR DIFFERENT SIZED FARMS

By ROBERT WHITEMAN

IT is believed by many that increased production must come from increased yields rather than from larger acreage, because the cost of producing a thirty bushel crop is very little in excess of a twenty bushel one. Cultivation costs the same. The only extra expense incurred is for stooking, twine, threshing and marketing. If this be the case only seed sown at the proper time on perfectly prepared land can give the results.

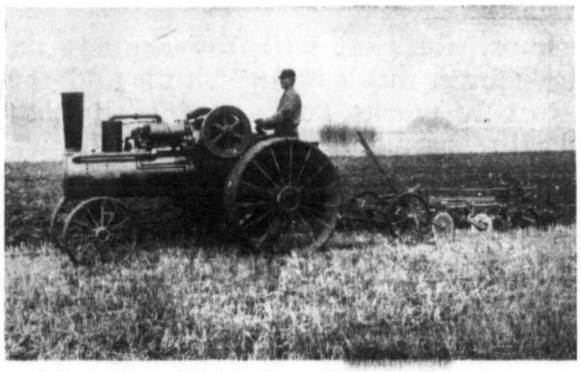
On the larger farms horse-power is available, but man-power is lacking. Therefore the larger the unit one man is capable of handling the greater will be the results obtained. If it is possible for one man to do the work of four and have an engine saving, say, twenty horses, one would naturally feel that the purchase of a tractor should be a profitable investment. But the purchase of a tractor is a matter requiring serious consideration, and no man has any license to so go in debt that all he possesses may be lost.

The very fact that figures sometimes do lie has caused many a man the loss of his farm. In figuring possible profits the one great big item so often overlooked is one's own ability as farm manager. There are men who with a fairly small holding and the use of a three or four-horse team make pretty successful farmers. But place these men in charge of double the area with double the working force and they would be absolute failures. So many successful men using horses feel that they are not getting the best results from the soil purchase a tractor. The success or failure depends on the man because the thing that brings results is not the particular make or type of tractor but the ability of its operator.

Primary Object in Purchasing

The primary object in buying a tractor is to accomplish more work with less man power than is required with horses. Other things may enter in. Some men have so much money that they purchase it because it is the popular thing to do. Others again do so because of an inborn love for things mechanical. They love its hum and work longer hours giving it better attention than they would give their horses. These two classes are small, the greater majority of buyers purchasing tractors because they feel it will enable them to increase profits.

One great mistake is that of purchasing a tractor on the recommendation of an agent without having any knowledge of gas engines whatever. Due to this fact a number of farmers are loaded down with engines far too small for the work they are trying to do, or perhaps they may be too large for the land owned by the buyer. There are hundred and one careful details which should be thoroughly investigated before any one parts with a thousand or more hard-earned dollars. But as this article deals only with the size considered most suitable for farmers needs this angle only will be discussed.



Looks like a Steamer—but it isn't a Steamer. The Fairbanks-Morse 12-25 plowing in stubble

The best person to consult for information is the man actually using a tractor, and when several hundred have related their experiences fairly definite data is secured. It is no more possible to say to a man that a tractor of so much belt power is just the one for his needs than it is for a man to come from the central states to western farmers and give them definite advice regarding cultivation for best results in wheat.

Every farmer has some particular problems of his own, and as there is such a wide diversity of soils ranging from a light sand to extremely heavy clay there is a tremendous variance regarding power requirements. Therefore a 10-20 engine might easily pull three 14 in. plows on a sandy loam, but might only pull two plows on a clay. The only way to get satisfactory information, then, is by the dynamometer readings and a guarantee of the draw-bar pull of tractor. This, however, is not possible in many cases.

It would be good policy on the part of manufacturing concerns to allow the farmer to have one tried out behind the engine. Then with the known tractive power of engine one could easily gauge size of plows required. Still, any man with some acquaintance of tractor work can pretty well estimate the size of plow and also horse-power of engine required for the conditions under which it is to work. Overloading a gas tractor is one of the very poorest ways of gaining time.

Steam engines have considerable over power for short hard pulls, but gas engines have no over rating. They will develop just so much and no more. With most men the engine really does not develop all its possible power due to poor carburetion. changes of weather, etc. Adjusting the carburetor is an art only gained by careful practice, as it must be done to suit a great many varying conditions. For instance, a cool, cloudy day requires vastly different carburetor adjustment from a bright warm one. Overloading will cause overheating usually of the work shaft.

The writer knows of one case where a small engine was being used to pull a plow over its rated power. Because it would work fairly well for a few days with the load the operator did not think it was overloaded. However, after a couple of days the crankshaft bearing would burn out, simply due to an overload and only because the engine happened to have a perfect cooling system would the motor stay fairly cool under the strain. This misled the operator and he could not think the engine was overloaded. The time lost by putting on an extra plow and the wastage of fuel in trying to get the engine to pull the load is very large, and a very, very poor practice.

We have advocates of all sizes of engines for farm use. Each has his own particular requirements and finds a certain size best for his work, therefore states that it is best for all. This is not correct. We have to-day a size for every man's needs, and aside from cost of purchasing they appear to each do an acre at practically the same cost for fuel. But men's requirements are vastly different, and no one should condemn the big or very small tractor.

We all know that the first tractors were large machines, made at a time to displace the steam engines then in use. As these same steam engines were used only on large farms or for custom work it was necessary to build large gas tractors. This made them available to only a limited number. But during the last few years individual farmers have been compelled to use larger machinery because of the fact that each year sees less and less farm help available. Therefore at this time a farmer must have some means of getting a lot of work done quickly and with less than half the man power of ten years ago.

The demand some few years ago became so incessant that the manufacturers felt compelled to get out a much smaller engine. Previous to this it was not believed possible to get a motor sufficiently light to give the power and still stand the awful strain under hard work for hours at a stretch. Look over the early type of engine and see the tremendous fly-wheels used to give the engine momentum. There fore inventors had a big problem on their hands. But to-day the light engine is an accomplished fact.

High speed has displaced weight and massiveness and ten of the smaller type are sold where one of the larger was formerly sold. Every company now turns out engines of a small type, and one can see that from a popular standpoint the smaller engine is here to stay. But at the same time the big husky fellow will still remain with us because

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