

PROFITABLE FARMING IS MADE POSSIBLE BY USE OF THE TRACTOR

By H. L. Horning

WHEN the farmer finds that his farm is not producing enough to keep him, what does he do? He cannot go across the road and take a slice of someone else's farm. He has got to go down deeper and get another farm.

The fecundity of the soil can be measured roughly by the cubical contents of the seed bed. Intensive cultivation depends on better physical preparation of the seed bed, together with a correct chemical balance and moisture for the crop to be raised, all operations on the soil being so timed as to bring soil activity, climate and plant growth into harmony. These problems of increasing the depth of the seed bed, improving its physical and chemical condition and, taking advantage of the right time of the year from the standpoint of moisture and bacterial activity indicate that the tractor is potentially the best means of production for meeting the food problem. The tractor is particularly effective in raising the energy foods. An analysis of the average diet indicates it will enter into the production of 54 per cent of the energy foods.

Tractors make farming possible on a business basis. Among the many advantages of tractor farming are the following:

1. Many farms can be made to substantially increase their crops, as the tractor can bring up one inch more of the virgin soil than the horse has ever been able to turn over. By turning over one inch more the following year, the soil can be further improved. Many crop outputs can be increased 20 per cent by these methods. Some soils do not lend themselves to an increased output by means of subsoil cultivation, as the top soil is only seven inches deep.

2. On many farms very deep plowing is required in order to bring up the good subsoil and thus to reclaim worn-out land. Such overworked farms are found in many of the older settled portions of Western Canada.

3. A tractor allows a farmer to make the most of a good day, by plowing three times as much as with horses. He can also harvest at such high speed that grain can be cut at exactly the right time and thus its maximum food value can be retained. The tractor will also save a substantial proportion of the crops of some of the northern districts, in which the season for growing is comparatively short and the shortage of

farm labor makes it impossible to harvest the crop before winter.

4. The tractor will increase the output per man on the farm, so that it is at least three times that possible with horse methods of cultivation. This is particularly interesting at this time, when there is such a shortage of men on the farms of our country.

5. Tractors, when used for July plowing in the winter wheat belt, will increase the output greatly; depending on various conditions this crop will be as much as five times what would be obtained with the September plowing. Tractors can be used in the hot month of July, when it would be impossible for horses to live for any effective work,

even for a very few hours a day. In the month of July the condition of the soil is correct, from a chemical standpoint, to produce a strong sprout and effective roots.

In July the rainfall over the wheat belt is such as to help the condition of the soil in producing a hardy grain growth which in September and the dry months of the fall and winter, will be able to withstand the lack of moisture, the wind and cold. The tractor, because of its increased output per day and per man, allows the total plowing on the farm to be in July which gives the most effective yield. The tractor can work twenty-four hours per day if necessary, while the horse can only work a maximum of four.

The science of agronomy, which considers rainfall during season, sunshine, wind, the chance of drought, evaporation, temperature, the type of storms and the average amount of rain at one time, can be used to good advantage in operating tractors.

6. The tractor allows a larger acreage to be put into produce food for human consumption, inasmuch as the horse requires the crops from five acres of land to support him for a year. The land required to raise the 35,000,000 bushels of food for farm horses can be used for other necessary human food or for food of the horse in other work for which he is better fitted.



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