

# Fundamental Needs for Farm Tractors

Head of Farm Management Bureau States in What Respects the Farmers Especially Demand Service.

One question which has been bothering tractor manufacturers as a fundamental starting point of their design to a great extent was settled at the S. A. E. meeting of tractor men, when A. P. Yerkes, of the United States Department of Agriculture Bureau of Farm Management, told them that after a canvass of 32,000 tractor users throughout all parts of the United States, it was found that the three and four-plow sizes of tractors were available on the greater number of farms.

Another point which was new to most of the manufacturers is that belt power is of greater importance than any other one item of tractor work. This was embodied in Mr. Yerkes' statement that the farmer will use the tractor for driving other farm implements by belt, even to a greater extent than it will be used for plowing. This work includes such operations as silage cutting, threshing, corn shredding and shelling, wood sawing and other farm operations where light power is needed.

The general impression, he said, that farms are growing smaller is wrong; that while the intensive farming movement is spreading, it is more confined to truck

farms, and that while the small farms under 20 acres have increased, the small farms of from 20 to 50 acres are decreasing in total number and in acreage. All the larger ones, however, are increasing. It is in this field that the tractor had its greatest use. These deductions were made from a government census which included the states of Illinois, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas, and the Department of Agriculture is certain that intensive cultivation in the shape of truck farming need not be considered in the tractor field at present.

In elaborating upon the finding of the Bureau of Farm Management that the three and four-plow size are available on a greater number of farms, Mr. Yerkes brought out the fact that the government census showed that the majority of farmers having tractors of larger size bought smaller ones when they got new equipment, and those with the smaller sizes got larger ones. This, of course, does not apply to the big ranches of the west where the big ten and twelve-plow gangs are utilized.

### More Tractor Attachments.

Another feature which was brought out by Mr. Yerkes was the distinct and immediate need of more farm implements designed especially for tractor attachment.

He said the field of the tractor at the present time is limited to some extent by difficulties in applying horse-drawn equipment to the tractors. In many of these equipments the efficiency is low, as, for instance, in the mowing machine and binder, in which rotary motion is needed, and which in horse-drawn equipment is obtained by transforming the linear motion obtained from the horse into rotary motion. When applied to the tractor, where we start with rotary motion of the engine crankshaft, it must be transformed to the mower, and changed back into rotary motion for cutter operation—a very indirect way when we have rotary motion as a first motive effort.

Tractors are a success with mowers, provided they cut a large enough swath. Some tractor and agricultural implement concerns have brought out special power equipment for the tractor, such as binders for oats, corn and wheat, corn pickers, etc.

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