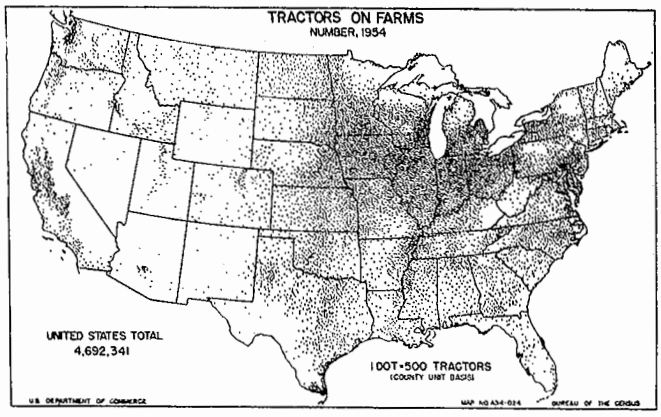

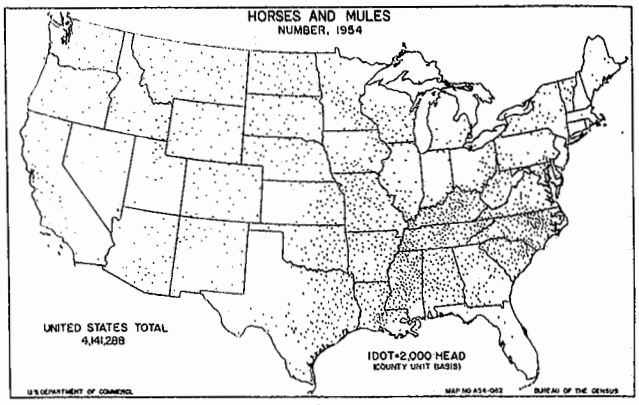

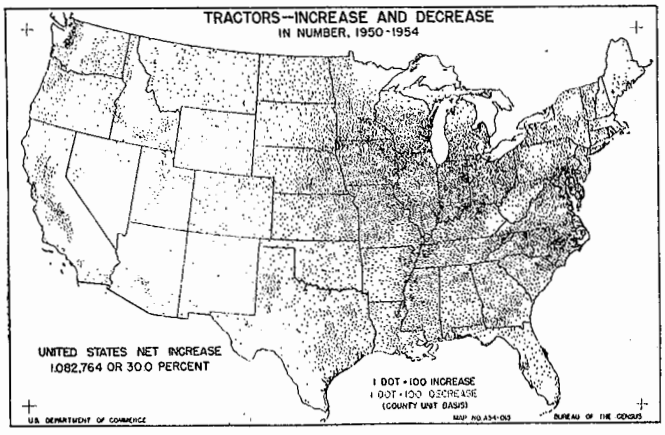

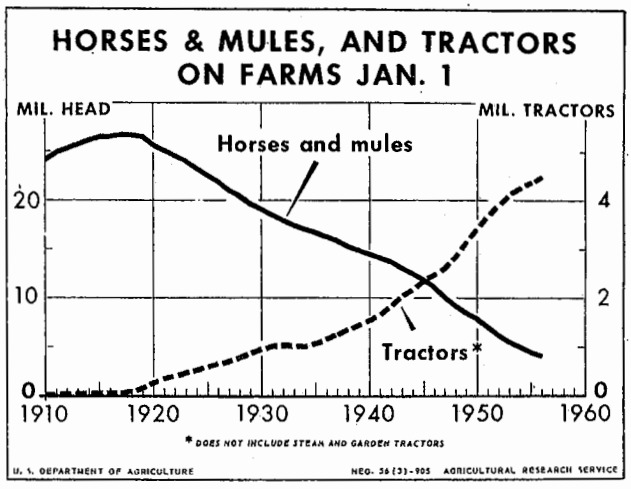

POWER AND EQUIPMENT

The introduction of inanimate power has brounght many striking changes to American farms during the last 50 years. The tractor has supplied the major part of this power. Trucks, automobiles, and electricity are other important sources of inanimate power used on the farm. In 1910, an estimated 1,000 tractors were in use on American farms. World War I brought a shortage of labor on farms, higher prices, and an increase in cash receipts which help to explain the fact that by 1920 there were nearly a quarter of a million tractors on farms. A nearly uninterrupted increase in numbers of tractors has occurred each year since 1920. The only exception was during the depression years of the early thirties.

The use of electricity on farms has expanded rapidly during the last 30 years. Reports of the Edison Electric Institute show that in 1926 a total of 0.7 billion kilowatt-hours of electricity were used on farms. By 1954, the kilowatt-hours used had increased to 20.8 billion kilowatt-hours. An average of 4,000 kilowatt-hours of electricity was used per farm in 1954. Among the principal uses of electricity on the farm, other than for lighting and appliances in the home, are pumping water and milking cows.

These new sources of power have greatly reduced the number of horses and mules needed on farms. The number of horses and mules on farms expanded rapidly during the 19th century. The peak number was reached during World War I when nearly 27 million were estimated to be on farms. Since 1918 an uninterrupted decline in the number of horses and mules has occurred. The 1954 Census of Agriculture reported only 4.1 million horses and mules of all ages still remaining on farms.

Since the introduction of these new forms of power, fewer farmworkers are needed to produce food and fiber for domestic use and for export. In 1820, the labor force engaged in agricultural pursuits comprised nearly three-fourths of the total number of persons engaged in all occupations. By 1870, this had been reduced to about one-half, and by 1920, to approximately a fourth of the total. In 1950, the persons engaged in agriculture made up only a little more than a tenth of the persons engaged in all occupations.

This means that today 20 persons are supported by one farmworker compared with only 7 in 1910 and only 4 in 1820. Farm employment has declined from a peak total of 13.6 million workers reached during the period, 1910 to 1917, as compared with only 8.5 million workers in 1954.

In addition to these important influences upon the number of farmworkers needed and the output per farmworker, the substitution of inanimate power for horse and mule power on farms has had a major influence on the acreage of agricultural land required to supply the food and fiber needs of the Nation. This influence has already been indicated in a previous chart. However, it reemphasizes the fact that a major reason for the stability in total cropland acreage since 1920 has been the substitution of tractors for horses and mules. Cropland and pastureland formerly used to produce feed for farm and nonfarm draft animals are now available for producing food and fiber for domestic use or for export. From the peak of 93 million acres used for feeding all horses and mules in 1915, the acreage used for such purposes declined to only 10 million acres in 1955.

The accompanying maps and charts depict some of the major distribution and trend characteristics in the use of farm power and equipment.

Tractors on farms.—Tractors were reported on 2.9 million farms in 1954. Since the total number of tractors reported was 4.7 million, there were many farms with more than one tractor. Half of all tractors in the United States are concentrated in the 12 North Central States. The distributional pattern for tractors corresponds closely to that of cropland harvested.