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# The Agricultural and Industrial Demand for Corn

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## SUMMARY

The World War marked a turning point in the history of corn production in the United States. Previous to the World War the trend of corn production in this country was steadily rising. Since 1920, however, it has declined because of decreases both in yield and acreage.

From 1900 to 1920, the United States' corn crop averaged 68 percent of the world crop of corn, the annual percentages fluctuating about a horizontal trend. Since the World War, however, the United States' proportion of the world corn crop has been declining. The trend declined to 55 percent in 1933. Corn production has been increasing in other countries and decreasing in the United States.

Gross and net exports of corn from the United States have been declining. During the past 10 years they have only once (in 1928-29) exceeded 1 percent of the total crop. Foreign importers of corn are buying more corn from our competitors and less from us. This trend was clearly evident before the AAA reduction program was instituted.

### AGRICULTURAL DEMAND FOR CORN IN THE UNITED STATES

During 1924-29, 86.2 percent of the United States corn crop was fed to livestock on farms.

From 1920 to 1935, consumption of corn by horses and mules decreased about 180 million bushels. During the past 10 years, the horse and mule consumption of corn has been cut 40 percent; it now takes only 11 percent of the total corn crop. A further decline appears probable during the next few years.

The consumption of corn by hogs on farms increased 120 million bushels from 1910-14 to 1924-29. This increase was the result of two conflicting causes. A marked increase took place in total hog slaughter, but this was partially offset by changes in hog feeding and breeding methods that reduced the per capita hog demand for corn. It seems likely that, in the future, hog slaughter will increase only slowly, or not at all, over pre-1934 levels; while changes in breeding and feeding methods are likely to continue. The total hog demand for corn, therefore, is not likely to increase much in the future; it may decrease.

Consumption by cattle on farms increased 80 million bushels from 1910-14 to 1926-29, because of increases in cattle numbers

and perhaps also because of increased dairy production.

#### INDUSTRIAL DEMAND FOR CORN IN THE UNITED STATES

The consumption of corn by the milled products industry (makers of corn meal, corn flour and hominy grits) has been declining, from 200 million bushels before the war to 100 million soon after the war and to 40 million (2 percent of the corn crop) in 1932. This decline is probably permanent.

The consumption of corn by the corn products industry (makers of cornstarch, corn sirup, corn sugar and numerous by-products) has been slowly increasing, until now it accounts for 3 or 4 percent of the corn crop. Tapioca from Java is competing strongly with corn as a raw material in this industry, both at home and abroad. The working out of effective measures to meet this competition calls for further research.

Corn sugar has interesting possibilities for expansion. Present preliminary estimates place the probable outer limits of the consumption of corn as a raw material for corn sugar at about 75 million bushels (3 percent of the total production of corn) more than present consumption for this purpose. Extended research into this question is needed to determine how, and how closely, these limits may be approached.

The consumption of corn by the makers of distilled spirits and cereal beverages amounted, in the peak year (1917) to 34 million bushels. This is about 1.3 percent of the total crop. A considerable reduction has taken place since then. Expansion by this industry following repeal can probably increase the demand for corn only about 1 percent.

#### POSSIBLE NEW USES FOR CORN

An interesting possible new use for corn is opened up by the corn-alcohol fuel program. The outer limit of possible use for this purpose is about 600 million bushels of corn. Two major difficulties stand in the way of this program: (1) Corn alcohol at the plant costs several times as much per gallon as straight gasoline at the refinery, and it is doubtful whether consumers would pay the extra 2 or 3 cents a gallon needed for a 10 percent blend, unless they were coerced by some form of tax; (2) other products besides corn would probably be used in some measure unless their use were legally prohibited or made difficult. Further research is required here also.