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Appendix E

Methods of Estimating the Volume and Value of Crops Stored on Farms, by States, January 1, Census Years, 1870-1950

The current values of crops stored on farms on January 1 of census years, 1870-1900, were obtained by multiplying average prices received by farmers in each state on December 1 of the year preceding a census year by the estimated volume held on farms on the following January 1.¹ For 1910 and subsequent years, December 15 prices² were available and were multiplied by January 1 stocks.

The figures on volume of crops used in the foregoing calculations are in part published estimates of the Bureau of Agricultural Economics, in part they are estimates made for this study. The published state estimates cover the following crops and census years: tobacco, 1910 and later; wheat, corn and oats, 1930 and later; hay, barley, peanuts, and flaxseed, 1940 and later; rice, edible beans, sorghum for silage and corn for silage, 1945 and later. The other estimates have been made by methods described below.

In most instances state ratios of the volume of individual crops stored on farms on January 1 to production of the preceding year were averaged for the earliest five-year period for which both production and stocks on farms on January 1 were available. These state ratios were then applied to the state crop-production data reported by the census for the year preceding each of the census years for which estimates were desired.

The five-year periods which provided the ratios of individual crops to production are as follows:³ 1910-1914, tobacco; 1927-1931, wheat, corn, and

¹ *Prices of Farm Products Received by Producers*, Dept. of Agriculture Stat. Bulls. 14, 15, 16, and 17, 1927.

² From Bureau of Agricultural Economics work sheets. These prices have been published by BAE from time to time in *Agricultural Prices*.

³ During the five-year period for which average ratios of stocks on farms on January 1 to production of the preceding year were calculated, parts of some of the minor crops stored on farms were under Commodity Credit Corporation loan. This was a factor not present in most of the earlier years for which estimates are made by use of these ratios. However, the influence of such loans on the estimates of the volume of these minor crops on farms seemed too small to warrant an attempt to remove them by adjustments which at best would be based on assumptions, not on facts. Failure to adjust for these loans could hardly affect significantly the final state estimates of farm capital invested in crops for the following reasons:

1. The problem does not exist for the major crops, which include corn, wheat, oats, hay, cotton, and tobacco.

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oats; 1938-1942, hay; 1940-1944, barley, peanuts, and flaxseed; 1942-1946, rice; 1944-1948, dry edible beans, sorghum for silage, and corn for silage.

There are no official estimates of January 1 stocks of cotton stored on farms; hence the stocks of cotton lint and cottonseed on January 1, 1910 and subsequent census years were estimated by subtracting the amount sold before January 1 from the amount produced in the year preceding the census. For census years preceding 1910, first-of-the-year stocks were estimated by applying a five-year (1909-1913) average percentage of crop sold before January 1 in each state to the amount produced in the year preceding each census and, by subtraction, obtaining the amount left on farms.

The following crops appear on one or more of the state lists: wheat, corn, oats, barley, rice, peanuts, flaxseed, soybeans, dry edible beans, hay, corn for silage, sorghum for silage, cotton lint, cottonseed, and tobacco.

The number of crops listed for the various states differs somewhat, because crop production is much more specialized in some states than in others. The plan was to list for each state every crop that was likely to be stored to any significant extent on January 1 and that constituted 3 per cent or more of the crop production of the state. But no plausible basis was found on which to estimate farm storage of potatoes and horticultural crops. It is possible that in some states these would be in the list were the facts known. As crop production changed over the years, the state lists are not necessarily uniform for the entire period.

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2. Only a part of the minor crops is affected.
 3. Of the minor crops affected, such loans were found to have been outstanding during only part of the five-year period.
 4. The fraction of the crop stored on farms which was under loan was in most instances small.