UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL ECONOMICS

Before the Interstate Commerce Commission

Ex parte 115

Exhibit No. 468

AGRICULTURAL PRODUCTION COMPARED WITH RAILWAY TRAFFIC IN FARM PRODUCTS DURING THE DEPRESSION

Washington, D. C.

December, 1934

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Statement prepared at the request of the Interstate Commerce Commission for its hearings in Ex Parte 115, December 1934, Washington, D. C.

INTRODUCTION

During the depression the railroads have become less and less important in the disposal of farm products. Farmers have reduced their production of most products only moderately, while the tonnage of many of these products originated by the railways has declined more severely. In some cases farmers have actually produced larger crops, while the tonnage received by the railroads has declined.

Part of the production which has been lost to the railroads has remained on the farm. Some of it was left in the fields, because prices were so low that it did not pay to harvest all of the crop. Farmers have been consuming more of their own products at home, instead of selling them. A large part of the production lost to the railroads, however, has left the farm. Some of this has been used locally, much has been transported by highway or water.

A survey of the facts as to the divergence between farm production and railway traffic follows. A discussion of crops for which such a discrepancy is noted is presented first. This is followed by a discussion of cases in which no significant divergence has occurred. In both cases the commodities are discussed in the order in which they are listed in Freight Commodity Statistics. The discussion of each is indicated by the reference numeral and class description employed in that publication. A summary comparison for all commodities studied is added.

For some crops a comparison on a crop-year basis is more accurate than on a calendar year basis. The basis deemed appropriate has been followed in each case.

Production figures are the official estimates of the Division of Crop and Livestock Estimates of the Department of Agriculture except as noted. Revised figures have been used whenever published.

When comparison is made on a calendar year basis, the figures used as a measure of railway traffic are those for tonnage originated as published in the annual issues of Freight Commodity Statistics. Where a crop year has been used, figures for tonnage originated have been compiled from the quarterly issues of Freight Commodity Statistics.

For oranges and grapefruit, the year beginning October 1 represents the most appropriate basis of comparison. Here the tonnage of the last quarter of the year, 1933-34, is estimated on the assumption that the tonnage for the fourth quarter of the year beginning October 1, 1933, bore the same proportion to the traffic of the first three quarters as in the previous year.

Production estimates usually represent production harvested or, in the case of livestock, production consumed or sold. In the case of certain fruits and vegetables, they also include quantities of good produce not harvested on account of market conditions. When such quantities are included that fact has been noted.

The Division of Crop and Livestock Estimates makes estimates of the quantities sold by farmers from the crop of each year. The figures are cited when they indicate that home use accounts to a material degree for the divergence between production and tonnage.

The tonnage of many commodities was first reported separately with the refinement of the Interstate Commerce Commission statistical classification in 1928. Most of the comparison of production with tonnage, therefore, begin with that year. Where it is possible to begin the comparison further back, that has been done.

It was not feasible to make a significant comparison between production and traffic for all the commodity classifications in Group I, Products of Agriculture, or Group II, Animals and Products. In some instances, e.g., classification No. 127, "Fruits, fresh, domestic, n.e.s.", the category is too heterogeneous. In others, e.g., No. 71, "Straw", no production figures are available. In still others, e.g., No. 160, "Vegetable oil cake and meal, except cottonseed", imports are a large part of the total supply. The commodities omitted and their importance are indicated in a table at the end of this exhibit. Those studied account for the great bulk of the traffic.

COMMODITIES THE TONNAGE OF WHICH HAS DECLINED RELATIVELY TO THEIR PRODUCTION

10. Wheat

Since 1929, railway tonnage of wheat has fluctuated closely with production leaving farms, but has diverged from total production. In other words, motor competition has not been an important factor in divergence, but farm utilization has.

Wheat: Production used on or leaving farms, production leaving farms, and tonnage originated, 1925-1933

Year beginning July 1:	Production used on or leaving farms 1/		Production leaving farms 2/		Originated	
	1,000 bushels	Percent of 1929	1,000 bushels	Percent of 1929	Short tons	Percent of 1929
1925	686,462	85	552,102	86	21,110,881	82
1926	841,630	107	713,932	112	25,308,409	99
1927	884,408	112	741,783	116	25,963,868	101
1928	865,280	110	719,550	113	27,945,283	109
1929	788,447	100	639,078	100	25,643,929	100
1930	941,669	119	693,296	108	27,866,621	109
1931	866,155	110	602,688	94	23,867,895	93
1932	731,950	93	511,921	80	19,200,275	75
1933	559,069	71	399,848	63	15,568,509	61

1/Total production plus decreases or minus increases in stocks on farms and in country mills and elevators July 1.
2/Previous column minus utilization for seed, livestock feed, and home consumption.

20. Corn

There has been a sharp divergence between production and tonnage of corn. It is impossible to say to what extent this may be accounted for by increased farm utilization and to what extent by motor competition.

Corn: Production used on or leaving farms and tonnage originated, 1926-1933

Year beginning July 1	Production used on or leaving farms 1/		Originated	
	1,000 bushels	Percent of 1929	Short tons	Percent of 1929
1926 2/	2,666,531	103	13,526,204	91
1927	2,829,938	110	15,637,716	105
1928	2,610,059	101	15,949,371	108
1929	2,582,332	100	14,829,595	100
1930	2,102,365	81	11,873,258	80
1931	2,373,524	92	9,465,929	64
1932	2,806,249	109	10,416,883	70
1933	2,487,880	96	11,357,945	77

1/Total production minus increases or plus decreases in July 1 farm stocks.
2/1925 not shown because initial farm stocks are not available.

30. Oats

There has been a marked divergence between railway tonnage and oats shipped and utilized. This may be accountable for either by increased farm utilization or by competing means of transport - to what extent by one or another it is not possible to tell.

Oats: Production used on or leaving farm, and tonnage originated, 1926-1933

Year beginning July 1	Production used on or leaving farms 1/		Originated	
	1,000 bushels	Percent of 1929	Short tons	Percent of 1929
1926 2/	1,220,358	106	5,830,630	102
1927	1,131,984	98	5,608,417	99
1928	1,253,137	109	5,702,701	100
1929	1,151,979	100	5,693,390	100
1930	1,252,941	109	4,803,633	84
1931	1,152,784	100	3,365,641	59
1932	1,184,957	103	3,564,696	63
1933	819,289	71	2,917,079	51

1/ Total production minus increases or plus decreases in July 1 farm stocks.
2/ 1925 not shown because initial farm stocks not available.

40. Barley and Rye

In 1933, tonnage of barley and rye was higher relatively to 1929 than production. In other depression years, however, either farm utilization or diversion to other means of transport or both were important factors in creating a divergence between rail traffic and production.

Barley and rye: Combined production, and tonnage originated, 1928-1933

Year beginning July 1	Production 1/		Originated	
	1,000 pounds	Percent of 1929	Short tons	Percent of 1929
1928	17,983,096	116	4,291,379	134
1929	15,438,608	100	3,194,196	100
1930	17,171,496	111	3,004,418	94
1931	11,338,304	73	1,586,288	50
1932	16,773,800	109	2,056,767	64
1933	8,679,296	56	2,278,089	71

1/ Production figures in bushels converted on basis of 48 pounds per bushel for barley and 56 pounds for rye and added.

41. Rice

About 96 percent of the rice crop is always sold. Hence the divergence between tonnage and production must be accounted for in terms of competing means of transport.

Rice: Production and tonnage originated, 1928-1933

Year beginning Oct. 1	Production		Originated	
	1,000 bushels	Percent of 1929	Short tons	Percent of 1929
1928	43,434	107	1,035,800	112
1929	40,604	100	926,978	100
1930	44,923	111	878,130	95
1931	44,873	111	693,478	75
1932	40,408	100	632,340	68
1933	35,619	88	1/583,662	63

1/ Estimated.

70. Hay and Alfalfa

Since 1930 there has been a striking decline both absolutely and relatively to production, in the amount of hay transported by the railroads. A substantial part of this decline has been accounted for by increased utilization on home or neighboring farms, but the major portion must be attributed to motor competition.

In 1933 the railroads handled only about 15 percent of the hay marketed by farmers, as compared with 28 percent in 1928 and 1929. If they had handled 28 percent in 1933 their hay traffic would have been 87 percent greater than it actually was.

Hay 1/: Production, sales and tonnage originated, 1928-1933

Calendar year	Production		Sales		Originated		
	1,000 tons	Percent of 1929	1,000 tons	Percent of 1929	Short tons	Percent of 1929	Percent of sales
1928	84,111	96	11,895	108	3,309,381	107	28
1929	87,304	100	11,006	100	3,085,689	100	28
1930	74,310	85	8,719	79	2,902,910	94	33
1931	73,708	84	8,719	79	1,883,850	61	22
1932	82,336	94	8,445	77	1,427,516	46	17
1933	2/74,485	85	2/7,989	73	1,199,895	39	15

1/ Including alfalfa.
2/ Preliminary.

80. Tobacco, leaf

Production of tobacco is practically identical with quantities disposed of by farmers. The moderate divergence is to be attributed to competition of other forms of transport.

Tobacco, leaf: Production and tonnage originated, 1928-1933

Year beginning July 1	Production		Originated	
	1,000 pounds	Percent of 1929	Short tons	Percent of 1929
1928	1,373,214	89	971,769	94
1929	1,537,313	100	1,031,263	100
1930	1,647,377	107	956,307	93
1931	1,583,567	103	767,816	74
1932	1,025,287	67	578,423	56
1933	1,385,107	90	732,476	71

90. Cotton in bales

There was a sharp divergence between production and tonnage of cotton in 1930 and 1931. In 1932 and 1933 the railroads made drastic reductions in the freight rates on cotton. In 1932 the divergence was greatly narrowed. In 1933 tonnage was as great, relatively to 1929, as production.

Cotton: Production and tonnage originated, 1928 - 1933

Year beginning July 1	Production		Originated	
	1,000 bales 1/	Percent of 1929	Short tons	Percent of 1929
1928	14,477	98	3,544,131	107
1929	14,825	100	3,324,520	100
1930	13,932	94	2,493,752	75
1931	17,095	115	2,310,249	69
1932	13,001	88	2,727,418	82
1933	13,047	88	2,938,500	88

1/ Bale = 478 pounds net.

91. Cotton linters, noils and regins

The divergence between shipments of linters from cottonseed oil mills and railway tonnage is accounted for by competition of other forms of transport.

Cotton linters: Shipments and tonnage originated, 1928 - 1933

Calendar year	Net shipments from mills 1/		Originated 2/	
	Running bales 3/	Percent of 1929	Short tons	Percent of 1929
1928	903,529	88	348,660	86
1929	1,031,364	100	405,077	100
1930	895,871	87	317,996	79
1931	770,742	75	272,189	67
1932	822,558	80	246,400	61
1933	890,953	86	315,809	78

1/ Linters only.
2/ Includes noils and regins.
3/ Computed from annual reports of Bureau of the Census.

100. Cottonseed

The amount of cottonseed disposed of commercially by farmers is measured by receipts at cottonseed oil mills. Receipts have fluctuated in about the same way as production. The great divergence between production and railway tonnage is therefore accounted for chiefly by competition of other means of transport.

Cottonseed: Production, receipts at mills, and tonnage originated, 1928 - 1933

Year beginning July 1	Production		Receipts at mills 1/		Originated	
	1,000 tons	Percent of 1929	Short tons	Percent of 1929	Short tons	Percent of 1929
1928	6,434	98	5,078,887	101	2,796,486	101
1929	6,590	100	5,022,307	100	2,778,734	100
1930	6,190	94	4,711,259	94	2,239,594	81
1931	7,603	115	5,595,168	111	1,896,195	68
1932	5,782	88	4,519,856	90	1,489,043	54
1933	5,858	89	4,175,885	83	1,146,451	41

1/ Computed from reports of Bureau of the Census.

101. Cottonseed meal and cake

From 1928 to 1930 railway traffic in cottonseed meal, cake, and hulls ran closely parallel to total shipments. Thereafter there was a sharp and continuous divergence, which must be accounted for by diversion to other means of transportation.

Cottonseed meal and cake: Shipments from mills and tonnage originated, 1928 - 1933 1/

Calendar year	Shipments 2/		Originated	
	Short tons	Percent of 1929	Short tons	Percent of 1929
1928	3,431,644	96	2,275,922	95
1929	3,591,502	100	2,404,117	100
1930	3,688,739	103	2,464,829	103
1931	3,380,800	94	1,864,295	78
1932	3,479,120	97	1,452,313	60
1933	3,421,118	95	1,269,007	53

1/ All figures include hulls.
2/ Computed from annual reports of Bureau of the Census.

110. Oranges and grapefruit

In 1932 and 1933, production of oranges and grapefruit was much greater than in 1929; nevertheless railway tonnage was only 9 percent and 5 percent greater respectively. Motor and water competition is known to have become more important in recent years.

Oranges and grapefruit: Production and tonnage originated, 1928 - 1933

Year beginning Oct. 1	Production 1/		Originated	
	Short tons	Percent of 1929	Short tons	Percent of 1929
1928	2,806,164	154	2,132,421	141
1929	1,821,337	100	1,517,382	100
1930	3,103,474	170	2,177,941	144
1931	2,708,150	149	1,847,566	122
1932	2,754,737	151	1,649,923	109
1933	2,609,133	138	2/1,597,647	105

1/ Original production data in boxes converted to tons on basis of tariff weights per box: California and Arizona, oranges, 78 pounds, grapefruit 68 pounds; Texas, oranges and grapefruit, 85 pounds; Florida, Alabama, Louisiana, and Mississippi, oranges and grapefruit, 90 pounds.
2/ Estimated.

120. Apples, fresh

In 1933, farmers produced 7 percent more apples than in 1929, but the railroads originated 35 percent fewer apples. No abandonments on account of market conditions are reported except a small quantity in 1932. There has not been much change in relative farm utilization. A considerable and variable portion of the crop is dried or made into cider or vinegar. The divergence between production and railroad shipments must therefore be accounted for by either increased processing, or motor and water transport, or both.

Apples: Production, sales by farmers, and tonnage originated, 1928 - 1933

Calendar year	Production 1/		Sales		Originated 2/	
	1,000 bushels	Percent of 1929	1,000 bushels	Percent of 1929	Short tons	Percent of 1929
1928	176,721	133	148,214	134	1,903,442	112
1929	133,318	100	110,394	100	1,695,075	100
1930	153,372	115	131,124	119	1,736,166	102
1931	202,477	152	157,361	143	1,576,061	93
1932	3/140,775	106	119,765	109	1,389,951	82
1933	142,981	107	120,300	109	1,104,225	65

1/ Total production
2/ Fresh apples.
3/ Includes 220,000 bushels not harvested on account of market conditions.

124. Grapes, fresh

The bulk of the production of California raisin grapes should be excluded in comparing railway tonnage with production, as these grapes are not usually grown for shipment fresh.

Part of the divergence since 1929 is accounted for by failure to harvest because of market conditions. Quantities thus left unharvested amounted to about 6 percent of the 1929 production in 1930 and about 7 percent in 1932.

The divergence in 1933 is accounted for largely, although not entirely, by the crushing of grapes in California in anticipation of repeal of the Eighteenth Amendment. Data are not available for crushing in 1929 but it must have been small. Grapes crushed in California amounted to 4 percent of the 1929 production in 1930, 2 percent in 1931, 5 percent in 1932, and 24 percent in 1933.

Grapes: Production and tonnage originated, 1928 - 1933

Calendar year	Production 1/		Originated	
	Short tons	Percent of 1929	Short tons	Percent of 1929
1928	2,388,739	128	1,138,493	124
1929	1,865,547	100	921,429	100
1930	2,251,042	121	887,375	96
1931	1,452,315	78	597,624	65
1932	1,941,752	104	600,413	65
1933	1,714,581	92	413,610	45

1/ Does not include California raisin grapes dried. Includes the following quantities not harvested on account of market conditions: 93,000 tons in 1930; 114,000 tons in 1932; 133,000 tons in 1933. Includes the following quantities crushed in California: 74,100 tons in 1930; 34,600 tons in 1931; 99,000 tons in 1932; 444,000 tons in 1933.

125. Peaches, fresh

The large California peach crop is used principally for drying and canning. Railway tonnage of fresh peaches should, therefore, be compared with production outside of California.

The size of the peach crop varies greatly from year to year. The very large crop of 1931 did not produce as much railway tonnage as the moderately large crop of 1928. The small crops of 1932 and 1933 did not produce as much tonnage as the crop of 1930, which was of about the same size.

Peaches: Production and tonnage originated, 1928 - 1933

Calendar year	Production 1/		Originated	
	1,000 bushels	Percent of 1929	Short tons	Percent of 1929
1928	38,749	125	614,058	159
1929	31,058	100	387,210	100
1930	21,017	68	457,592	118
1931	52,562	169	501,099	129
1932	19,649	63	244,282	63
1933	22,607	73	330,642	85

1/ Excluding California peaches.

126. Watermelons

There has been a persistently greater decline since 1929 in tonnage than in production of watermelons. In 1933, production was 71 percent of 1929, whereas tonnage was only 55 percent. The discrepancy is accounted for largely by failure to harvest on account of market conditions. In 1932, 8,663,000 melons were left in the fields for that reason. This was 14 percent of the total crop of 60,623,000 melons. In that year the freight rate from Moultrie, Georgia was 322 percent of the state farm price. In 1929, the total crop was 69,997,000 melons or 12 percent larger than the 1932 crop. Yet none of the 1929 melons were reported as unharvested. It is reasonable to suppose that if the freight rate had been lower in 1932, many of the 8,663,000 melons would have gone to market. In 1933, to be sure, only 1,354,000 melons went unharvested, and prices were somewhat improved; but the total production was only 49,983,000 melons.

Watermelons: Production and tonnage originated, 1928 - 1933

Calendar year	Production 1/		Production 2/		Originated	
	1,000 melons	Percent of 1929	1,000 melons	Percent of 1929	Short tons	Percent of 1929
1928	64,088	92	64,088	91	540,482	95
1929	69,997	100	70,056	100	570,485	100
1930	82,380	118	76,724	110	637,967	112
1931	75,509	108	72,384	103	567,819	100
1932	60,623	87	51,960	74	356,902	59
1933	49,983	71	48,529	69	314,151	55

1/ Total.
2/ Excluding quantities not harvested on account of market conditions.

130. Potatoes, other than sweet

Production of potatoes since 1929 has been almost as great as or greater than in that year. Railway tonnage, however, has declined.

The railroads received 45 percent of the crop in 1929, but only 36 percent in 1933. If they had received 45 percent of the 1933 crop in that year, their tonnage of potatoes would have been 25 percent greater than it was.

In the prosperous year 1928, the railroads received only 35 percent of the crop. But the crop that year was very large, and prices of potatoes very low. These conditions probably forced a larger part of the crop into non-railroad outlets. In 1933, the crop was smaller than in 1929; nevertheless the farm price was lower, and the railway share almost as small as in 1928.

Potatoes: Production and tonnage originated, 1928-1933

Calendar year	Production		Originated			
	1,000 bushels	Percent of 1929	Short tons 1/	Short tons	Percent of 1929	Percent of production
1928	425,626	130	12,768,780	4,511,075	102	35
1929	327,652	100	9,829,560	4,425,071	100	45
1930	332,693	102	9,980,790	4,331,899	98	43
1931	372,994	114	11,189,820	4,114,095	93	37
1932	358,009	109	10,740,270	3,418,285	77	32
1933	320,353	98	9,514,290	3,466,467	78	36

1/ Based on a weight of 60 pounds per bushel.

140. Cabbage

Production of cabbage has declined substantially during the depression, but railway traffic has declined considerably more. As late as 1930 the railroads hauled roughly 60 percent of the crop. In 1933, however, they hauled only 47 percent. Cabbage is grown rather widely throughout the country, and home consumption may account for an important part of this divergence.

Cabbage: Production used on or leaving farms, and tonnage originated, 1928-1933

Calendar year	Used on or leaving farms 1/		Originated	
	Short tons	Percent of 1929	Short tons	Percent of 1929
1928	948,280	105	519,307	97
1929	903,250	100	533,656	100
1930	801,970	89	478,389	90
1931	880,720	98	487,391	91
1932	814,300	90	353,910	66
1933	677,780	75	315,730	59

1/ Production minus increases or plus decreases in January 1 stocks of late Danish type cabbage. Production for market, as distinguished from production for sauerkraut.

141. Onions

In 1930 and 1931 tonnage increased relatively to production. In 1932 and 1933, however, tonnage was lower relatively to production than in 1929. Market conditions prevented the harvesting of 145,000 bushels in 1929, 75,000 bushels in 1930, 726,000 bushels in 1931 and 1,062,000 bushels in 1932. These figures, however, account for only a small part of the divergence. Onions are grown in specialized areas and are not a staple article of diet; hence there cannot have been a large increase in farm consumption. Neither are they processed at origin. The major part of the divergence, therefore, must be due to motor trucking.

Onions: Production and tonnage originated, 1928-1933

Calendar year	Production		Originated	
	1,000 bushels	Percent of 1929	Short tons	Percent of 1929
1928	20,591	82	515,835	99
1929	25,209	100	521,300	100
1930	26,038	103	547,839	105
1931	19,163	76	470,385	90
1932	27,906	111	380,510	73
1933	20,802	83	378,330	73

142. Tomatoes, fresh

Tomatoes are grown primarily for canning in some areas and primarily for market in others. The Department of Agriculture makes separate estimates of the production for manufacture and that for market. The latter is more properly comparable with the railway tonnage figures, which refer to fresh tomatoes.

Production for market remained fairly constant from 1928 to 1933. Nevertheless there was a marked decline in railway traffic after 1930. Abandonments do not and home consumption cannot account for much of the decline. Motor trucking must therefore be the principal explanation.

Production in 1933 was 92 percent of 1929. If the railroads had handled 92 percent as much tomatoes as they did in 1929, their traffic in 1933 would have been 46 percent greater than it actually was.

Tomatoes (for market): Production and tonnage originated, 1928-1933

Calendar year	Production 1/		Originated	
	1,000 pounds	Percent of 1929	Short tons	Percent of 1929
1928	866,000	92	349,438	96
1929	939,200	100	364,732	100
1930	939,800	100	376,386	103
1931	936,700	100	281,985	77
1932	988,000	105	245,192	67
1933	867,800	92	230,240	63

1/ Includes some quantities not harvested on account of market conditions: 4,200,000 pounds in 1930; 9,400,000 pounds in 1931; 7,100,000 pounds in 1932; 7,500,000 pounds in 1933.

161. Peanuts

Sales of peanuts by farmers have followed practically the same course as production. The great divergence between production and tonnage is therefore accounted for practically entirely by truck or boat competition.

The amount of peanuts sold in 1933 was 93 percent of 1929. Tonnage was 62 percent of 1929. If it had been 93 percent, it would have been 50 percent greater than it actually was.

Peanuts: Production (nuts gathered), sales by farmers, and tonnage originated, 1928-1933

Year beginning July 1	Production		Sales		Originated	
	1,000 pounds	Percent of 1929	1,000 pounds	Percent of 1929	Short tons	Percent of 1929
1928	855,096	89	722,396	88	372,640	112
1929	956,448	100	823,039	100	332,833	100
1930	747,085	78	623,140	76	244,037	73
1931	1,097,930	115	943,765	115	261,236	78
1932	1,037,840	109	881,303	107	233,806	70
1933	920,505	96	765,347	93	206,736	62

163. Sugar Beets

Production figures for sugar beets represent production moved off the farm to beet factories. The divergence between the two series is therefore accounted for entirely by highway transportation. Sugar beets, unlike most farm products, are not shipped to central markets, but to nearby factories. The haul is short and therefore especially vulnerable to motor competition. It is probable that if figures were available for tonnage prior to 1928, the consistent divergence would be shown to have been in progress for some years. The rate of divergence was materially increased, however, in 1932 and 1933. In the latter year, only 60 percent of the sugar beets was transported by railroad, as compared with 73 percent in 1929.

Sugar beets: Production and tonnage originated, 1928-1933

Calendar year	Production		Originated		
	1,000 short tons	Percent of 1929	Short tons	Percent of 1929	Percent of production
1928	7,101	97	5,259,674	98	74
1929	7,315	100	5,348,188	100	73
1930	9,199	126	6,245,433	117	68
1931	7,903	108	5,572,749	104	71
1932	9,070	124	5,503,416	103	61
1933	11,030	151	6,641,114	124	60

180-181. Cattle and Calves

In the case of livestock, production may be taken to mean the total weight of livestock shipped from farm areas, plus the live weight of stock slaughtered on farms or locally.

Prior to 1929, railroad traffic in cattle and calves was gradually declining relatively to production. Since then, the divergence has greatly widened.

Part of the divergence since 1930 is accounted for by home consumption and the localization of slaughter. Local slaughter of cattle and calves increased 25 percent from 1929 to 1933, and farm slaughter increased 66 percent. Instead of sending their cattle to market and buying foodstuffs brought in from the outside, farmers were producing their own meat to a greater extent. Local slaughterhouses found themselves able to compete to a greater degree with central packers.

Despite the great increase in farm and local slaughter, however, they remained small relatively to live shipments. The decline in rail tonnage was therefore almost as large compared with total shipments as it was compared with total production. Motor transport, consequently, accounts for most of the divergence. This conclusion is confirmed by comparative statistics of receipts of livestock collected at 17 markets by the Department of Agriculture.

Cattle and calves: Production and tonnage originated, 1925-1933

Calendar year	Production 1/		Originated 2/	
	1,000 pounds	Percent of 1929	Short tons	Percent of 1929
1925	19,113,330	124	9,330,639	128
1926	18,415,520	120	9,240,726	126
1927	17,154,530	112	8,635,741	118
1928	16,060,612	104	7,976,314	109
1929	15,370,142	100	7,310,447	100
1930	15,328,033	100	6,784,479	93
1931	15,073,601	98	6,096,974	83
1932	14,616,240	95	4,896,012	67
1933	15,649,493	102	4,496,442	62

1/ Live shipments plus live weight of farm and local slaughter.
2/ "Cattle and calves, single-deck" plus "Calves, double-deck".

Cattle and calves: Shipments, local slaughter and farm slaughter, 1925-1933

Calendar year	Shipments		Local slaughter		Farm slaughter	
	1,000 pounds	Percent of 1929	1,000 pounds	Percent of 1929	1,000 pounds	Percent of 1929
1925	17,021,330	126	1,420,360	100	671,640	138
1926	16,579,780	123	1,240,935	87	594,805	122
1927	15,372,875	114	1,209,095	85	572,360	117
1928	14,150,867	105	1,397,320	98	512,425	105
1929	13,458,718	100	1,423,938	100	487,486	100
1930	13,400,413	100	1,428,443	100	499,177	102
1931	12,976,167	96	1,520,609	107	575,825	118
1932	12,153,484	90	1,715,310	120	747,454	153
1933	13,063,516	97	1,777,164	125	808,813	166

200-201. Hogs

In the case of hogs, as in that of cattle, production may be taken to mean the live weight of hogs shipped from farm areas plus that of hogs slaughtered locally or on farms.

Railway tonnage was declining relatively to production before 1929, but the rate of divergence has been much greater since then than before.

The divergence is accounted for in some degree by an increase in local slaughter and in farm slaughter. Total production was only 6 percent greater in 1933 than in 1929, but local slaughter was 33 percent greater and farm slaughter was 13 percent greater.

But while there has been a great increase in these methods of disposition, they still account for only a minor part of the supply. Total live shipments were 102 percent of 1929 in 1933. The greater part of the divergence is accounted for by motor trucking.

This conclusion accords with the Department statistics of market receipts.

Hogs: Production and tonnage originated, 1925-1933

Calendar year	Production 1/		Originated 2/	
	1,000 pounds	Percent of 1929	Short tons	Percent of 1929
1925	15,104,853	93	5,501,469	99
1926	14,481,042	89	5,271,751	95
1927	15,254,201	94	5,368,914	97
1928	16,743,096	103	5,870,844	106
1929	16,231,983	100	5,533,807	100
1930	15,323,638	94	4,902,384	89
1931	15,971,559	98	4,501,345	81
1932	15,952,229	98	3,884,510	70
1933	17,133,796	106	3,607,868	65

1/ Shipments plus local and farm slaughter.
2/ Single deck plus double deck.

Hogs: Shipments, local slaughter and farm slaughter, 1925-1933

Calendar year	Shipments		Local slaughter		Farm slaughter	
	1,000 pounds	Percent of 1929	1,000 pounds	Percent of 1929	1,000 pounds	Percent of 1929
1925	11,096,301	89	663,592	103	3,334,960	108
1926	10,570,577	85	666,030	103	3,244,435	104
1927	11,300,556	91	685,140	106	3,268,705	105
1928	12,891,552	103	662,517	103	3,189,027	102
1929	12,475,122	100	645,600	100	3,111,261	100
1930	11,733,350	94	642,220	99	2,948,068	95
1931	12,137,178	97	755,255	117	3,079,126	99
1932	11,642,246	93	820,510	123	3,489,473	112
1933	1/12,752,396	1/ 102	855,770	133	3,525,630	113

1/ Includes purchases for account of Agricultural Adjustment Administration.

221. Butterine and Margarine

Railway traffic in oleomargarine, unlike that in butter, has greatly declined relatively to production.

Oleomargarine: Production and tonnage originated, 1928-1933

Calendar year	Production 1/		Originated 2/	
	1,000 pounds	Percent of 1929	Short tons	Percent of 1929
1928	316,662	89	50,034	93
1929	356,248	100	53,598	100
1930	325,600	91	45,815	85
1931	229,927	65	24,540	46
1932	203,232	57	11,637	22
1933	3/ 248,000	70	14,026	26

1/ Includes all butter substitutes. Computed from reports of Bureau of Internal Revenue except as noted.
2/ "Butterine and margarine".
3/ Preliminary. Estimated from reports to Bureau of Agricultural Economics.

230. Poultry, live

A composite figure for production of all poultry is not available, but tonnage of poultry may be compared approximately with production of chickens.

Production of chickens for sale has increased slightly during the depression, although total production has declined slightly. Railway traffic in live poultry has declined considerably. The divergence may be accounted for in some degree by a shift in shipments from live to dressed poultry.

Poultry, live: Production 1/, sales 1/ by farmers, and tonnage originated 2/, 1928-1933

Calendar year	Production		Sales		Originated	
	1,000 chickens	Percent of 1929	1,000 chickens	Percent of 1929	Short tons	Percent of 1929
1928	571,294	92	372,723	99	160,249	118
1929	619,578	100	376,334	100	135,442	100
1930	596,694	96	383,886	102	135,656	100
1931	574,077	93	376,346	100	129,167	95
1932	601,280	97	371,692	99	106,402	79
1933	607,153	98	387,784	103	96,908	72

1/ Chickens only.
2/ All live poultry.

240. Eggs

More eggs have been consumed on the farms on which they were produced during the depression. Although total production was less in 1933 than in 1929, home consumption was 9 percent greater. Divergence between railway tonnage and production, however, may be accounted for in this way only to a limited extent. Competition of other means of transport accounts for most of the divergence. Railway traffic had been declining relatively to production and sales for a number of years prior to 1929. The rate of divergence, however, was sharply increased in 1932.

Eggs: Production, sales by farmers, home consumption and tonnage originated, 1925-1933

Calendar year	Laid 1/		Sales 1/		Home consumption 1/ 2/		Originated	
	Millions	Percent of 1929	Millions	Percent of 1929	Millions	Percent of 1929	Short tons	Percent of 1929
1925	27,910	86	19,437	84	7,257	93	590,907	101
1926	30,148	93	21,688	94	7,173	92	644,008	110
1927	31,761	98	22,370	97	8,047	104	651,217	111
1928	32,523	101	23,589	102	7,677	99	634,575	108
1929	32,276	100	23,165	100	7,766	100	587,515	100
1930	33,529	104	24,109	104	8,111	104	611,445	104
1931	34,442	107	24,530	106	8,654	111	581,883	99
1932	32,308	100	22,445	97	8,556	110	423,786	72
1933	31,813	99	22,004	95	8,484	109	422,398	72

1/ Chicken eggs.
2/ Not including eggs used for hatching.

251. Cheese

There has been a marked decline in railway cheese traffic although production remained practically constant from 1929 to 1932. In 1933 production increased substantially but railway tonnage increased only slightly.

Cheese: Quantity manufactured and tonnage originated, 1928-1933

Calendar year	Production		Originated	
	1,000 pounds	Percent of 1929	Short tons	Percent of 1929
1928	1/ 437,519	90	249,706	102
1929	483,933	100	244,842	100
1930	500,367	103	230,685	94
1931	492,379	102	194,602	79
1932	484,103	100	171,243	70
1933	543,735	112	174,960	71

1/ Production figure less complete in 1928 than in subsequent years.

COMMODITIES THE TONNAGE OF WHICH HAS NOT MATERIALLY DECLINED RELATIVELY TO THEIR PRODUCTION

50. Flour, wheat

There has been little divergence between production and tonnage of flour.

Flour, wheat: Production and tonnage originated, 1928-1933

Year beginning July 1	Production 1/		Originated	
	1,000 barrels	Percent of 1929	Short tons	Percent of 1929
1928	123,943	101	9,879,882	101
1929	122,870	100	9,815,794	100
1930	119,491	97	9,579,867	98
1931	116,740	95	9,049,759	92
1932	115,643	94	8,930,237	91
1933	107,139	87	8,011,728	82

1/ Total production of merchant and custom mills as estimated by Bureau of Agricultural Economics.

162. Flaxseed

There has been practically no divergence between production and railway tonnage of flaxseed.

Flaxseed: Production and tonnage originated, 1928-1933

Year beginning July 1	Production		Originated	
	1,000 bushels	Percent of 1929	Short tons	Percent of 1929
1928	19,140	120	510,261	120
1929	15,910	100	423,492	100
1930	21,287	134	579,149	137
1931	11,798	74	315,497	74
1932	11,671	73	300,013	71
1933	6,785	43	179,728	42

231. Poultry, dressed

Sales of chickens have increased somewhat, although production has declined. Shipments of dressed poultry have followed about the same course as sales of chickens. Shipments of live poultry, however, have declined considerably.

Poultry: Production 1/, sales 1/ by farmers, and dressed tonnage originated, 1928-1933

Calendar year	Production		Sales		Originated 2/	
	1,000 chickens	Percent of 1929	1,000 chickens	Percent of 1929	Short tons	Percent of 1929
1928	571,294	92	372,723	99	246,401	87
1929	619,578	100	376,334	100	282,014	100
1930	596,694	96	383,886	102	283,351	100
1931	574,077	93	376,346	100	286,529	102
1932	601,280	97	371,692	99	276,009	98
1933	607,153	98	387,784	103	305,484	108

1/ Chickens only.
2/ All dressed poultry.

250. Butter

There has been no marked divergence between commercial production of butter and railroad shipments.

Butter: Production and tonnage originated, 1928-1933

Calendar year	Production		Originated	
	1,000 pounds 1/	Percent of 1929	Short tons	Percent of 1929
1928	2/1,487,049	93	504,388	92
1929	1,597,027	100	547,917	100
1930	1,595,231	100	576,577	105
1931	1,667,452	104	573,692	105
1932	1,694,132	106	563,827	103
1933	1,762,688	110	581,008	106

1/ Reported by factories to Department of Agriculture.
2/ Figure for 1928 not as complete as in subsequent years.

AGGREGATE AGRICULTURAL PRODUCTION COMPARED WITH AGGREGATE RAILWAY TRAFFIC IN FARM PRODUCTS

A composite picture of divergence between production and traffic may be arrived at from the foregoing data. A measure of the total production of the 24 products of agriculture studied, as compared with 1929, has been established for each year. The percentage of each commodity produced, as compared with 1929, was multiplied by the tonnage originated in 1929. The products for all commodities were added together and divided by the total tonnage originated. A similar calculation was made for the 8 animals and products and for all 32 commodities. The aggregate actual tonnage originated was then expressed as a percentage of 1929. The results are summarized below.

32 farm products: Production and tonnage originated compared with 1929

Year	24 products of agriculture		8 animals and products		32 farm products	
	Production	Tonnage	Production	Tonnage	Production	Tonnage
	Percent of 1929	Percent of 1929	Percent of 1929	Percent of 1929	Percent of 1929	Percent of 1929
1928	107	107	102	107	106	107
1929	100	100	100	100	100	100
1930	106	98	98	92	104	97
1931	103	82	98	84	103	82
1932	100	75	97	70	100	74
1933	87	70	104	66	90	70

The table shows that the actual tonnage of 31 farm products was only 70 percent of 1929 in 1933, whereas if the tonnage of each had changed in proportion to production, the total tonnage would have been 90 percent of 1929.

Details of the computations are shown in the following tables, the data in which have been assembled from the tables previously shown in the discussions of individual commodities.

24 products of agriculture: Production as compared with 1929

Number	Commodity class	Tonnage originated 1929 1/	Production as percentage of 1929					
			1928	1929	1930	1931	1932	1933
		1,000 short tons	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
10	Wheat	25,644	110	100	119	110	93	71
20	Corn	14,830	101	100	81	92	109	96
30	Oats	5,693	109	100	109	100	103	71
40	Barley and rye	3,194	116	100	111	73	109	56
41	Rice	927	107	100	111	111	100	88
50	Wheat flour	9,816	101	100	97	95	94	87
70	Hay and alfalfa	3,086	96	100	85	84	94	85
80	Tobacco, leaf	1,031	89	100	107	103	67	90
90	Cotton	3,325	98	100	94	115	88	88
91	Cotton linters	405	88	100	87	75	80	86
100	Cottonseed	2,779	98	100	94	115	88	89
101	Cottonseed meal, cake and hulls	2,404	96	100	103	94	97	95
110	Oranges & grapefruit	1,517	154	100	170	149	151	138
120	Apples	1,695	133	100	115	152	106	107
124	Grapes	921	128	100	121	78	104	92
125	Peaches	387	125	100	68	169	63	73
126	Watermelons	570	92	100	118	108	87	71
130	Potatoes, white	4,425	130	100	102	114	109	98
140	Cabbage	534	105	100	89	98	90	75
141	Onions	521	82	100	103	76	111	83
142	Tomatoes	365	92	100	100	100	105	92
161	Peanuts	333	89	100	78	115	109	96
162	Flaxseed	423	120	100	134	74	73	43
163	Sugar beets	5,348	97	100	126	108	124	151
	24 products 2/ ..	90,173	107	100	106	103	100	87

1/ Year beginning January 1, July 1, or October 1, as indicated in individual commodity tables.
2/ Percentages are averages weighted by tonnage originated in 1929.

Eight animals and products: Production as compared with 1929

Number	Commodity class	Tonnage originated 1929 1/	Production as a percentage of 1929					
			1928	1929	1930	1931	1932	1933
		1,000 tons	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
180-181	Cattle and calves	7,310	104	100	100	98	95	102
200-201	Hogs	5,534	103	100	94	98	98	106
221	Oleomargarine	54	89	100	91	65	57	70
230	Chickens (live)	135	92	100	96	93	97	98
231	Chickens (dressed)	282	92	100	96	93	97	98
240	Eggs	588	101	100	104	107	100	99
250	Butter	548	93	100	100	104	106	110
251	Cheese	245	90	100	103	102	100	112
	Eight animals and products 2/	14,696	102	100	98	98	97	104

1/ Calendar year.
2/ Percentages are averages weighted by tonnage originated in 1929.

24 products of agriculture: Tonnage originated, 1928-1933

No.	Commodity class	Tonnage originated 1/					
		1928	1929	1930	1931	1932	1933
		Short tons	Short tons	Short tons	Short tons	Short tons	Short tons
10	Wheat	27,945,283	25,643,929	27,866,621	23,867,895	19,200,275	15,568,509
20	Corn	15,949,371	14,829,595	11,873,258	9,465,929	10,416,883	11,357,945
30	Oats	5,702,701	5,693,390	4,803,633	3,365,641	3,564,696	2,917,079
40	Barley & rye	4,291,379	3,194,196	3,004,418	1,586,288	2,056,767	2,278,089
41	Rice	1,035,800	926,978	878,130	693,478	632,340	583,262
50	Wheat flour	9,879,882	9,815,794	9,579,867	9,049,759	8,930,237	8,090,795
70	Hay and alfalfa	3,309,381	3,085,689	2,902,910	1,883,850	1,427,516	1,199,895
80	Tobacco, leaf	971,769	1,031,263	956,307	767,816	578,423	732,476
90	Cotton	3,544,131	3,324,520	2,493,752	2,310,249	2,727,418	2,938,500
91	Cotton linters	348,660	405,077	317,996	272,189	246,400	315,809
100	Cottonseed	2,796,486	2,778,734	2,239,594	1,896,195	1,489,043	1,146,451
101	Cottonseed meal, cake & hulls	2,275,922	2,404,117	2,464,829	1,864,295	1,452,313	1,269,007
110	Oranges and grapefruit	2,132,421	1,517,382	2,177,941	1,847,566	1,649,923	1,597,647
120	Apples	1,903,442	1,695,075	1,736,166	1,576,061	1,389,951	1,104,225
124	Grapes	1,138,493	921,429	887,375	597,624	600,413	413,610
125	Peaches	614,058	387,210	457,592	501,099	244,282	330,642
126	Watermelons	540,482	570,485	637,967	567,819	336,902	314,151
130	Potatoes, white	4,511,075	4,425,071	4,331,899	4,114,095	3,418,285	3,466,467
140	Cabbage	519,307	533,656	478,389	487,391	353,910	315,730
141	Onions	515,835	521,300	547,839	470,385	380,510	378,330
142	Tomatoes	349,438	364,732	376,386	281,985	245,192	230,240
161	Peanuts	372,640	332,833	244,037	261,236	233,806	206,736
162	Flaxseed	510,261	423,492	579,149	315,497	300,013	169,507
163	Sugar beets	5,259,674	5,348,188	6,245,433	5,572,749	5,503,416	6,641,114
	Total	96,417,891	90,174,135	88,081,488	73,617,091	67,378,914	63,566,216
		Percent	Percent	Percent	Percent	Percent	Percent
	Total, percent of 1929	107	100	98	82	75	70

1/ Year beginning January 1, July 1 or October 1 as indicated in individual commodity tables.

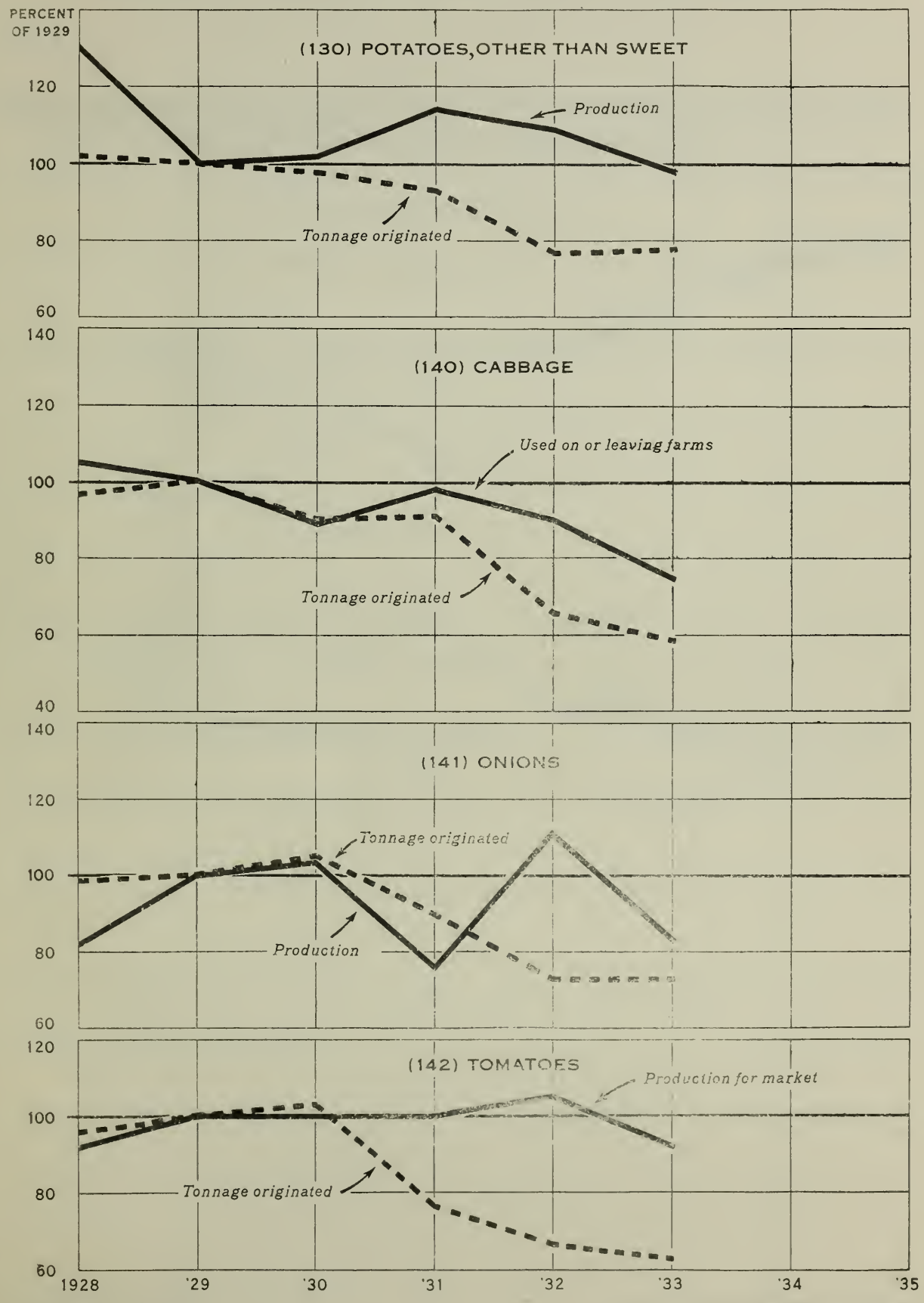
Eight animals and products: Tonnage originated, 1928 - 1933

Number	Commodity class	Tonnage originated, calendar years					
		1928	1929	1930	1931	1932	1933
		Short tons	Short tons	Short tons	Short tons	Short tons	Short tons
180-181	Cattle and calves	7,976,314	7,310,447	6,784,479	6,096,974	4,896,012	4,496,442
200-201	Hogs	5,870,844	5,533,807	4,902,384	4,501,345	3,884,510	3,607,868
221 ...	Oleomargarine	50,034	53,598	45,815	24,540	11,637	14,026
230 ...	Poultry (live)	160,249	135,442	135,656	129,167	106,402	96,908
231 ...	Poultry (dressed)	246,401	282,014	283,351	286,529	276,009	305,484
240 ...	Eggs	634,575	587,515	611,445	581,883	423,786	422,398
250 ...	Butter	504,388	547,917	576,577	573,692	563,827	581,008
251 ...	Cheese	249,706	244,842	230,685	194,602	171,243	174,960
	Total	15,692,511	14,695,582	13,570,392	12,388,732	10,333,426	9,699,094
		Percent	Percent	Percent	Percent	Percent	Percent
	Total, percentage of 1929	107	100	92	84	70	66

Commodities omitted from study

Number	Commodity class	Tonnage originated, calendar year 1929
		Short tons
	Group I. Products of Agriculture	
42	Grain, N.O.S.	113,544
51	Meal, corn	284,686
52	Flour and meal, edible, N.O.S.	585,719
60	Cereal food preparations, edible, N.O.S.	779,098
61	Mill products, N.O.S.	10,041,358
71	Straw	611,718
111	Lemons, limes and citrus fruits, N.O.S.	212,297
121	Bananas	989,317
122	Berries, fresh	91,548
123	Cantaloupes and melons, N.O.S.	430,583
127	Fruits, fresh, domestic, N.O.S.	545,026
128	Fruits, fresh, tropical, N.O.S.	59,133
143	Vegetables, fresh, N.O.S.	1,802,176
150	Beans and peas, dried	656,816
151	Fruits, dried or evaporated	610,383
152	Vegetables, dry, N.O.S.	341,477
160	Vegetable-oil cake and meal, except cottonseed	480,393
164	Products of agriculture, N.O.S	3,849,709
	Total omitted	22,484,981
	Total included	92,858,304
	Grand total	115,343,285
	Group II. Animals and products	
170	Horses, mules, ponies and asses	553,284
190	Sheep and goats, single-deck	281,962
191	Sheep and goats, double-deck	1,104,556
210	Fresh meats, N.O.S.	3,007,017
220	Meats, cured, dried or smoked	807,368
222	Packing-house products, edible, N.O.S., not including canned meats	1,413,508
260	Wool	413,750
270	Hides, green	712,753
271	Leather	200,122
280	Fish or sea-animal oil	94,869
281	Animals, live, N.O.S.	28,542
282	Animal products, N.O.S. (other than fertilizers and fertilizer materials)	1,593,206
	Total omitted	10,210,937
	Total included	14,695,582
	Grand total	24,906,519
	Groups I and II	
	Total omitted	32,695,918
	Total included	107,553,886
	Grand total	140,249,804

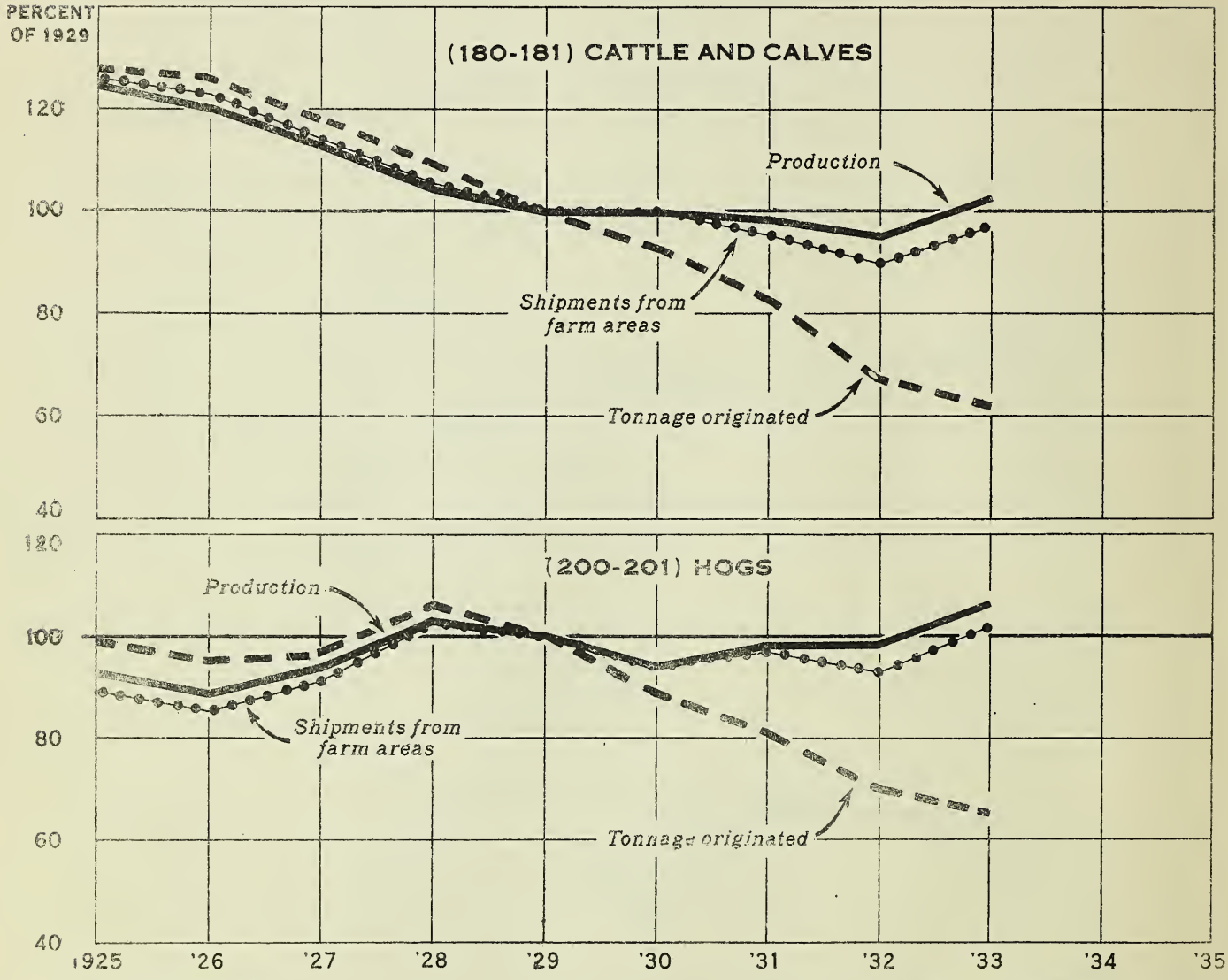
PRODUCTION, AMOUNT USED ON OR LEAVING FARMS, AND TONNAGE ORIGINATED, VEGETABLES, 1928 TO DATE



U. S. DEPARTMENT OF AGRICULTURE

NEG 2816.7 BUREAU OF AGRICULTURAL ECONOMICS

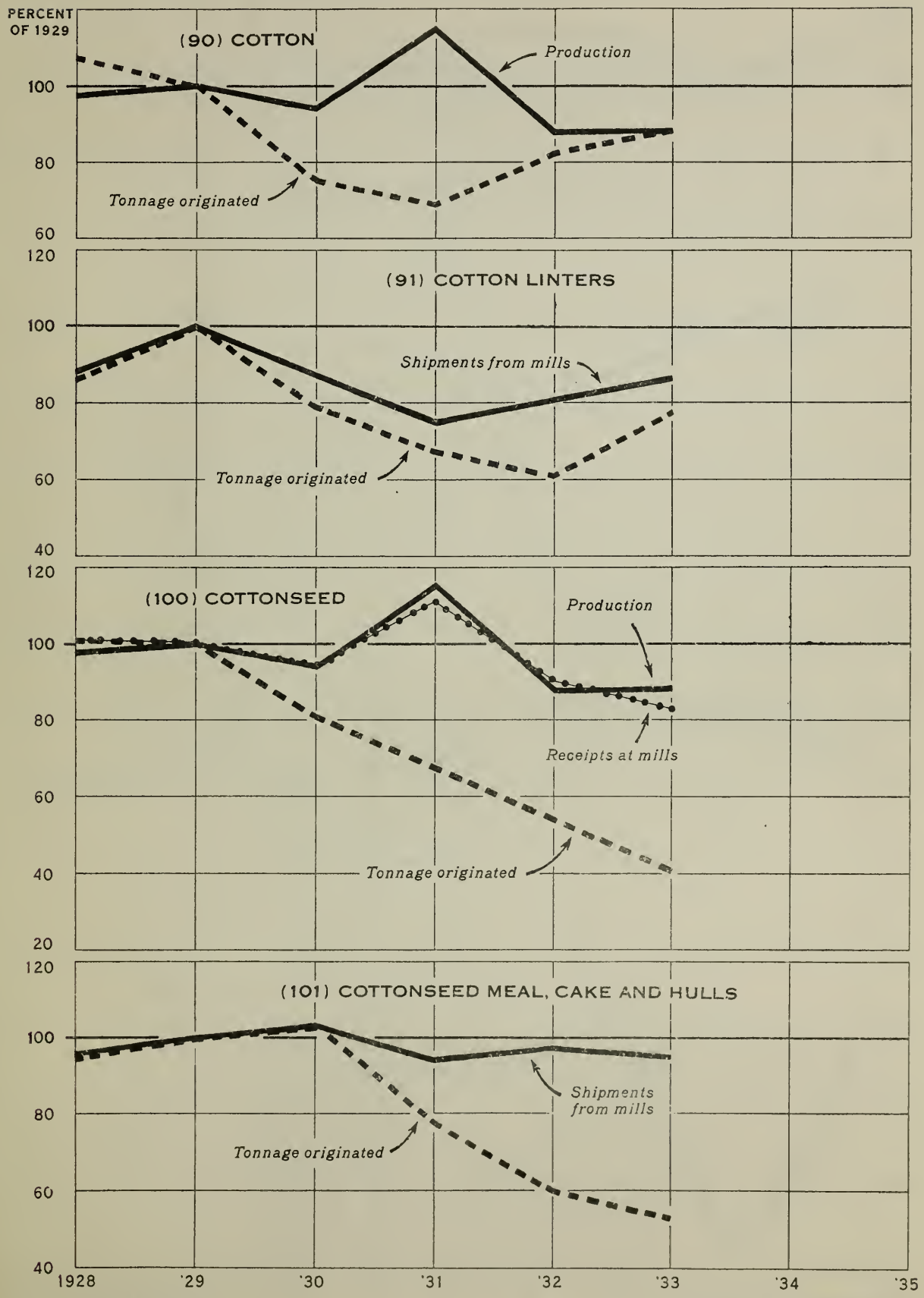
PRODUCTION, SHIPMENTS, AND TONNAGE ORIGINATED, CATTLE AND CALVES, AND HOGS, 1925 TO DATE



U. S. DEPARTMENT OF AGRICULTURE

NEG. 28165 BUREAU OF AGRICULTURAL ECONOMICS

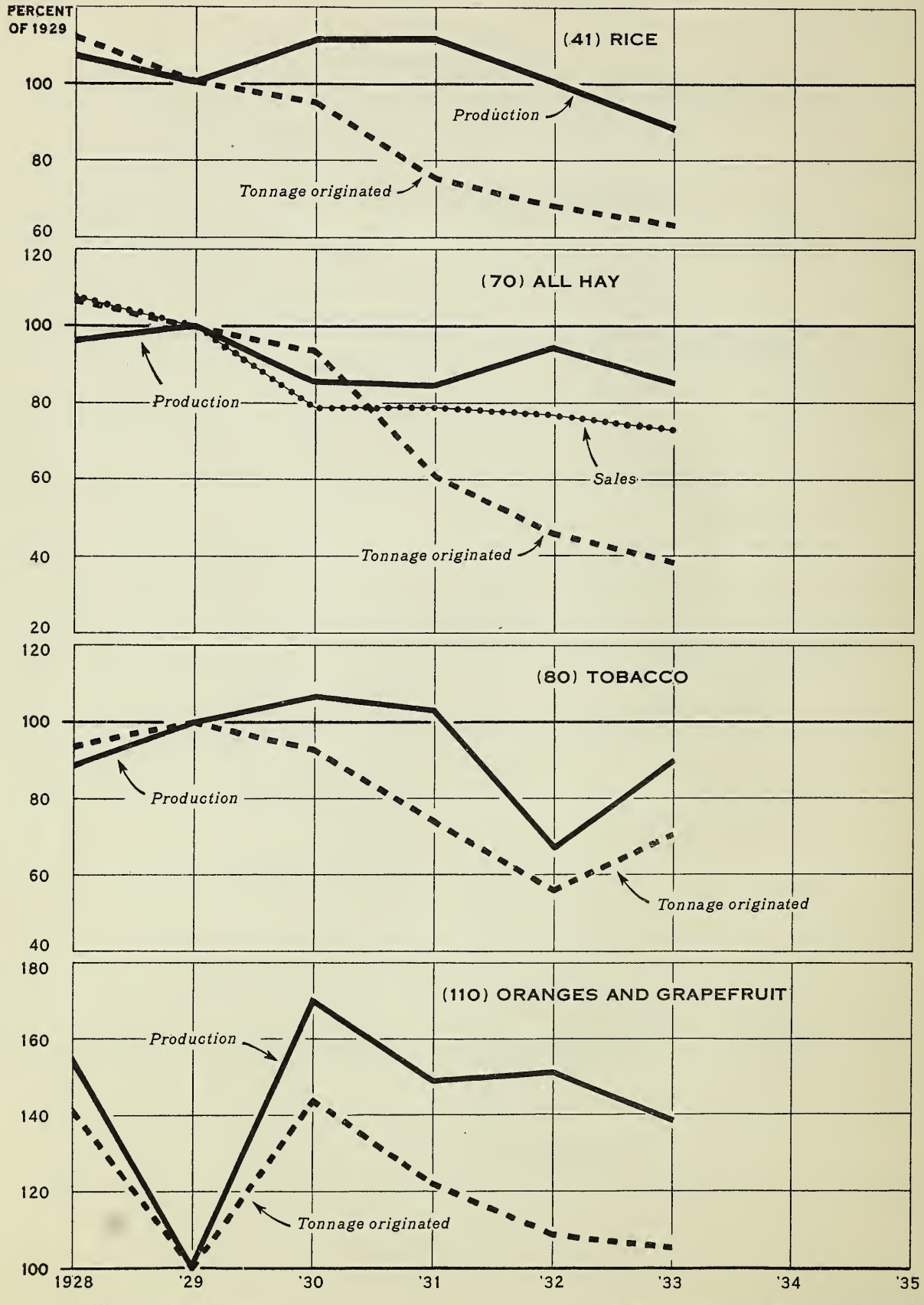
PRODUCTION, RECEIPTS, SHIPMENTS, AND TONNAGE ORIGINATED, COTTON, COTTONSEED, AND PRODUCTS, 1928 TO DATE



U. S. DEPARTMENT OF AGRICULTURE

NEG. 28168 BUREAU OF AGRICULTURAL ECONOMICS

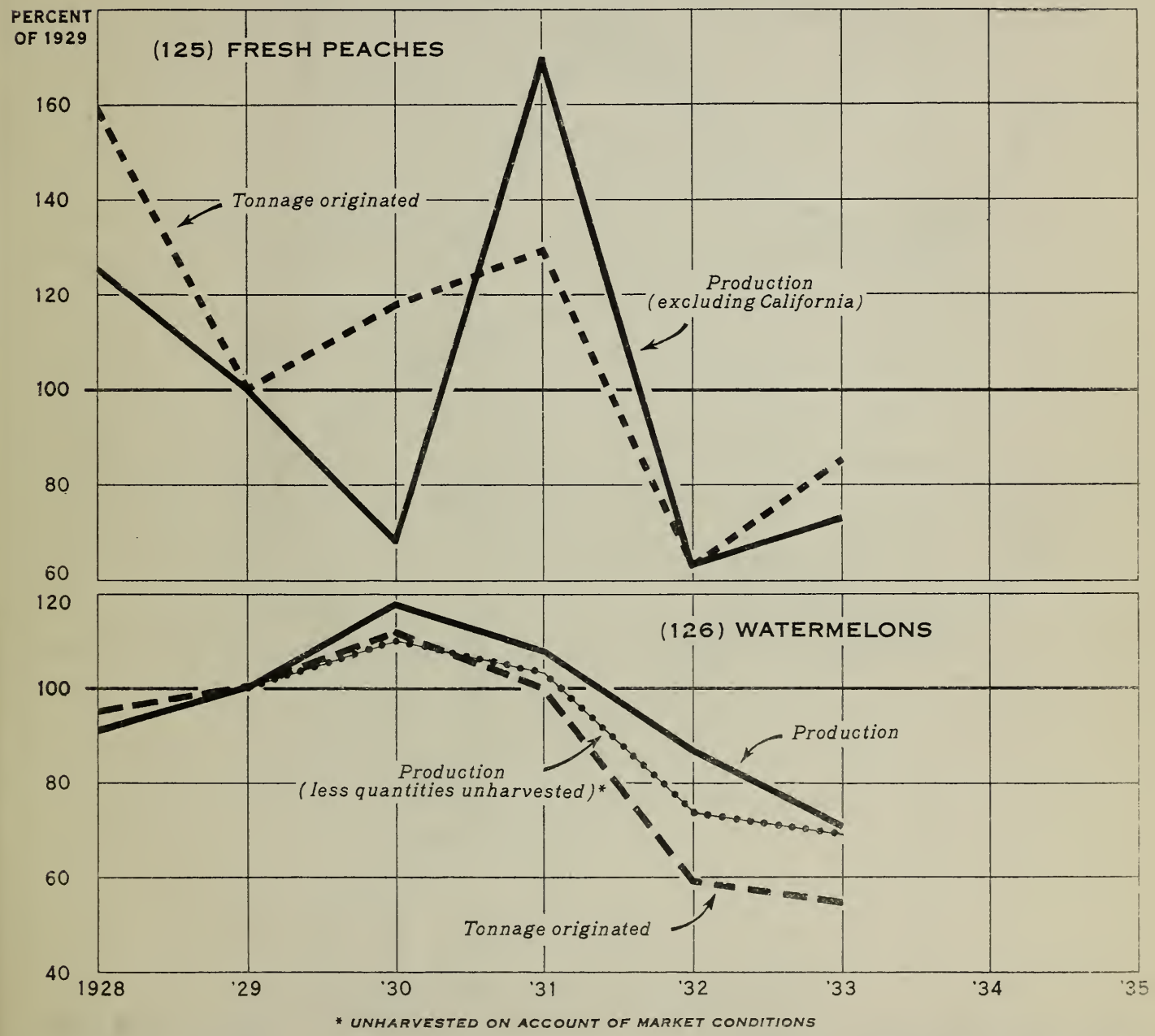
PRODUCTION, SALES, AND TONNAGE ORIGINATED, SPECIFIED COMMODITIES, 1928 TO DATE



U. S. DEPARTMENT OF AGRICULTURE

NEG. 28171 BUREAU OF AGRICULTURAL ECONOMICS

PRODUCTION AND TONNAGE ORIGINATED, PEACHES AND WATERMELONS, 1928 TO DATE

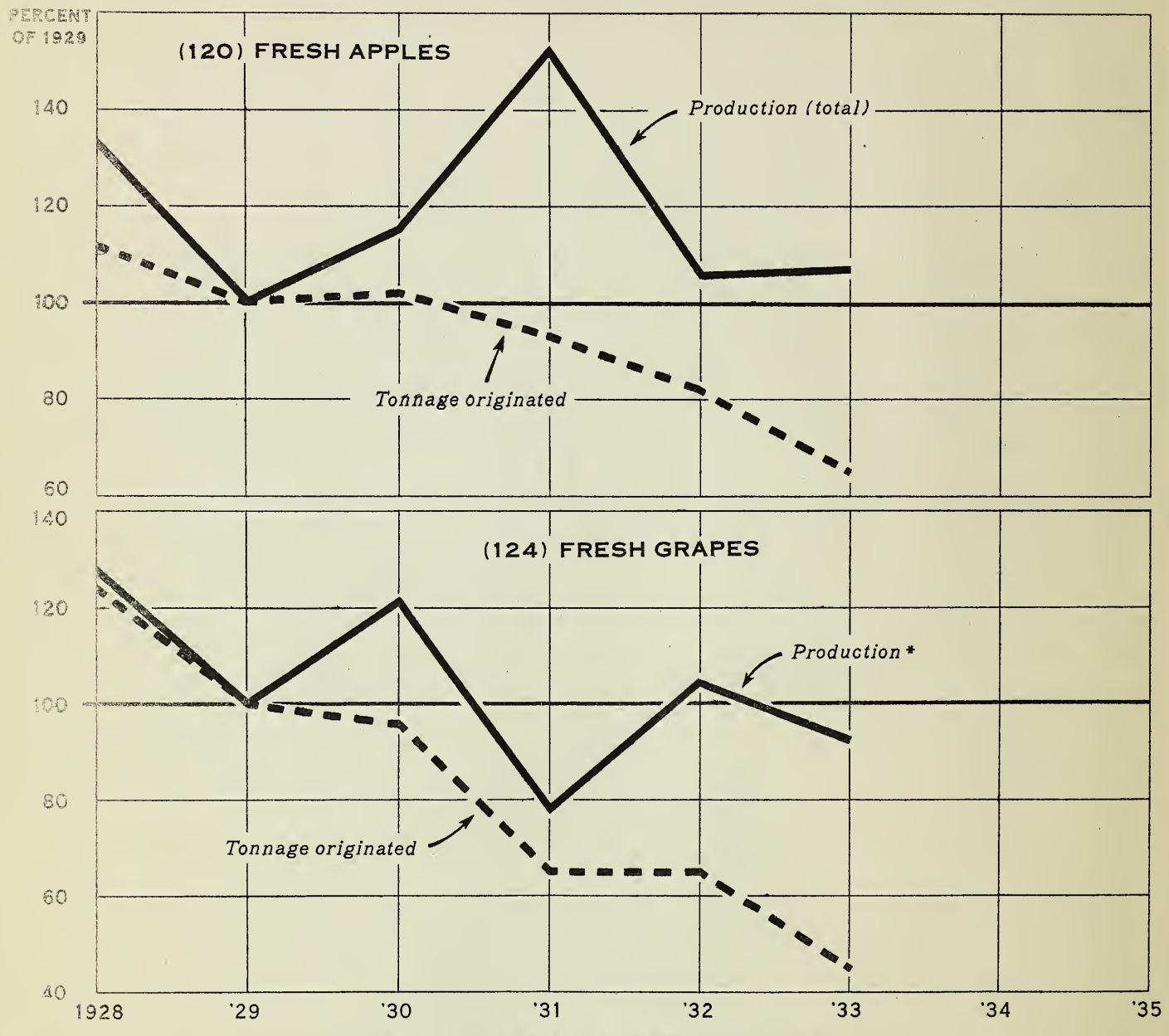


* UNHARVESTED ON ACCOUNT OF MARKET CONDITIONS

U. S. DEPARTMENT OF AGRICULTURE

NEG. 28172 BUREAU OF AGRICULTURAL ECONOMICS

PRODUCTION AND TONNAGE ORIGINATED, APPLES AND GRAPES, 1928 TO DATE



*DOES NOT INCLUDE RAISIN GRAPE PRODUCTION, DRIED

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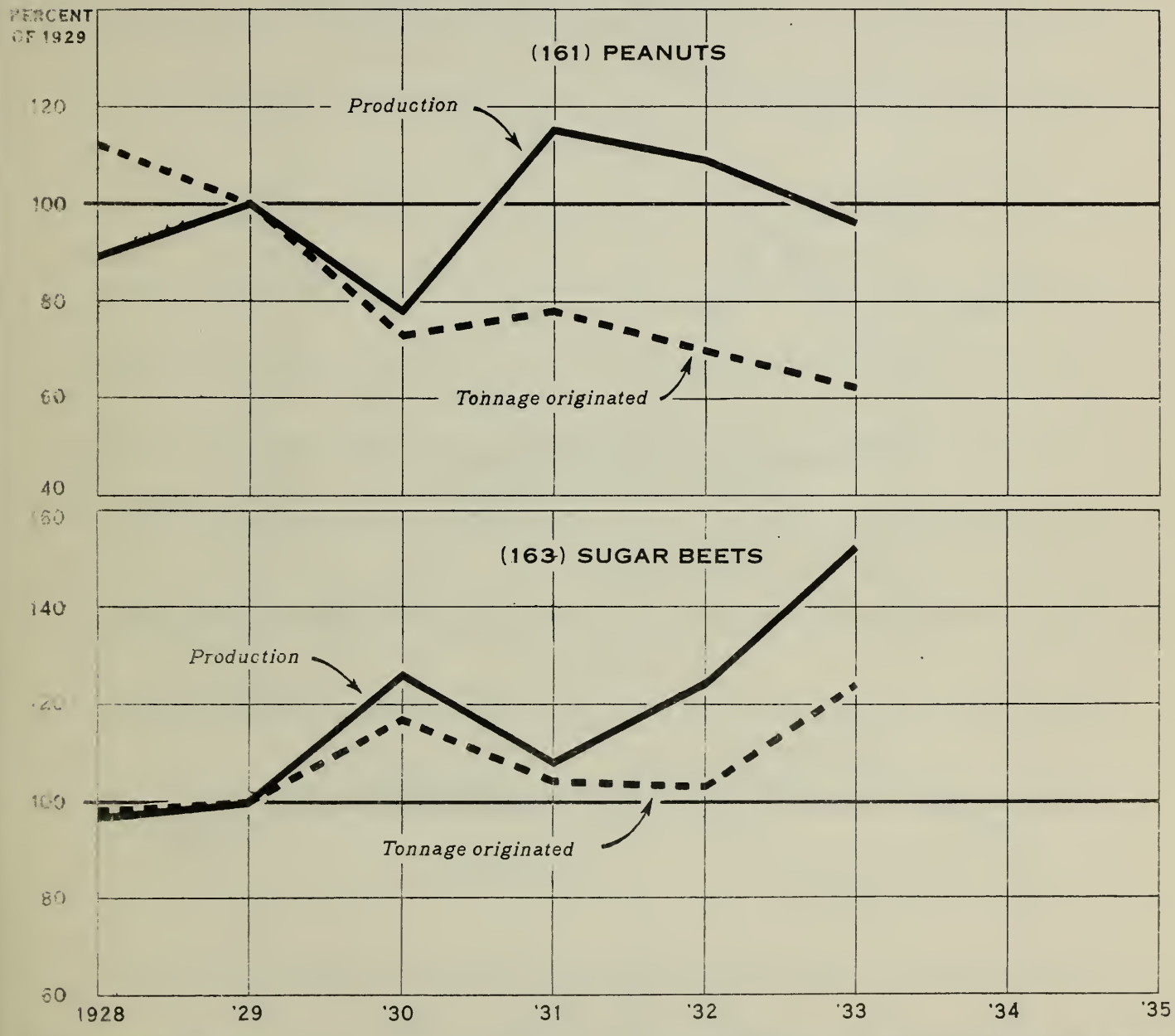
PRODUCTION AND TONNAGE ORIGINATED, PEANUTS AND SUGAR BEETS, 1928 TO DATE



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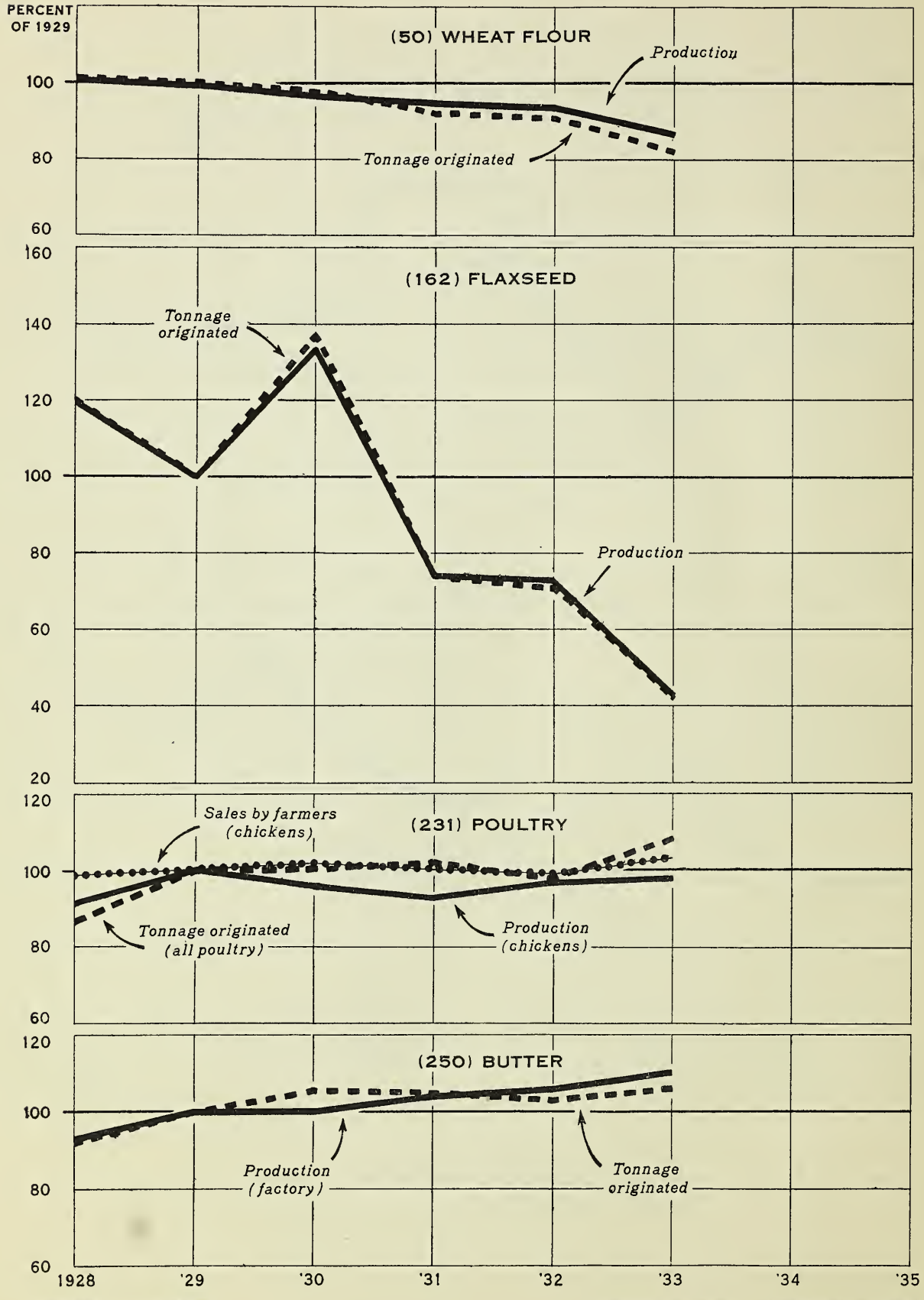
PRODUCTION, SALES, AND TONNAGE ORIGINATED, SELECTED COMMODITIES, 1928 TO DATE



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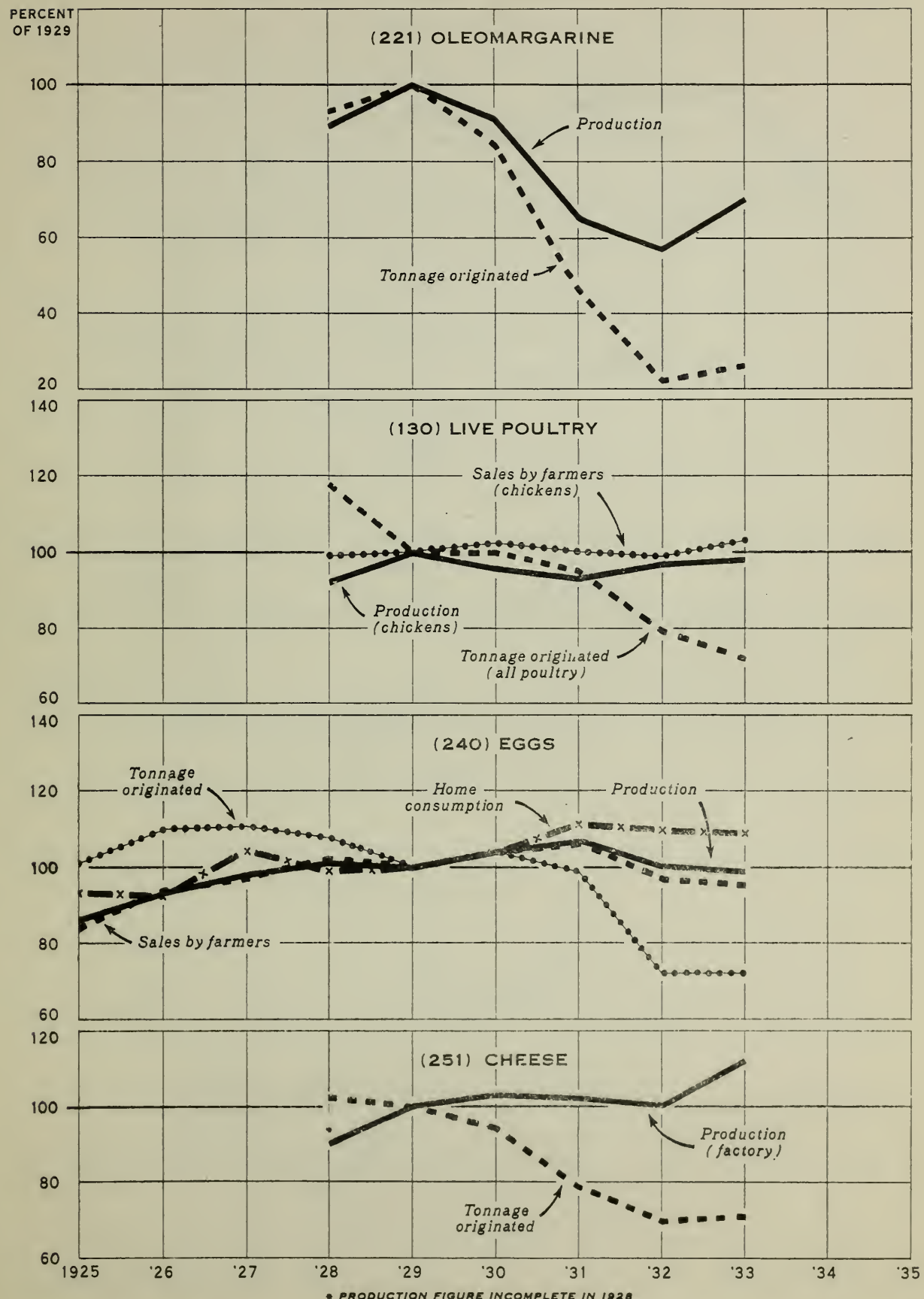
PRODUCTION, SALES, CONSUMPTION, AND TONNAGE ORIGINATED, SPECIFIED COMMODITIES, 1925 TO DATE



* PRODUCTION FIGURE INCOMPLETE IN 1928

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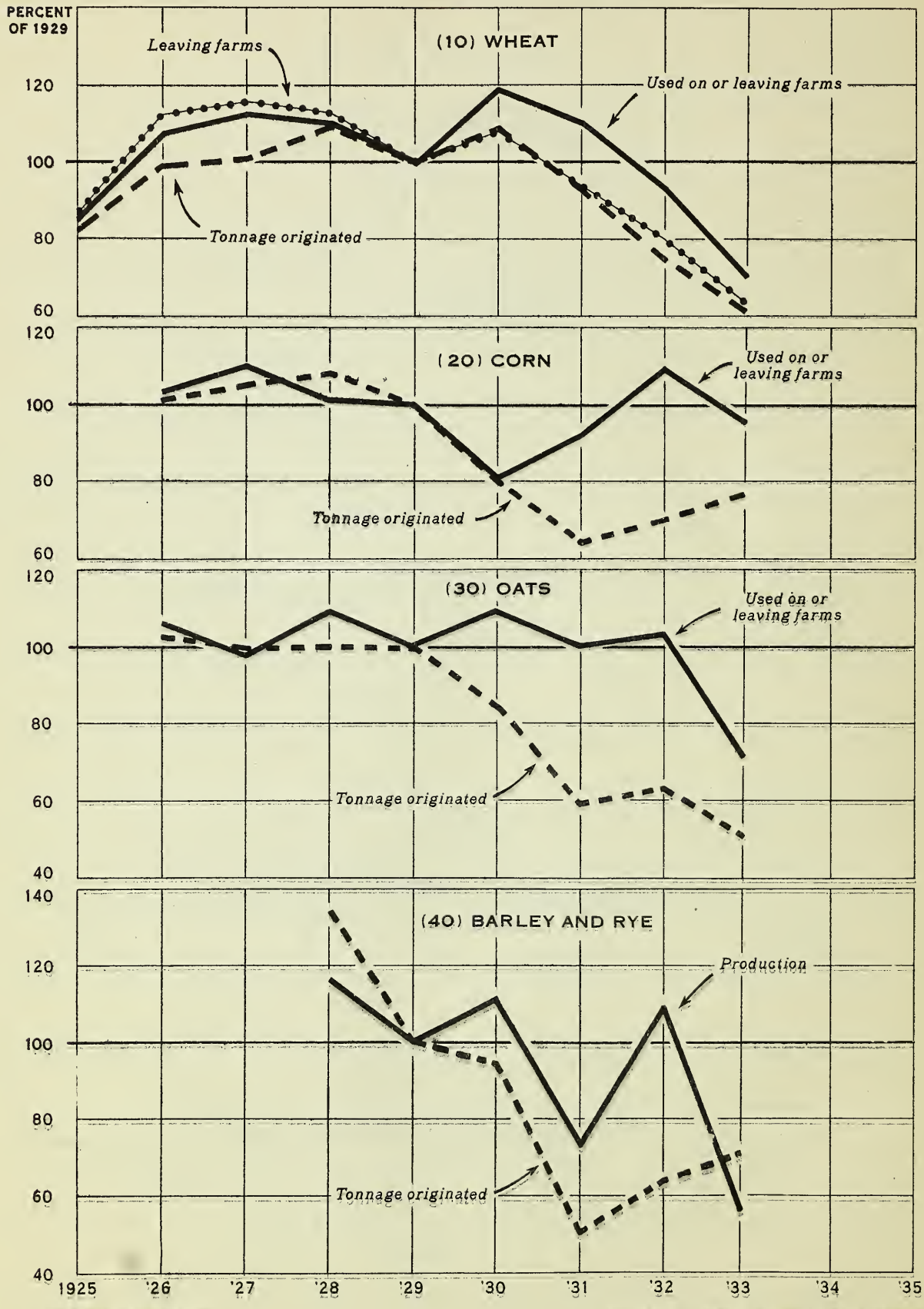
PRODUCTION, AMOUNT USED ON OR LEAVING FARMS, AND TONNAGE ORIGINATED, GRAINS, 1925 TO DATE



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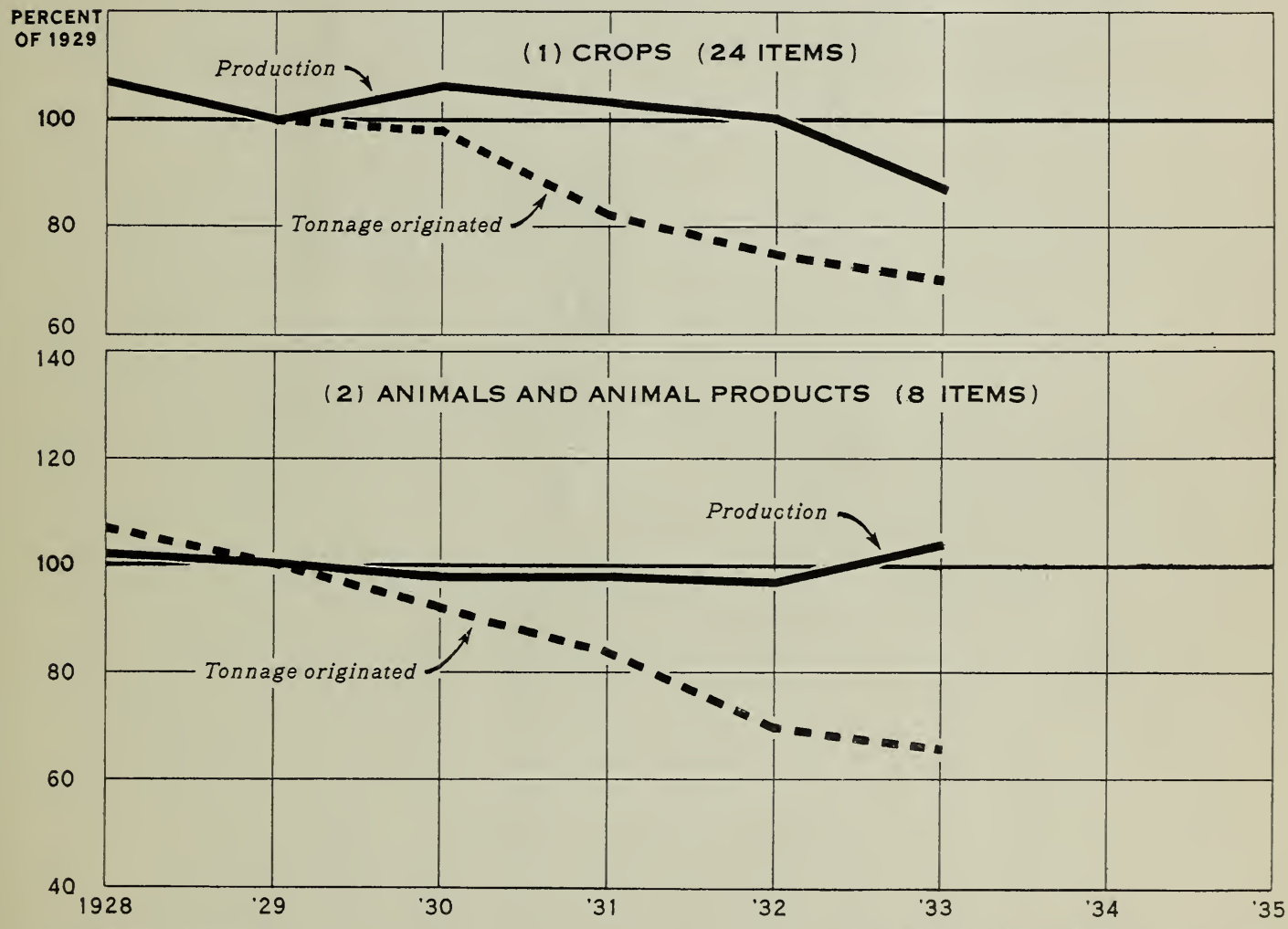
PRODUCTION AND TONNAGE ORIGINATED, CROPS AND ANIMALS AND ANIMAL PRODUCTS, 1928 TO DATE



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