AN ANALYSIS OF OREGON'S COMPETITIVE POSITION IN PRODUCING AND MARKETING TURKEYS

by

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AN ANALYSIS OF OREGON'S COMPETITIVE POSITION IN PRODUCING AND MARKETING TURKEYS

OBJECTIVES OF THESIS

The objectives of this study are:

First, to study the growth of the turkey industry in Oregon which has led to a production in excess of local consumption demands and must be marketed in out of the state areas.

Second, to study the efficient and inefficient aspects of the marketing machinery over which this surplus must be carried as it enters into competition with other turkey producing states.

Third, to review several of the more important problems that are facing the turkey producers, today, as a result of the rapid growth of the industry and which will have an important bearing on future production and marketing patterns.

Fourth, to consider several adjustments that might be made in an attempt to solve these problems and which will stabilize the turkey industry in Oregon and thus assure Oregon producers of a fair opportunity to share in the turkey market.

FINDINGS

1. There has been a tremendous growth of the turkey industry in Oregon. Expansion has been a result of certain biological developments in production and marketing enabling producers to produce at a profit. Production has become concentrated primarily in the Willamette Valley, the trend being towards fewer but larger flocks. In 1945, cash receipts from the sale of turkeys ranked third as a source of agricultural cash income to Oregon farmers.

2. Production patterns and consumption habits have restricted the marketing of turkeys to a relatively short season, however, improved marketing facilities and storing techniques recently have allowed growers greater freedom in planning to produce when it is most suitable for their productive plants with less regard for the seasonality of consumption.

3. There are several methods used by growers to market their turkeys; namely, selling them alive through independent middlemen, selling dressed birds through cooperative group action and marketing both dressed and live birds by the individual producers. Eighty per cent of the crop is handled through the independent middlemen. Oregon turkeys are marketed in all areas where United

States grown turkeys are consumed. Compared to other turkey producing states, Oregon is favorably situated for exporting to Canada, Alaska and Hawaii.

4. Local prices are based primarily upon New York market prices but there are a number of factors which modify this relationship. Regional price differentials are primarily a result of surplus or deficit conditions within the areas. Seasonal prices are caused by heavy seasonal demand influences. The price fluctuates from year to year according to the over-all supply and demand situation. Consumer income and price competition with other meats have a great influence on the demand for turkey. The size of bird has also become a factor in price as the general consumer demand is tending to favor a small bird.

5. There are several considerations in improving the efficiency of marketing. More extensive evisceration will improve the quality of the birds and will reduce the cost of marketing through the savings resulting from a reduction in weight of the birds handled. Better utilization of by-products will increase the return to the industry.

6. The industry is confronted with several problems which are of current interest in determining future production and marketing patterns. A war-expanded plant

must be reduced to provide for a normal peacetime demand or the wartime demand must be maintained to use the increased output. The production of the Broad Breasted Bronze is being challenged by an increasing demand for a smaller type bird. The seasonality of consumption is a limiting factor in increasing total consumption of turkey. Oregon producers are facing severe competition from other areas. In a comparison of costs of production, the Midwestern producers appear to have the advantages over Oregon producers, according to the available evidence. Oregon is further handicapped by its great distance from the major consuming areas but its producers are fortunate in being able to produce and market a quality bird which usually commands a premium on eastern markets. It appears that more rigid grading requirements is the factor causing Oregon birds to bring premium prices for their higher quality in the terminal markets.

7. Marketing patterns are influenced by production and consumption. Several adjustments in these patterns may be necessary. If competition in the eastern markets becomes too severe, Oregon producers will find a market for a considerable amount of their production in west coast and adjacent export markets. From the available evidence, the Broad Breasted Bronze appears to be the most

efficient utilizer of feed and produces more edible meat than the smaller varieties. But the question is which is the more economical to produce. There are two distinct classes of demand which must be considered in determining what type bird to raise in order to meet these demands. The demand of the home which is the greater of the two and the restaurant demand. The homemaker desires a small bird and the restaurant trade wants a considerably larger bird.

8. There are several methods of widening the market demand for turkeys which may result in an increased consumption. Consumer education and publicity for the virtues of the product may increase year-around consumption. Utilizing special processes will reduce the purchase unit through cut-up birds and will offer the homemaker a greater variety from which to choose. This may tend to break down the custom of eating turkey only as a roast. A reduction of turkey production costs will enable turkeys to be placed on the market at a price comparable to that of other meats. Consumers may be encouraged to substitute turkey for some of the more conventional classes of meats.

CONCLUSIONS

The growth of the turkey industry in Oregon has been a natural phenomenon resulting from a set of conditions which have made it profitable for turkeys to be produced at a profit.

There are a number of factors which are responsible for this growth:

1) A favorable climate - which reduces the expense of shelter for both breeding stock and growing stock, and enables producers to produce a higher quality bird.

2) Broad Breasted Bronze - Oregon producers pioneered this variety and their reputation has become widespread. This publicity has attracted markets for poults and eggs as well as making it possible for a very uniform pack of the market birds which commands a premium. Few areas have as high a percentage of one variety of turkeys as is grown in Oregon. This may be a disadvantage if consumer resistance to the large type bird continues to be reflected in the form of lower prices.

3) Modern commercial methods - Oregon has not been restricted by out-of-date methods of production and processing as have some areas because of a more recent expansion of the turkey industry in the state. Turkey production in Oregon is carried on primarily, by large

producers, making for efficiencies in costs of production.

4) Feed supply - Western Oregon is a deficit feed producing area but does raise a large part of what it uses and surplus supplies are not too far distant. Green ranges are plentiful and make for a great saving in total feed costs.

Oregon producers have combined these natural advantages with modern up-to-date and efficient methods of production and marketing. These facts, coupled with the fact that the poult and egg industry offers a dual source of income, have enabled Oregon producers to compete in Eastern markets even though far removed from these areas of greatest consumption.

The great distance from primary markets is Oregon's greatest handicap. However, this additional cost of marketing may be off-set by the higher price which the Northwestern grown turkeys receive on the market as a premium for quality.

Oregon's productive plant was favorably situated to expand production as the requirements of an increased consumer demand due to war stimuli were met. A vastly increased production created supply and demand maladjustments when the war ended. An adjustment to a peace-time market has created a highly competitive situation and

problems fostered in this environment are vital to the future of the industry in Oregon. Certain adjustments are necessary. With increasing competition, greater efficiencies in production and marketing methods will help to enable Oregon turkeys to remain in strong competition with those of other areas but more efficient management practices will have to be adopted. Advances in improving hatchability and the reduction of death losses will assist (Appendix Table VI). More economical feeds and feeding methods must be utilized.

For production to be economical, there must be a market for the produce. High consumption is dependent upon several factors:

1) Consumer income must remain relatively high. Turkey meat has been considered a luxury item with a high elasticity of demand. A lowering of consumer income resulting from a depression would very likely cause a decrease in the per capita consumption of turkey.

2) There must be a favorable price relationship with other alternative meats. Turkey meat is usually in substitutive relationship with other meats. For turkey to be consumed replacing other meats, a comparable price basis must exist. Production and marketing costs must be such as to make turkey meat available on a competitive

cost basis.

3) Oregon producers must have a market for their birds within the competitive range which they are able to profitably enter their product. A rapidly increasing population in this area and increased consumption levels may soon offer a market for all turkeys produced in the west coast, whether or not we are able to compete in the eastern markets. There was a 130 per cent increase in local west coast consumption from 1940 to 1945.

4) The turkeys must be of a quality and in a form determined by both the producers and the processors which will satisfy the demands of the consumers. The marketing processes must prepare a quality product which will be able to compete in any market. Evisceration, using Federal Grading standards, attractive packaging and utilization of special processes, such as cut-up and fresh frozen steaks will be necessary.

Producers will have to determine the nature and extent of two distinct types of trade, home and restaurant, in determining which variety bird to raise. Then, too, there may be an advantage in area specialization in producing one type of bird over another. If there is a shifting of production to a smaller type bird in the areas which have not enjoyed the advantages of producing a large type bird as the Northwest has, then it may be

economical for Oregon producers to continue production of the Broad Breasted Bronze to good advantage as they have in the past. Continuation of the restaurant demand for the large type bird and adoption of special methods of processing enabling consumers to buy a smaller portion of turkey at a single purchase will further justify continued production of the Broad Breasted Bronze in Oregon.

To some extent, consumer resistance to the large type bird may be offset by processing these birds into smaller sized cuts and, through consumer education, encourage the consumption of turkey in a manner other than the conventional roast. Further justification for continuing the production of the Broad Breasted Bronze is that this is the most efficient producer of edible meat of all varieties and will be the best able to compete with red meats on a cost basis. A meal of turkey must be as economical as a plate of rib roast. The delicacy of turkey meat does not require that it remain in the class of luxury meats. Turkey is good, there are few people who do not enjoy it and turkey meat can be made available to all consumers at any time during the year.

The future of the Oregon turkey industry is dependent upon the direction which the industry will move in making production adjustments and whether it will continue to be economical for Oregon producers to raise turkeys or

shift to an alternative crop which will offer a greater return to their productive plant.

PART I

THE PRODUCTIVE RECORD OF THE TURKEY INDUSTRY IN OREGON

CHAPTER 1

GROWTH OF THE TURKEY INDUSTRY IN OREGON

The turkey industry in Oregon has grown tremendously during the past 25 years. The growing of turkeys was only a minor farm enterprise in 1920, today, it has become one of Oregon's major agricultural industries. According to the 1920 census, Oregon had only about 38,000 turkeys on hand on January 1 and nationally, ranked in thirtieth place. Production was expanded greatly during the next 25 years. About 625,000 turkeys were produced in Oregon in 1930 and she ranked in sixth place nationally, in importance in number of turkeys raised (Table 1). The increased production in Oregon has kept pace with that in the other states and in 1945, it reached a peak production of over 3½ million birds, ranking fourth among the ten leading turkey producing states.

Factors Causing Increased Production

The rapid increase in the production of turkeys during the past 25 years, has been due to several factors, the two more important being biological and economical. Biological developments in the industry have made it physically possible to expand production at a time when economic conditions have made it feasible to do so at

TABLE 1

RANK OF THE FIRST TEN STATES IN NUMBERS OF TURKEYS RAISED PER 5-YEAR PERIODS 1931-35 and 1936-41 AND PER YEAR 1941 THROUGH 1946

1931-35	1936-40	1941	1942	1943	1944	1945	1946
Texas	Texas	Texas	Texas	Texas	Calif.	Calif.	Calif.
Minn.	Calif.	Calif.	Minn.	Calif.	Texas	Texas	Texas
Calif.	Minn.	Minn.	Calif.	Minn.	Minn.	Minn.	Minn.
N. Dak.	Okla.	Iowa	Oregon	Oregon	Iowa	Oregon	Iowa
Okla.	Iowa	Oregon	Iowa	Iowa	Oregon	Iowa	Oregon
Oregon	N. Dak.	Mo.	Mo.	Utah	Utah	Utah	Mo.
Iowa	Oregon	N. Dak.	N. Dak.	Mo.	Mo.	Mo.	Utah
S. Dak.	Mo.	Okla.	Nebr.	Wash.	Wash.	Wash.	Pa.
Virginia	S. Dak.	S. Dak.	Utah	Nebr.	Pa.	Pa.	Virginia
Ohio	Kans.	Nebr.	Okla.	Pa.	Nebr.	Virginia	Wash.

Source: Bureau of Agricultural Economics, USDA

a profit.

Biological Developments. The most important of these biological developments being, 1) the adoption of sanitary practices in control of diseases, 2) the use of incubators in hatching, and 3) the adapting of the turkey enterprise to a large scale production. These improved practices were readily accepted in Oregon. Very favorable growing conditions exist and in recent years she has become famous in the turkey world for the development of the new and improved breed of turkey known as the Broad Breasted Bronze. Oregon's position in the industry has been further strengthened through the development of a dual source of income, by producing not only market birds, but also hatching eggs and poults. These are sold practically in every state in the Union. The greatest number of these Oregon grown eggs and poults are sold in the Rocky Mountain, North Central and Middle Atlantic areas. Canada, more recently, has been an improved market for the sale of Oregon bred stock.

Recent expansion is due to economic conditions related to war. The greatest expansion in Oregon has taken place in the last ten years, when economic conditions have enabled producers to increase production at

a profit. In 1935, (Table 2) 900,000 birds were raised and the cash farm income from market birds was $2,727,000. In 1945, 3,080,000 turkeys were raised with a cash farm of $19,218,000, which was an increase in turkey production of over 240 per cent and an increase in cash farm income from turkeys of 600 per cent. This increase has been primarily due to the higher prices received which were induced by war stimuli. This does not include the value of turkey poults and eggs marketed which, by 1945, had become a major source of income to Oregon turkey producers and has, at times, been the one factor which has given them an advantage over producers in competitive areas.

Turkey Production Concentrated

The most highly concentrated turkey producing area in the United States, at the present time, is said to be the Willamette Valley. It is easily the most important turkey producing area in Oregon, although Douglas, Deschutes, Umatilla and to some extent Jackson and Josephine counties are of considerable importance also (Figure 1). Marion, Clackamas, Yamhill, Linn and Lane are the five leading counties in the state in total number of turkeys raised and rank in that order.

TABLE 2

TURKEYS: PRODUCTION, DISPOSITION, AVERAGE PRICE AND TOTAL VALUE IN OREGON FOR PERIOD 1930 TO 1947

Year	Number produced, thousands	Average price live wt. per lb	Ave Nat'l price live wt. per lb	Consumed on farms, thousands of pounds	Sold, thousands of pounds	Value produced, thousands of dollars	National rank
1930	625	22.4	21.6			2000	6
1931	650	22.1	19.4			2015	6
1932	750	12.1	14.2			1335	7
1933	600	13.3	11.8			1182	7
1934	750	15.5	14.5			1650	6
1935	900	19.7	19.2			2727	6
1936	1159	16.0	16.4			2798	7
1937	1197	17.6	17.7			3290	6
1938	1259	18.8	17.9			3348	6
1939	1512	14.8	15.9			3901	5
1940	1700	15.0	15.4	391	29019	4412	5
1941	1719	20.2	19.9	382	27992	5731	5
1942	1854	28.5	27.5	395	33520	9666	4
1943	2241	33.1	32.6	309	37383	12476	4
1944	2283	33.2	34.0	294	41842	13990	5
1945	3080	34.7	33.6	368	55384	19218	4
1946	2152	31.5	36.2	427	47239	15015	5
1947	(1389)						

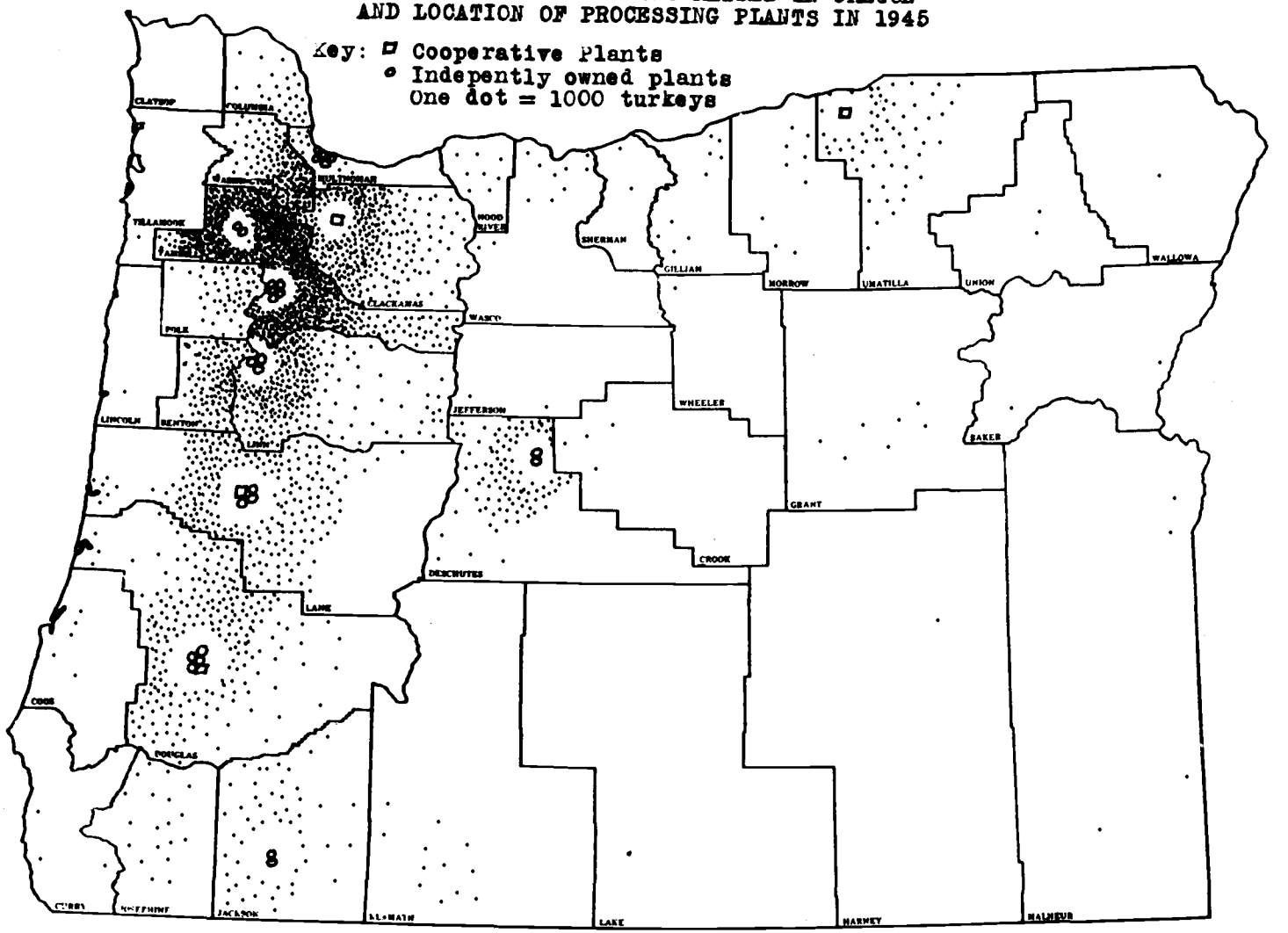
Source: Bureau of Agricultural Economics, USDA

Most of the increase in turkey population has been in Western Oregon where the trend has been towards larger flocks and fewer farmers raising more turkeys. In a comparison of the Census reports of 1940 and 1945, which in this case, were for the production years of 1939 and 1944 (Table 3), some interesting shifts in production will be noted. The greatest loss in numbers were mostly in areas other than the Willamette Valley. Umatilla, Multnomah, Hood River, Deschutes, Jackson, Josephine, Klamath and Benton counties were the heaviest losers. The counties that showed the greatest gains were Clackamas, Douglas, Linn, Lane, Marion, Yamhill and Washington, which were already the greatest producers.

A Major Source of Agricultural Income

The rapidly growing importance of the turkey industry as a major source of agricultural income to Oregon farmers is shown in Table 4 and in addition, the order of importance of the ten leading crops in terms of cash income is listed. The 1935-39 averages shows the total cash farm income from turkeys as $3,343,800, or ranking ninth in cash returns compared with the other crops. By 1945, turkeys were in third place and had a total cash income from market turkeys of $19,218,000. Turkeys had moved steadily upwards in their ranking importance. If the

Figure 1. DISTRIBUTION OF TURKEYS RAISED IN OREGON AND LOCATION OF PROCESSING PLANTS IN 1945



Source: Census of Agriculture for Oregon, 1945

TABLE 3

TURKEYS: NUMBER RAISED IN OREGON, BY COUNTIES IN 1939 AND 1944, AND CHANGES IN TOTAL NUMBERS

Name of County	As of April 1,1940	As of Jan 1,1945	Gain for period	Loss for period
Baker	3 861	1 843		1 918
Benton	118 852	105 032		10 820
Clackamas	137 703	298 095	161 392	
Clatsop	314	91		223
Columbia	22 222	26 085	3 862	
Coos	11 153	5 074		6 079
Crook	4 005	3 587		418
Curry	295	2 401	2 106	
Deschutes	104 358	93 248		11 110
Douglas	210 979	227 069	16 090	
Gilliam	5 004	2 375		2 629
Grant	8 525	7 011		614
Harney	1 441	629		812
Hood River	25 542	7 212		18 230
Jackson	58 536	51 005		7 531
Jefferson	2 206	2 123		83
Josephine	28 713	17 931		10 792
Klamath	33 627	12 006		21 621
Lake	733	471		262
Lane	183 120	233 268	50 148	
Lincoln	1 742	697		1 045
Linn	171 732	248 809	77 177	
Malheur	6 336	3 555		3 781
Marion	167 813	319 005	151 192	
Morrow	13 408	8 823		4 585
Multnomah	28 752	10 712		18 040
Polk	32 879	50 381	17 502	
Sherman	754	1 932	1 178	
Tillamook	531	456		75
Umatilla	70 379	57 178		13 201
Union	2 156	1 367		789
Wallowa	2 882	479		2 403
Wasco	9 782	11 050	1 268	
Washington	61 776	137 927	76 251	
Wheeler	2 205	1 219		986
Yamhill	146 535	263 092	116 557	
TOTAL FOR STATE	1 677 851	2 214 138	536 387	

Source: U.S. Census of Agriculture for Oregon,1945

TABLE 4

CASH FARM INCOME FOR OREGON OF SELECTED FARM CROPS AND RANK OF IMPORTANCE
(In Thousands of dollars) (Ranking in Parentheses)

	1935-39Ave	1940	1941	1942	1943	1944	1945	1946
Chickens	1517	1257	1856	2284	4551	3218	6565	4967
Chicken Eggs	5519(5)	5190(5)	7509(5)	10362(6)	14382(4)	12656(8)	14749(6)	14888
Turkeys	3544(9)	4358(8)	5651(8)	9264(8)	11518(6)	12725(7)	19218(3)	14880
Total Poultry Prod	10580	10821	15017	21910	30258	28599	40520	34635
Cattle & Calves	13542(2)	14724(2)	19124(3)	24684(2)	29796(2)	35440(2)	41992(1)	
Sheep,Lamb & Wool	9563(4)	9255(3)	11901(4)	12646(4)	11385(7)	11007(10)	10220(10)	
Hogs	5126(6)	4877(6)	7050(6)	11355(5)	14212(5)	13852(5)	8384	
Total Livestock	28231	28856	37075	48685	55393	60341	60621	
Milk Products	19842(1)	21132(1)	26480(1)	33755(1)	40205(1)	41506(1)	40657(2)	
TOTAL ANIMAL PROD*	58453	60809	78572	104350	125856	130341	141808	
Wheat	11198(3)	9151(4)	18335(2)	18382(3)	16986(3)	26446(3)	18343(4)	
Oats	1351	1126	1386	1598	3450	3053	2658	
Barley	8908	1253	1658	3063	7601	4269	3310	
Corn	141	143	119	178	151	199	130	
Rye	222	251	282	161	216	225	(225)est	
Hay	5934(7)	2968	2026	5244	7360	8287	7158	
Potatoes	3739(8)	3249(10)	3688(10)	7134(9)	10111(9)	14051(4)	10648(9)	
Hops	3198(10)	4640(7)	5040(9)	6037(10)	9002(9)	11183(9)	12851(7)	
TOTAL FIELD CROPS	24682	22781	32734	41797	54877	67713	55298	
Apples	2091(12)	1931	2580	2896	6092	7039	9419(8)	
Cherries	1199	1900	2000	2052	4009	4738	5253	
Peaches	224	357	422	842	1110	1355	1182	
Pears	2707(11)	3465(9)	6007(7)	9450(7)	10823(8)	13190(6)	15288(5)	
Prunes	1753	1410	1478	2610	5895	4950	4327	
Walnuts	641	998	1570	778	1953	2848	2576	
Filberts	456	626	1431	1166	2980	2954	2335	
Total Orchard Crops	9171	10687	15488	19794	32957	37117	40380	
TOTAL CROP PROD**	33753	33468	48222	61591	87834	144830	95678	

(Continued on following page)

TABLE 4 (Continued)

	1935-39 Av.	1940	1941	1942	1943	1944	1945	1946
TOTAL ANIMAL & CROP PRODUCTS	92206	94377	126794	165941	213690	275176	237486	
Govt Payments						6342	10157	
GRAND TOTAL	92206	94377	126794	165941	213690	281518	247643	

*Does not include horses, mules, mohair, bees, ducks, geese or pea fowl.

**Does not include truck crops, grass seeds, forage seeds, peppermint, sugar beets, peas, farm timber products, berries and others.

Source: Bureau of Agricultural Economics and Oregon State Market Reporting Office, revised estimates dated March 1947.

value of turkey poults and eggs had been added to the value of turkeys sold, the importance would have been even greater.*

Using $26,500,000 as a close estimate of total farm income from the turkey industry in Oregon, approximately 65 per cent of the total income of all poultry products would be from turkeys. The turkey industry would contribute to Oregon farmers about 9.5 per cent of the total agricultural income from all the major sources.

A study of the productive record of the turkey industry in Oregon, indicates that there is a production of turkeys in excess of the local consumption demands. This

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*The added value may be calculated as follows: On January 1, 1945, there were 420,000 breeder hens. During that season about 50 eggs per hen were produced, or about 21,000,000 eggs. About one-half of these were sold as eggs and the other one-half were hatched into poults. The average price received for eggs was about 30 cents per egg and for 10,500,000 eggs, it would be about $3,150,000. Poult prices averaged about 75 cents per poult. With a 50 per cent hatch, 5,000,000 poults would have been hatched and at 75 cents there would be a $4,125,000 added value. A close estimate of total cash income to producers would be about $26,500,000 for the year 1945. Approximately only one-half of the poults and eggs were shipped and sold out of state and the remainder were used for our own flocks for market birds and breeder replacements. It is assumed that total cash farm income to turkey producers should include all sales of poults and eggs, regardless of where they were marketed.

surplus must be disposed of in out-of-state markets. It is advisable to examine the marketing machinery next, with its efficient and inefficient aspects, to determine what the competitive position of the Oregon producers will be as they enter these markets. Later, the problems arising from this physical organization will be discussed to determine whether it will be possible for Oregon turkey producers to maintain their industry in a competitive environment.

PART II

MARKETING TURKEYS

CHAPTER 2

THE MARKETING SEASON

Consumers have ordinarily regarded turkeys as a luxury and a product to be consumed during the Thanksgiving and Christmas seasons. In recent years, due to more efficient methods of production, shortages of other meats and extensive advertising campaigns, per capita consumption has increased (Table 5), this increase being primarily during the off-holiday season. Particularly, restaurants have discovered that turkey meals are a very profitable dinner item for them to serve (5, p. 486-7) and (8, p. 328). Consequently, there is some indication that this expanded demand, improved refrigeration facilities and artificial production methods have extended the marketing season so that each year, the marketing season for turkeys is earlier and longer (Table 6). This has been particularly true in Oregon as it is necessary to process turkeys earlier in order to reach the Eastern markets in time to compete for seasonal demands. Also, the large type of turkey which predominates in Oregon production is that which is in greatest demand during the off-holiday season as the restaurant trade has the greatest influence upon the market at this time.

TABLE 5

DRESSED TURKEYS: UNITED STATES PRODUCTION AND CONSUMPTION 1930 TO 1946

	Production millions of pounds	Cold storage stocks at beginning of yr millions of pounds	Imports millions of pounds	Cold Storage stocks at end of yr, millions of pounds	Consumption	
					Total Millions of pounds	Per Capita, pounds
1930	216	10	1	5	222	1.80
1931	214	5	5	10	214	1.70
1932	264	10	1	15	260	2.10
1933	298	15	*	16	297	2.40
1934	284	16	*	19	281	2.20
1935	267	19	*	17	269	2.10
1936	361	17	1	35	344	2.70
1937	346	35	*	26	355	2.70
1938	355	26	*	23	358	2.70
1939	422	23	*	52	393	3.00
1940**	505	52	*	61	496	3.76
1941**	516	61	1	50	527	3.99
1942**	525	50	..	36	539	4.09
1943**	516	36	..	37	515	3.91
1944**	591	37	..	73	555	4.20
1945**	762	73	..	108	627	4.76
1946**	741	108	..	128	721	5.46

*Less than 500,000 pounds.

**Revised BAE reports as of April 1947. Per Capita consumption computed on revised basis: Production plus beginning inventory of Cold Storage stocks plus Imports less Cold storage stocks at end of period divided by average population figures of 1940 and 1945 Census reports.

Source: Bureau of Agricultural Economics, USDA.

TABLE 6

SALES OF TURKEYS FROM FARMS, 1942-46

Area and Year	Percent of total pounds sold during year											
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
NO. ATL.												
1942	2.5	1.5	2.5	3.9	3.1	2.1	1.3	2.2	3.3	5.8	38.8	33.2
1943	.8	.7	.4	.4	.4	.6	1.6	.5	.7	4.2	51.6	38.1
1944	.6	.6	.4	.2	.3	1.1	.9	.8	2.4	5.9	51.2	35.6
1945	.9	.6	.7	.6	.8	2.0	1.3	2.7	4.4	7.1	43.9	35.0
1946	.8	.6	.4	1.2	1.0	1.4	1.4	2.0	7.4	15.7	35.8	32.3
E.N.CENT.												
1942	1.7	.7	1.2	.3	1.1	1.5	.4	.7	4.5	8.5	40.7	38.7
1943	.9	.4	.1	--	.3	2.0	1.7	.3	2.7	4.5	53.2	33.9
1944	.9	.7	.2	.1	1.3	2.7	.5	.3	3.5	7.5	43.9	38.4
1945	.7	.4	.2	.1	.8	1.2	.9	.8	4.0	6.5	44.2	40.2
1946	1.3	.7	.8	.8	3.2	2.6	.5	.8	3.9	8.5	41.3	35.6
W.N.CENT.												
1942	1.4	.3	.2	.1	1.6	1.5	--	1.7	7.1	14.4	39.8	31.9
1943	1.5	.3	--	--	1.1	2.7	.3	1.8	6.5	11.9	43.2	30.7
1944	1.2	.4	.2	.3	1.5	2.7	.5	2.4	8.6	19.0	43.4	19.8
1945	.9	.4	.5	.2	2.5	1.4	1.0	4.2	11.4	19.9	34.1	23.5
1946	.9	.2	.2	.5	2.5	.5	.4	3.2	14.3	23.9	31.6	21.8
S. ATL.												
1942	.5	.3	1.0	.1	.5	.7	.3	--	2.5	7.4	39.2	47.5
1943	.5	.3	.3	1.7	.9	1.9	.9	1.9	.5	7.1	43.0	41.0
1944	.3	.2	.1	.2	1.4	2.7	.5	1.8	3.9	14.0	37.0	37.9
1945	.5	.2	.1	.2	1.5	2.0	1.6	3.6	4.8	9.7	44.8	31.0
1946	.5	.5	.3	.5	2.4	.8	1.9	4.5	6.9	14.2	30.6	36.9
S.CENT												
1942	.2	.6	.1	.6	1.7	.5	.3	.1	1.0	3.7	55.6	35.6
1943	.8	.1	.2	.3	.9	2.7	.6	.4	1.2	3.6	50.8	38.4
1944	.4	.3	.2	.2	2.7	1.1	.5	.3	1.5	6.5	50.8	35.5
1945	.5	.1	.1	.3	3.0	3.9	.1	.1	2.0	5.3	51.1	33.5
1946	.3	.1	.4	4.0	2.1	1.3	.3	.2	1.6	8.1	42.6	39.0
WEST												
1942	5.3	1.0	.1	.7	7.1	2.6	.1	1.6	3.3	6.9	31.8	39.5
1943	4.9	1.1	.1	.3	2.9	7.1	.6	1.8	2.9	8.0	31.5	38.8
1944	4.2	1.8	.3	.9	8.0	3.0	.6	.6	2.1	10.9	33.3	34.3
1945	5.0	1.1	.3	1.6	6.9	3.5	.6	2.0	5.4	14.1	32.3	27.2
1946	5.9	1.5	1.8	4.0	5.6	.3	.9	1.0	4.0	14.9	29.7	30.3
U.S.												
1942	2.3	.7	.5	.7	3.1	1.6	.2	1.2	4.2	8.9	40.2	36.4
1943	2.7	.5	.1	.3	1.4	3.7	.7	1.3	3.4	7.8	42.5	35.6
1944	2.0	.9	.2	.5	3.7	2.5	.5	1.2	4.2	12.2	41.2	30.9
1945	2.2	.6	.3	.7	3.8	2.5	.8	2.4	6.4	13.0	38.1	29.2
1946	2.4	.8	.8	2.1	3.4	.8	.7	1.9	7.3	16.0	33.7	30.1

Source: Bureau of Agricultural Economics, USDA

Very recently, there have been certain factors which have allowed producers greater freedom in the seasonality of marketing. Improved processing plant facilities, the process of eviscerating turkeys prior to hard freezing and improved refrigeration facilities, have enabled processors and handlers to dress and store birds without as great a danger of carcass spoilage, as formerly. These factors have allowed producers and handlers to market and process turkeys when it is most feasible for them to do so. To some extent, this has freed them from the necessity of gauging production patterns to varying consumption patterns, as formerly. However, there will always be a demand for fresh frozen turkeys for the holidays by the more discriminating consumers, which must be provided by the producers.

CHAPTER 3

MARKETING CHANNELS

There are several different methods in which ownership is passed in marketing turkeys in Oregon: 1) by selling live birds to middlemen, 2) direct marketing of dressed birds by individual producers, and 3) by marketing through producer cooperatives.

Middlemen. Approximately 80 per cent of the Oregon turkeys are handled in this manner. These agencies may be either independent buyers who process and find their own market outlets but more often they are a branch plant owned and operated by a state, regional or national firm. Ownership is passed immediately from the producer and all further control of the direction and method of processing is assumed by these agencies, when the turkeys are handled in this way. These commercial profit-type agencies, dress, pack, and in some cases store the birds before they are moved into the more advance channels such as wholesalers and jobbers. Reference to Figure 2 will show the movement of turkeys marketed in this manner.

Direct Marketing. About 8 per cent of the turkeys are dressed and marketed by the individual producers. Marketing is more direct and producer control is retained

further along the chain of marketing. These turkeys may be dressed and packed in the individual producer owned dressing plant or custom dressed by commercial dressing plants. In either case, ownership and control is retained by the individual producer. These turkeys then may be sold either locally direct to consumers, or through local retail outlets or sold to local wholesalers. The larger producers may even ship out-of-state in carload lots and, in most cases, sell to wholesalers located in the terminal markets. As a means of moving more turkeys, producers have become interested in special methods of processing and have promoted the sale of smoked turkeys, barbecued turkeys and turkey broilers. In most cases, producers have done their own processing and have developed their own distribution facilities, primarily in local markets. There are indications that more turkeys have been moved in this manner during the last year or two than ever before. There are several reasons for this. The concentration of production into large flocks has made it economical for some of the larger growers to do their own processing. Direct selling has been easy due to scarcity of meat and high incomes. Growers take advantage of these opportunities and circumvent regular market channels.

TABLE 7

COMMERCIAL PROCESSING PLANTS IN OREGON IN 1946

Profit Type Agencies

National Affiliation

Swift and Company
- Portland
- Albany
- Eugene
- Redmond
- Roseburg
- Medford

Regional Affiliation

Washington Creamery Company
- Portland
- Salem
- Eugene
- McMinnville
- Roseburg

Columbia Produce Company
- Portland

Marion Creamery & Poultry Company
- Salem

Statewide Affiliation

Northwest Poultry & Dairy Products
- Portland
- Salem
- Albany
- McMinnville
- Eugene
- Roseburg
- Redmond

Independent local dealers

Douglas County Poultry
- Roseburg

American Produce Company
- Portland

Willamette Packing Company
- Salem

Schook Brothers
- Medford

Capitol Dairies
- Salem

Oregon Dairy and Poultry Products
- Portland

Producer Cooperative Marketing Associations

Oregon Turkey Growers
- Canby
- Eugene
- Roseburg

Eastern Oregon Turkey Growers
- Hermiston

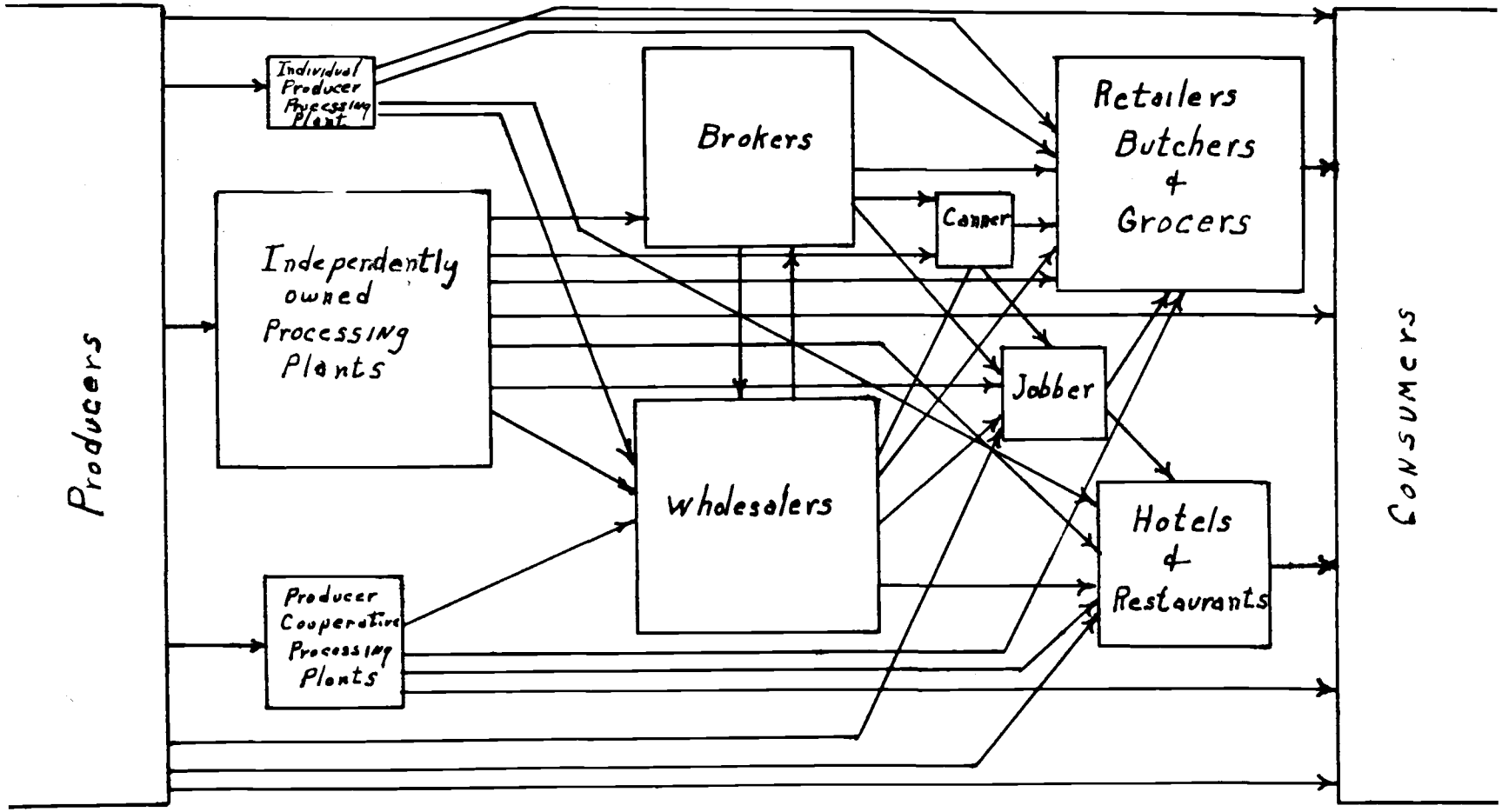


Figure 2. A SCHEMATIC DIAGRAM SHOWING MARKETING CHANNELS THROUGH WHICH TURKEYS FLOW FROM PRODUCER TO CONSUMER

Cooperative Marketing Associations. Turkeys may be marketed by groups of producers through cooperatively owned processing plants and cooperatively affiliated sales agencies. At the present time there are four such cooperative processing plants in Oregon. Approximately 12 per cent of the total volume is marketed in this manner. Producer ownership and control may continue through any stage of the marketing as is feasible, or it may carry all of the way through to the consumer. Turkey producer cooperatives are relatively few in number but handle a sizable percentage of the total volume. Expansion in this direction to any marked extent in the near future is questionable as it is generally agreed that marketing at this stage has become quite stabilized in Oregon. Cooperatives normally develop when and wherever there is a need. At present, the service is considered to be adequate under present production volume and location. The professed policy of the cooperatives is to render the very best service possible to all those who wish to market their birds through the cooperative organization. Their policy is far less aggressive than the policy which is characteristic of certain other farm marketing cooperatives in Oregon. They enjoy an ethical relationship with competing independents, and leaders in both types apparently have the highest regard for each other. This fosters

a healthy trade relationship throughout the industry.

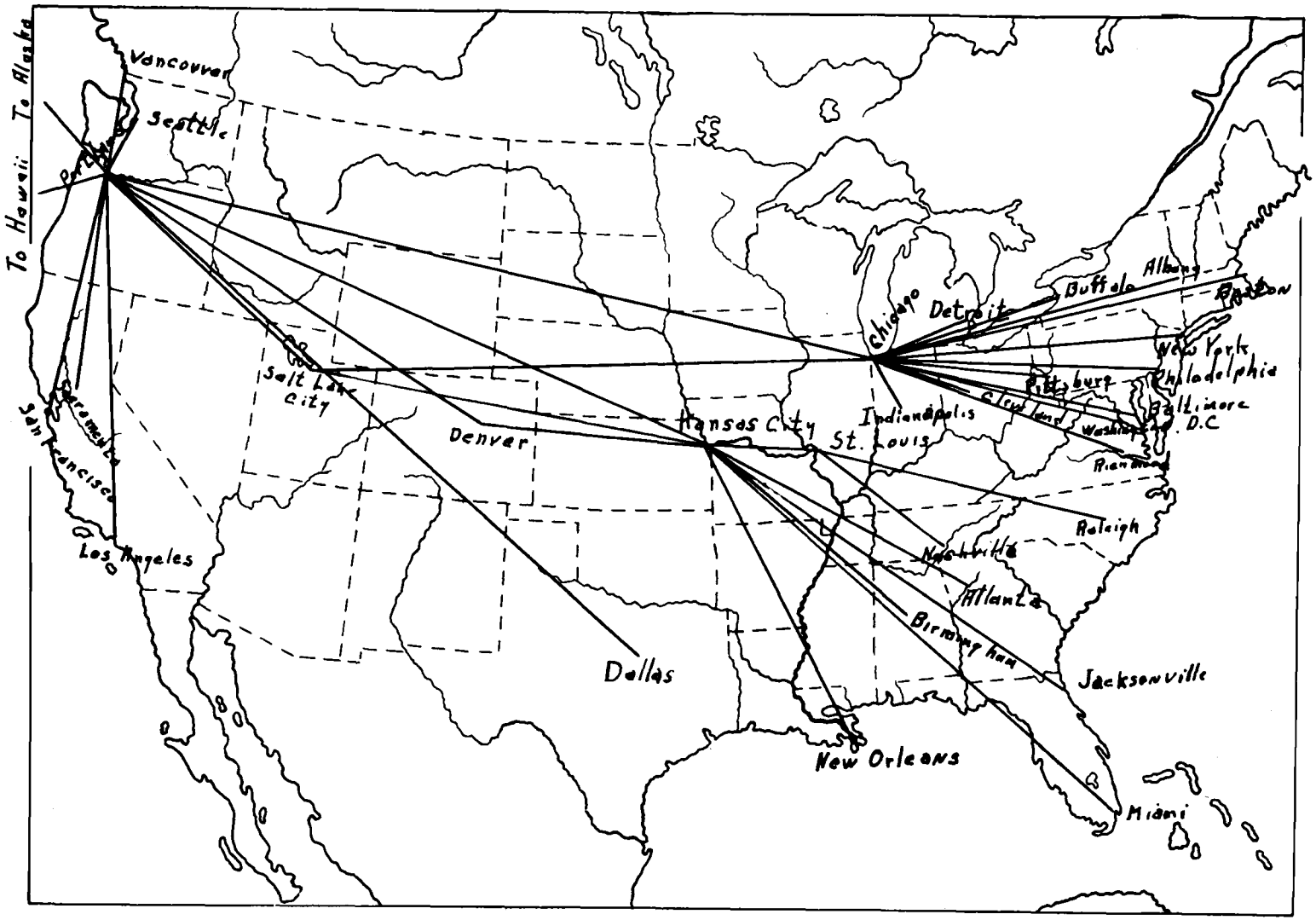
The main objective of the cooperative type marketing organization is to bring about a vertical integration of the marketing process and perform functions as efficiently as possible. The Cooperative Turkey Growers in Oregon are affiliates of the Norbest Turkey Growers, which is a national organization with members in 17 Western states. It maintains sales agencies in several of the more important terminal marketing areas and controls movement of turkeys into the consuming channels.

CHAPTER 4

MARKETS

The major part of Oregon production moves out of state and naturally flows towards centers of population (Figure 3). During the course of this study an attempt was made to determine just where our Oregon grown turkeys are consumed. Results were not conclusive but the findings were very similar to that found in the Washington State study (4, p.30). Oregon turkeys are consumed in practically every state in the Union, Canada, Alaska and Hawaii. The New York and Boston areas consume probably 60 per cent of our production. Several million pounds go to California and Florida. A substantial proportion of the Oregon grown birds are consumed in Oregon. With an average U.S. per capita consumption of 5 pounds being applied, 1.5 million people in Oregon would consume over 7.5 million pounds of turkey per year. About 42 million pounds of turkey were produced in 1946. By above calculations, about 18 per cent of our crop is consumed within the state. It is estimated that about 3 million pounds were consumed in Oregon in 1940. Total consumption of turkey probably has increased 1½ times since that period. With probable further increases in population within the state and a possible increase in per capita consumption,

Figure 5 ROUTES OVER WHICH OREGON TURKEYS MOVE INTO CONSUMING AREAS



a large market for our turkeys will exist right at home. This should have a stabilizing influence on future Oregon production. Should competition in the Eastern markets force Oregon out, it may even be necessary to adjust production to serve only local West coast and adjacent export market demands.

Export Markets. Only a small part of our total turkey production enters into the export trade but our Pacific Coast states are in an advantageous position to market quite a substantial amount of their production in Alaska, Canada and Hawaii. Also, at present, Pacific occupation forces consume many thousands of pounds of Northwestern produced birds. These are markets which should not be overlooked. Berryman and Buchanan in the Washington State study assert that 5 per cent of their turkeys are shipped to either Alaska or Hawaii. We probably furnish a like amount in that trade. An increased population in Alaska should expand the consumption there. In recent years, Canada has offered a market for many pounds of our turkeys. A surprising number of handlers have shipped turkeys into Canadian markets in 1946 and 1947. Canada has also been an improved outlet for Oregon eggs and poults. This may be an opportune time to consolidate our markets in Canada which may offer a substantial outlet in the future.

CHAPTER 5

THE PRICING PROCESS

Basically, turkey prices are determined by the prices which are established at the New York market, this being one of the heaviest consuming areas and customarily accepted as the leader in setting prices. The price which is paid to producers at a local market is determined by subtracting from the New York dressed price, the costs of processing, handling and transportation to New York.

However, there are a number of factors which modify this price structure.

Regional Price Differences

The most important factor which affects regional price differentials is that of supply and demand. Turkey production and density of population represent these two factors. This is best illustrated by distributing turkey production according to population and to determine surplus and deficit producing areas. Figure 4 and Table 8 illustrate this. Referring to Figure 4, the greatest deficit areas are in the Middle Atlantic States and shades off into the East Central and South Eastern sections. By comparison with Figure 5 it will be noted that these areas return the highest price to the

TABLE 8

DISTRIBUTION OF TURKEY PRODUCTION AS TO HUMAN POPULATION, SHOWING SURPLUS OR DEFICIT, FOR 1945 IN THOUSANDS OF POUNDS

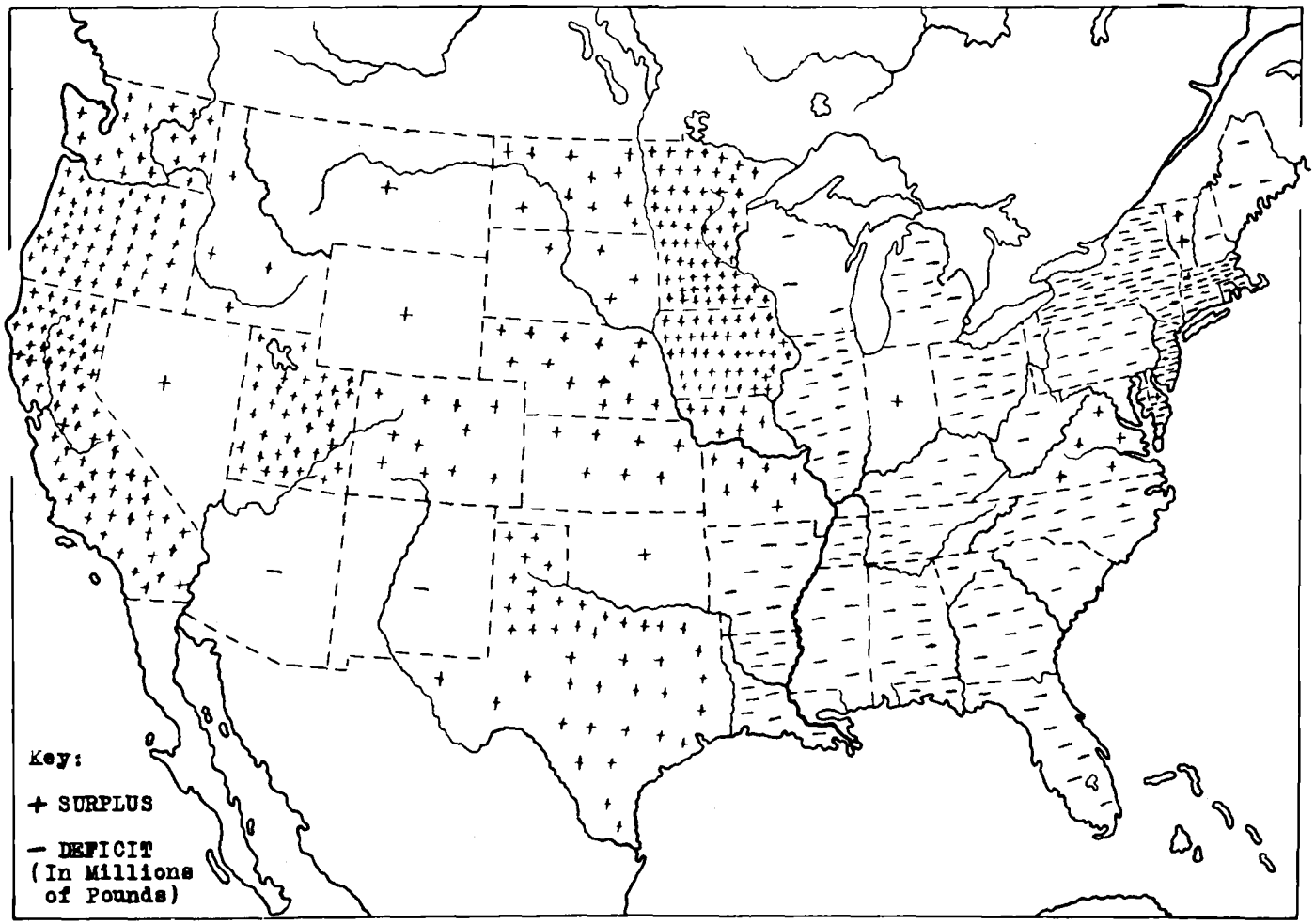
State	Estimated Population	Turkeys dist. as Population	Actual turkey Production	Surplus or Deficit	
Maine	786	3 794	923	(D)	2 871
New Hampshire	452	2 182	1 520	(D)	662
Vermont	310	1 497	3 036	(S)	1 539
Massachusetts	4 183	20 193	5 773	(D)	14 320
Rhode Island	758	3 659	560	(D)	3 099
Connecticut	1 786	8622	3 718	(D)	4 904
New York	12 585	60 753	12 333	(D)	48 420
New Jersey	4 201	20 280	6 138	(D)	14 142
Pennsylvania	9 194	44 384	24 120	(D)	20 264
Ohio	6 873	33 179	18 695	(D)	14 484
Indiana	3 438	16 597	16 784	(S)	187
Michigan	5 472	26 416	16 302	(D)	10 114
Wisconsin	2 952	14 250	10 905	(D)	3 345
Minnesota	2 497	12 054	68 095	(S)	56 041
Iowa	2 260	10 910	51 587	(S)	40 677
Missouri	3 557	17 171	30 724	(S)	13 553
North Dakota	521	2 515	13 247	(S)	10 732
South Dakota	555	2 679	6 700	(S)	4 021
Nebraska	1 198	5 783	18 427	(S)	12 644
Kansas	1 740	8 400	15 588	(S)	7 188
Delaware	287	1 386	1 670	(S)	284
Maryland	3 063	14 787	8 197	(D)	6 590
Virginia	3 080	14 869	20 203	(S)	5 334
West Virginia	1 725	8 327	6 525	(D)	1 802
North Carolina	3 505	16 920	5 825	(D)	11 095
South Carolina	1 906	9 201	6 656	(D)	2 545
Georgia	3 192	15 409	2 770	(D)	12 639
Florida	2 386	11 518	1 665	(D)	9 853
Kentucky	2 587	12 455	4 114	(D)	8 341
Tennessee	2 879	13 896	2 418	(D)	11 480
Alabama	2 812	13 575	2 219	(D)	11 356
Mississippi	2 080	10 041	1 435	(D)	8 606
Arkansas	1 780	8 593	2 336	(D)	6 257
Louisiana	2 456	11 856	654	(D)	11 202
Oklahoma	2 034	9 819	10 488	(S)	669
Texas	6 787	32 764	74 553	(S)	41 789
Montana	458	2 211	2 478	(S)	267
Idaho	500	2 414	6 760	(S)	4 346

TABLE 8 (Continued)

State	Estimated Population	Turkeys dist. as Population	Actual turkey Production	Surplus or Deficit
Wyoming	247	1 192	2 683	(S) 1 491
Colorado	1 121	5 412	16 228	(S) 10 816
New Mexico	535	2 583	1 239	(D) 1 344
Arizona	630	3 041	1 787	(D) 1 254
Utah	617	2 979	37 388	(S) 34 409
Nevada	160	772	900	(S) 128
Washington	2 089	10 085	30 225	(S) 20 155
Oregon	1 206	5 822	56 672	(S) 50 850
California	8 822	42 593	112 347	(S) 69 754
Illinois	7 721	37 273	16 864	(D) 20 409

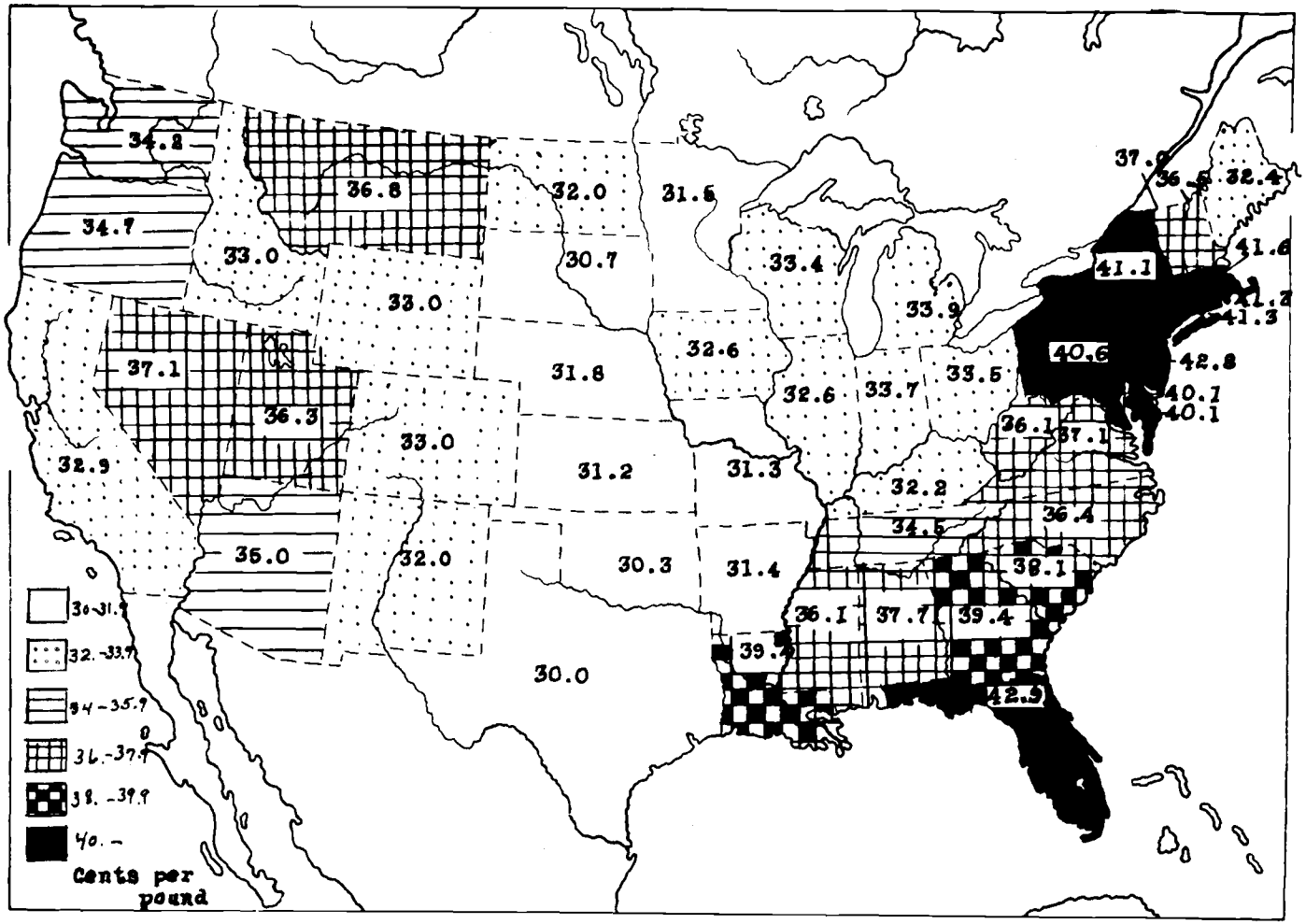
Source: BAE, USDA and U.S. Dept. of Comm., Stat. Abstracts

Figure 4. DISTRIBUTION OF TURKEYS IN THE UNITED STATES ACCORDING TO POPULATION, SHOWING SURPLUS OR DEFICIT IN MILLIONS OF POUNDS, 1945



Source: Bureau of Agricultural Economics, USDA and Bureau of Census U.S. Dept. of Commerce

Figure 5. U.S. AVERAGE FARM PRICE FOR LIVE TURKEYS IN 1945



Source: Bureau of Agricultural Economics, USDA

TABLE 9

PER CAPITA INCOME: BY STATES 1939-41 AVERAGE, AND FOR 1945 and 1945 AS PERCENTAGE OF AVERAGE INCOME

State	1939-1941 Ave	1945	1945 as % of ave income	State	1939-1941 Ave	1945	1945 as % of ave income
Alabama	$301	$ 700	61	Montana	$599	$1172	102
Arizona	512	918	80	Nebraska	464	1117	97
Arkansas	289	654	57	Nevada	840	1247	108
California	808	1480	129	New Hampshire	589	971	84
Colorado	562	1100	96	New Jersey	829	1373	119
Connecticut	912	1449	126	New Mexico	378	812	71
Delaware	897	1381	120	New York	910	1595	139
D. of C.	1066	1361	118	North Carolina	353	732	64
Florida	487	996	87	North Dakota	430	1123	98
Georgia	340	745	65	Ohio	709	1289	112
Idaho	477	1054	92	Oklahoma	379	889	77
Illinois	768	1360	118	Oregon	648	1266	110
Indiana	600	1152	100	Pennsylvania	670	1199	104
Iowa	539	1109	96	Rhode Island	789	1268	110
Kansas	466	1113	97	South Carolina	308	663	58
Kentucky	338	735	64	South Dakota	418	1083	94
Louisiana	394	785	68	Tennessee	354	813	71
Maine	538	1051	91	Texas	449	917	80
Maryland	743	1212	105	Utah	518	1023	89
Massachusetts	801	1321	115	Vermont	548	1028	89
Michigan	691	1212	105	Virginia	484	903	79
Minnesota	543	1061	92	Washington	711	1407	122
Mississippi	242	556	48	West Virginia	423	829	73
Missouri	554	1063	92	Wisconsin	567	1161	101
				Wyoming	623	1096	95

Source: 1947 World Almanac and U.S. Department of Commerce's Statistical Abstracts.

producers and varies directly with the intensity of the deficit. Likewise, Figure 4 shows the surplus producing areas as being primarily in the Midwest, West and Texas. By referring again to Figure 5 it will be seen that it is generally true that these areas return the lowest price to the producer. The higher prices in Montana, Nevada and New Mexico again may be explained by a relative equilibrium in the supply and demand. Other factors must explain more specific price differentials. The general price level, or per capita income (Table 9) might explain the generally higher prices paid to West Coast producers over that in the Midwestern areas and Texas. Quality is another factor which might explain certain differentials as for example, Oregon and Washington's 2 cent advantage over California producers. Californians may deny its being quality, however.

Season Price Differentials

Turkeys are in greatest demand during the Thanksgiving and Christmas seasons and thus prices are usually higher during November and December. Live turkey prices are usually the lowest in Oregon during May, June and July (Table 10). Price patterns during the last several years have not been normal due to unusual conditions.

TABLE 10

ESTIMATED PRICES: RECEIVED BY FARMERS, LIVE WEIGHT, IN OREGON
BY MONTHS FROM 1930 to 1947

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Yearly * Average
						Cents per Pound							
1930	24									25	22	21	23.6
1931	25									24	20	22	20.6
1932	22									17	13	11	14.6
1933	11									16	14	12	12.8
1934	13	14	14	13						15	14.7	16	15.1
1935	16	17	17							18	20	20	18.4
1936	19	19	18					18	18	19	17	15	16.9
1937	15	15						15	16	18	18	17	17.1
1938	18	19	18	18	17	17	17	17	19	19	18	18	18.3
1939	19	19	18	13	13	13	14	16	15	15	15	15	15.6
1940	14	13	13	12	11	12	12	13	16	16	15	15	15.0
1941	15	15	15	16	16	16	16	17	20	20	20	22	20.2
1942	22	22	20	20	20	20	21	21	26	29	29	31	28.5
1943	31	31	31	31	31	31	31	31	31	31	34	34	33.1
1944	34	34	33	30	30	30	31	32	31	31	35	35	33.2
1945	36	36	36	36	36	36	38	36	34	34	34	35	34.7
1946	32	30	28	26	30	30	33	34	36	37	32	29	31.5
1947	20	25.5	25.5										

*Weighted averages according to Number marketed per month

Source: Bureau of Agricultural Economics, USDA.

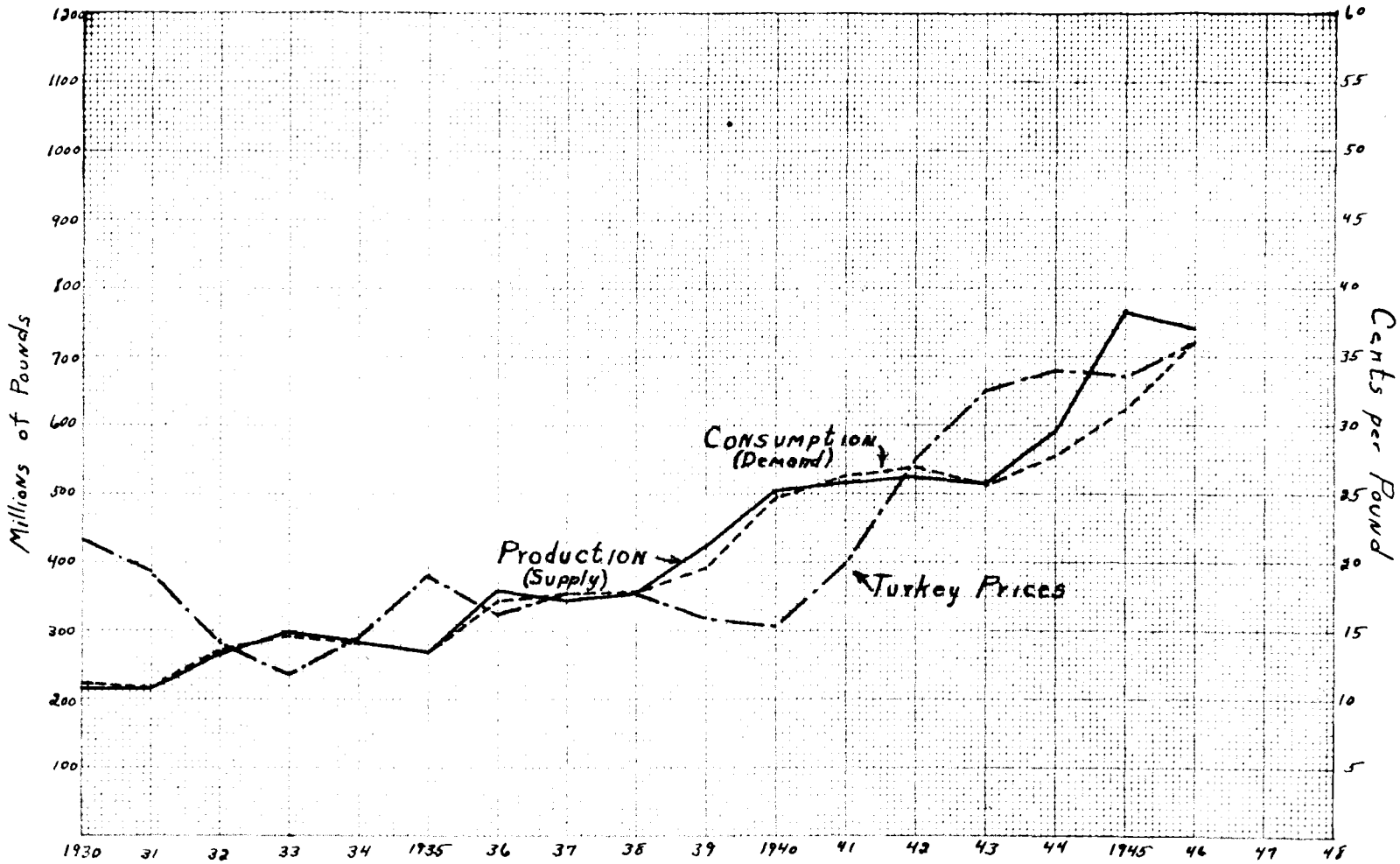
Supply and Demand

Price fluctuates from year to year because of adjustments in supply and demand. Reference to Figure 6 will show that when the demand for turkeys exceeds the supply, as it did between 1937 and 1938 and again in 1941 and 1942, prices naturally tend to rise, and when more turkeys are produced than are needed for immediate consumption, prices tend to decline and more turkeys are put into storage.

One of the most important factors affecting the demand for turkeys is the level of consumer income. As the consumer income, or the Industrial wage increases, the demand and price of turkeys tend to increase, as shown in Figure 7. Any set of conditions that results in lowering per capita income, as for example, during a depression, would undoubtedly have an effect on future demand for turkeys.

Price competition with other meats is an important factor affecting the demand for turkeys, particularly outside the holiday season. Reference to Figure 8 will indicate that the per capita consumption of turkey has been increasing much more rapidly than that of other meats, although it is still only a small (3.6 per cent in 1946) percentage of total red meat consumed. It should

Figure 6. A COMPARISON OF U.S. ANNUAL PRODUCTION, CONSUMPTION AND AVERAGE LIVE PRICE OF TURKEYS FROM 1930 TO 1946



Source: Bureau of Agricultural Economics, USDA

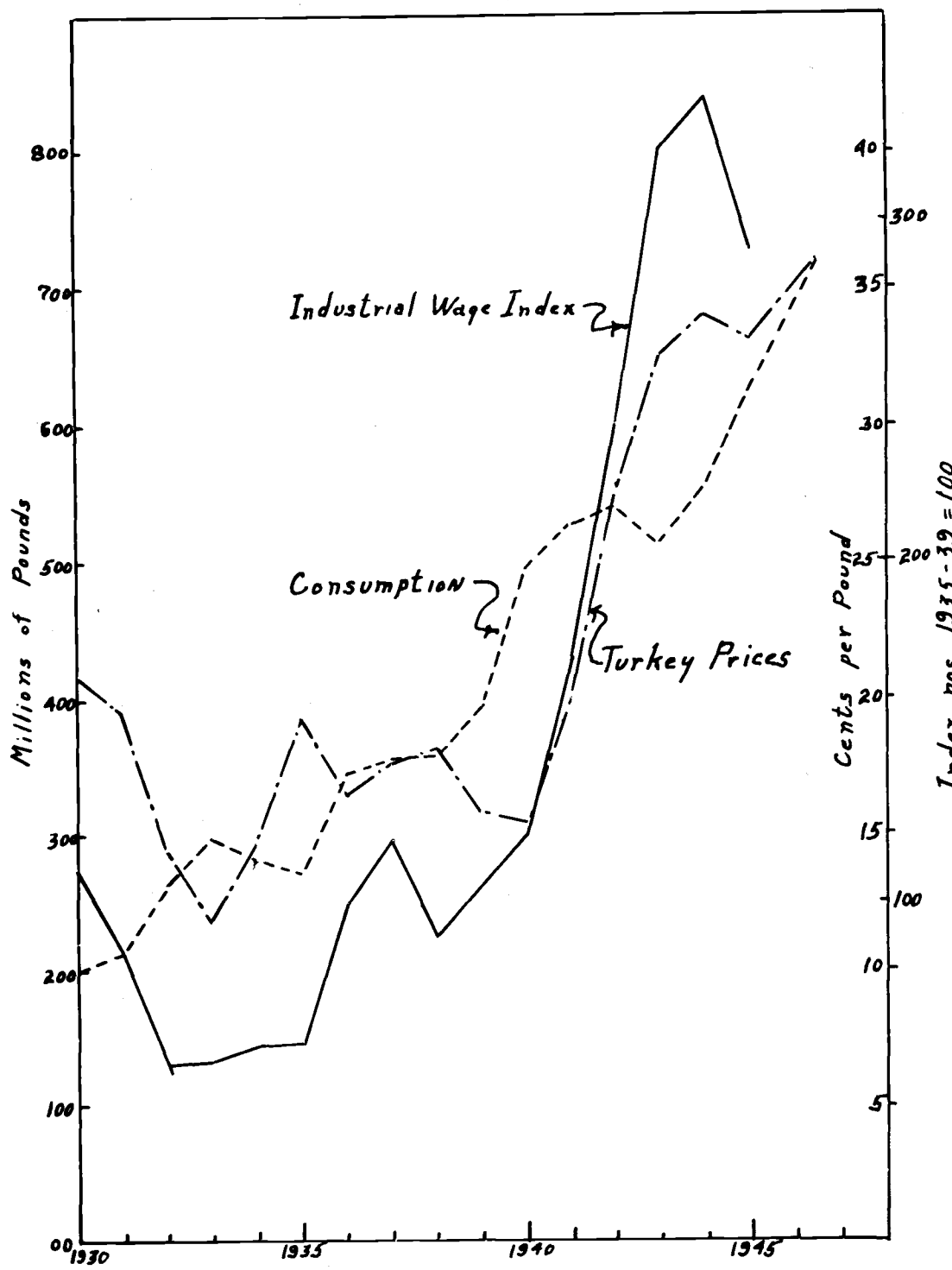
be particularly noted that in a comparison of turkeys and red meats, a decline in the consumption of red meats results in an increase in the consumption of turkey. Likewise an increase in red meats results in some decline in the consumption of turkey. The consumption of chicken corresponds quite closely with that of turkeys and likewise moves counterwise to that of red meats.

Reference to Figures 9 and 10 which show the relationship of market prices of turkeys to that of prices of beef, pork, lamb and chickens, indicates a close correlation in their movements which is similar to the relationship in the consumption of the different meats (Figure 8). The trend in 1947 suggests that turkey prices in relation to pork and beef are low in comparison with past price relationships. This would indicate that turkey will be a more economical meat for the housewife to buy than formerly and with exceedingly high corn prices predicted this season, which have a greater influence on pork and beef costs than turkey costs, turkey may become one of the most inexpensive meats that the housewife can buy.

Comparing Size and Price

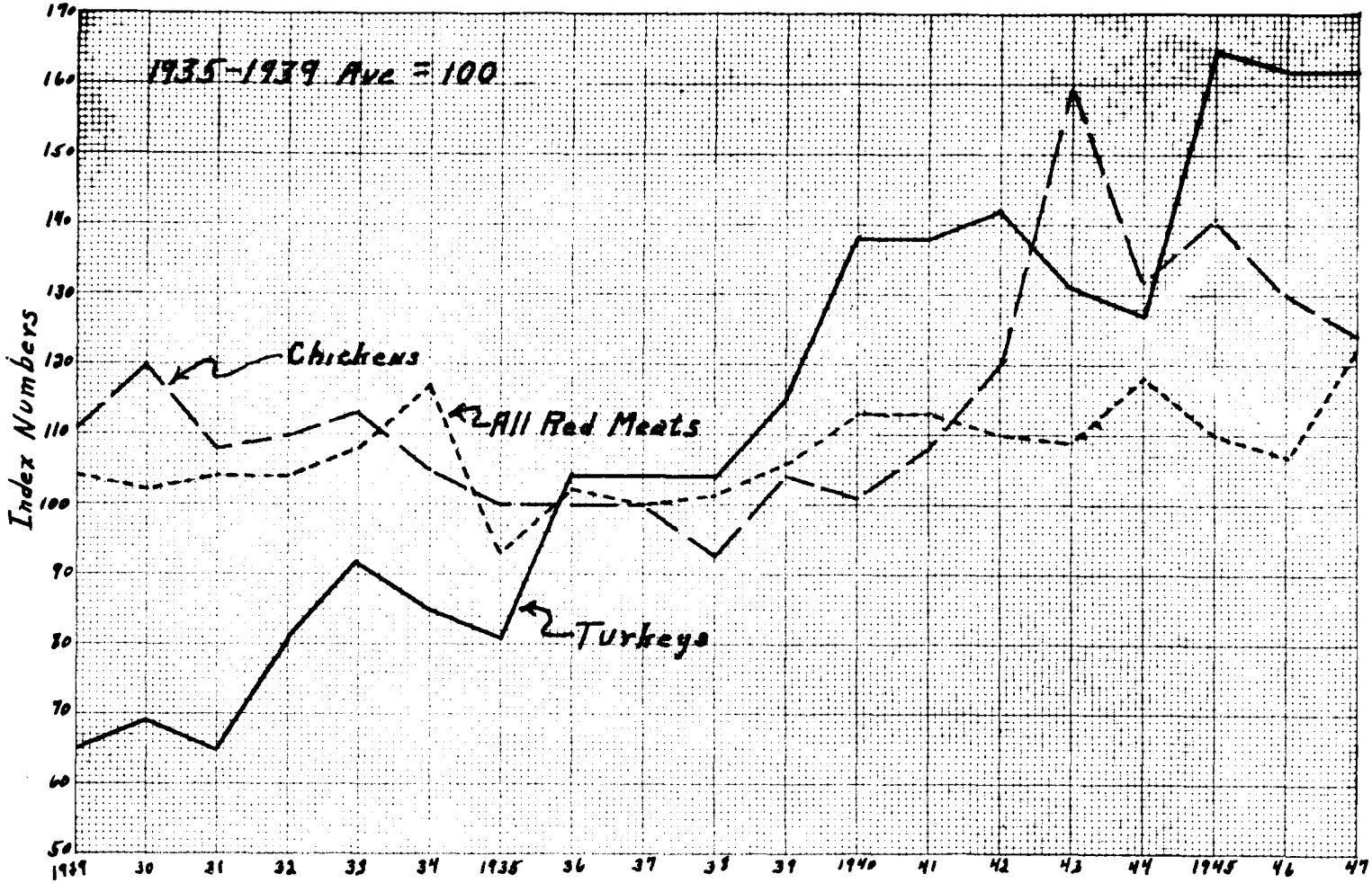
Prior to the Second World War there was a marked household consumer preference for relatively small-sized

Figure 7 U.S. AVERAGE TURKEY PRICES COMPARED WITH TOTAL TURKEY CONSUMPTION AND INDUSTRIAL WAGE INDEX FROM 1930 TO 1946



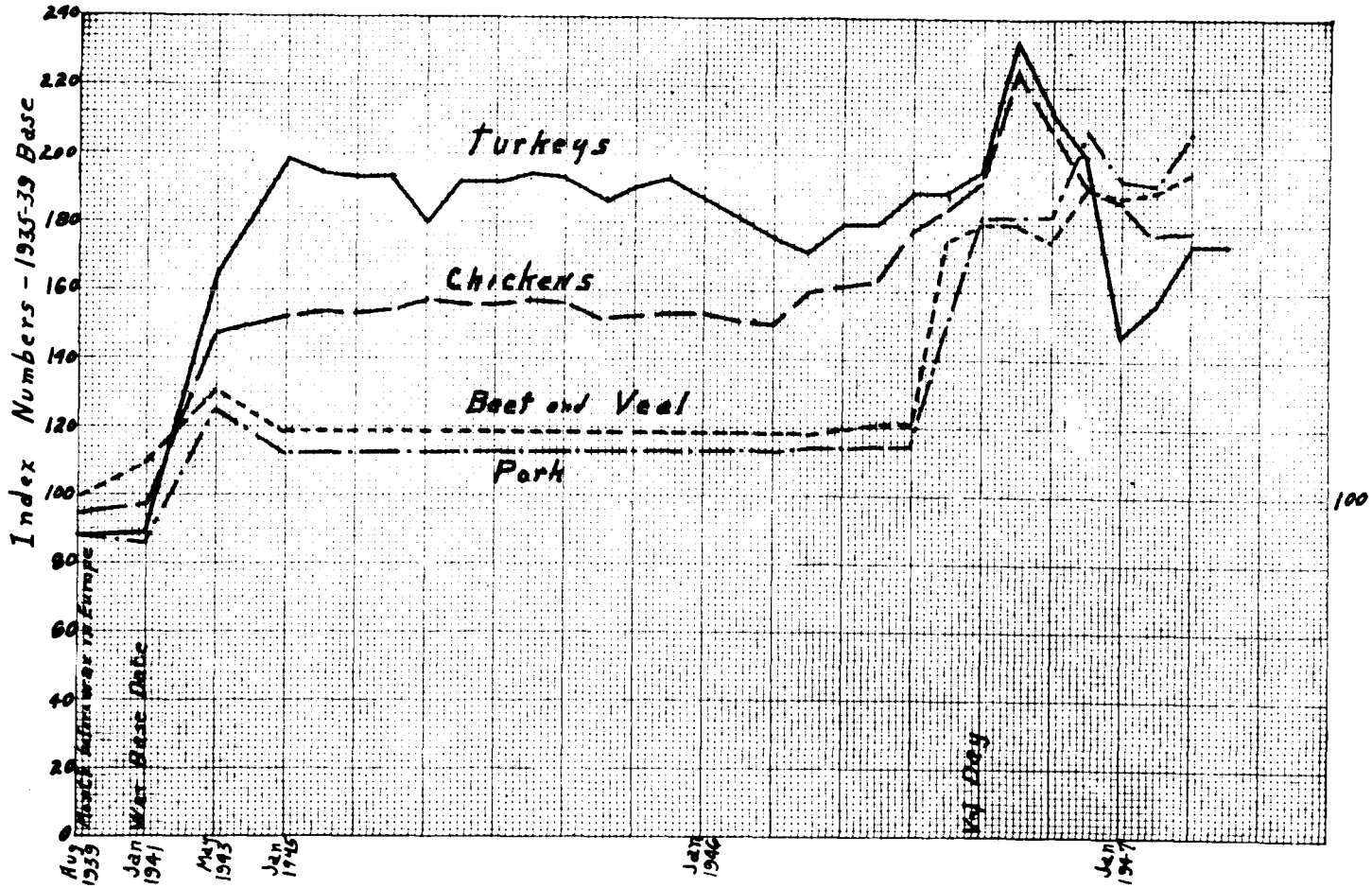
Source: Bureau of Agricultural Economics, USDA

Figure 8. U.S. PER CAPITA CONSUMPTION OF TURKEYS, CHICKENS AND ALL RED MEATS FROM 1929 TO 1947



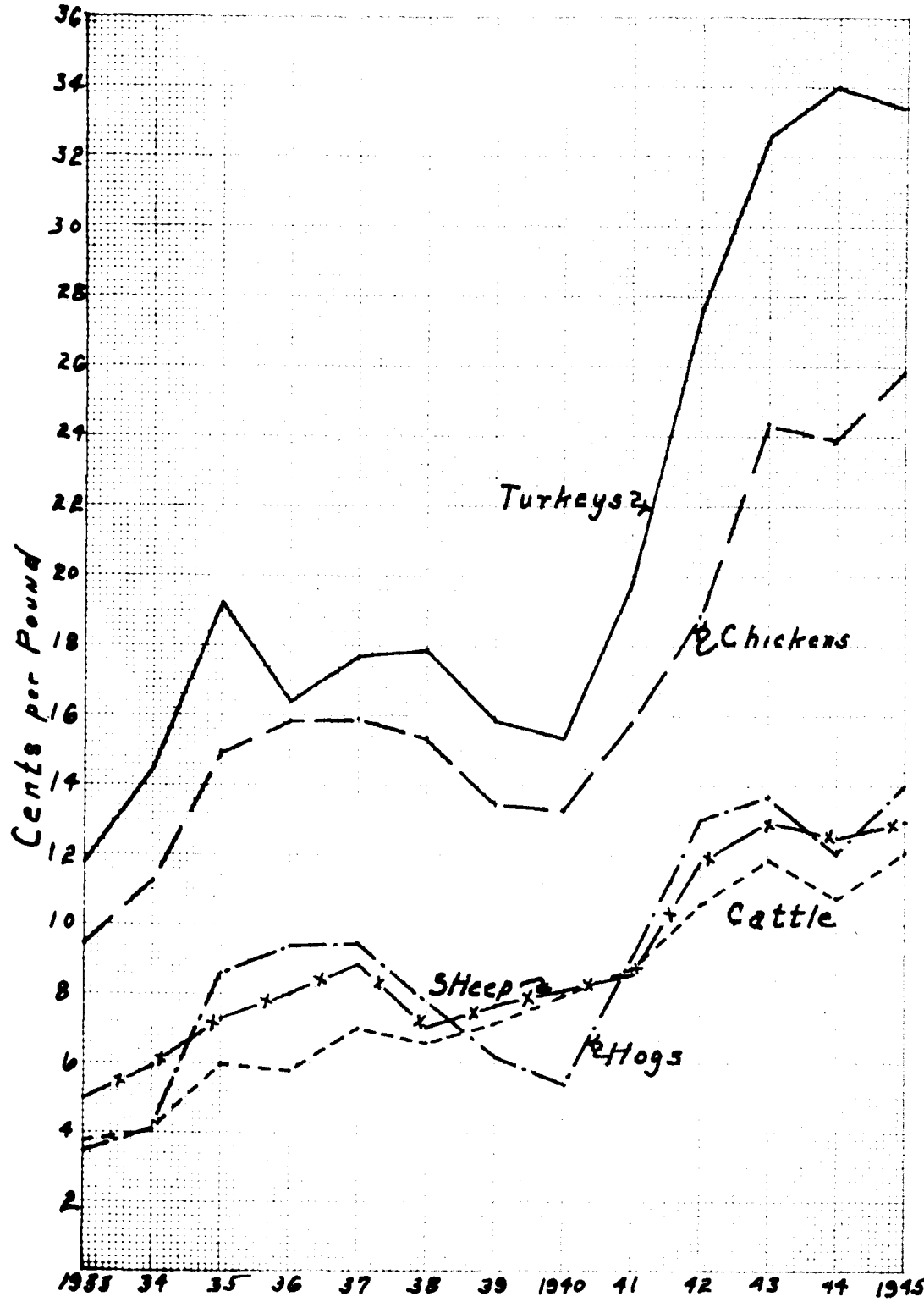
Source: Bureau of Agricultural Economics, USDA

Figure 9. U.S. AVERAGE PRICES OF LIVE TURKEYS COMPARED WITH RETAIL PRICES OF PORK, BEEF AND VEAL AND CHICKENS ON SIGNIFICANT WAR DATES AND BY MONTHS FROM JANUARY 1945 TO MARCH 1947



Source: Bureau of Agricultural Economics, USDA and Bureau of Labor Statistics, Dept. of Commerce

Figure 10 U.S. AVERAGE MARKET PRICES OF TURKEYS, CHICKENS, SHEEP, CATTLE AND HOGS IN CENTS PER POUND FROM 1933 TO 1945



Source: Bureau of Agricultural Economics, USDA.

TABLE 11

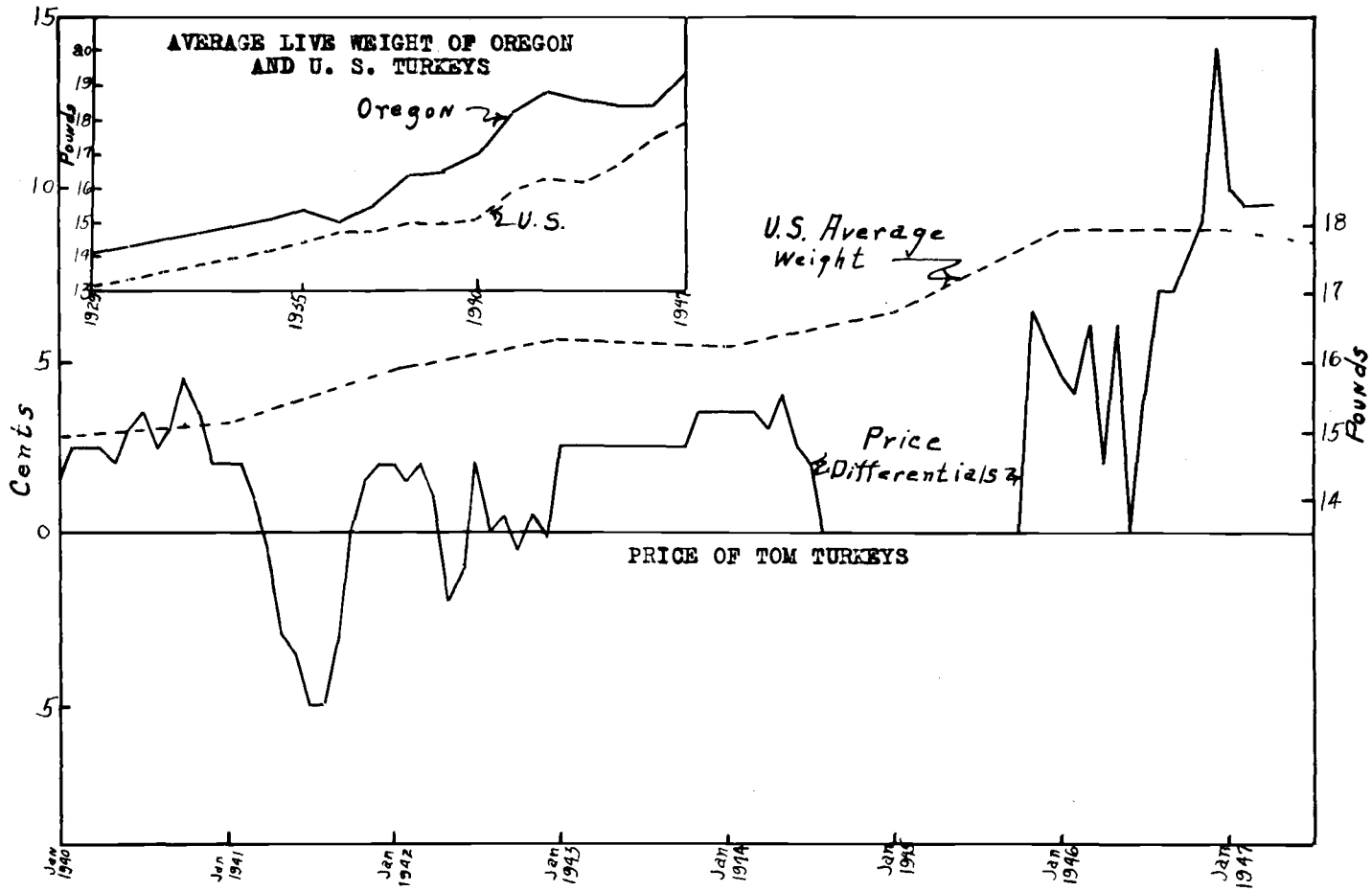
MEAT CONSUMPTION OF CHICKENS, TURKEYS, AND ALL RED MEATS, PER CAPITA, FOR YEARS 1929 TO 1947, WITH INDEX NUMBERS BASED UPON 1935-39 AVE.

Year	Chickens, in pounds	Index Numbers	Turkeys, in pounds	Index Numbers	All Red Meats	Index Numbers
1929	19.8	111	1.7	65	131.3	104
1930	21.5	120	1.8	69	128.3	102
1931	19.4	108	1.7	65	130.0	104
1932	19.7	110	2.1	81	130.3	104
1933	20.5	113	2.4	92	134.6	108
1934	18.8	105	2.2	85	146.0	117
1935	18.1	101	2.1	81	115.9	93
1936	18.1	101	2.7	104	127.5	102
1937	18.0	101	2.7	104	125.4	100
1938	16.8	93	2.7	104	126.3	101
1939	18.6	104	3.0	115	132.8	106
1935-39 Ave	17.9	100	2.6	100	125.2	100
1940	18.0	101	3.6	138	141.0	113
1941	19.4	108	3.6	138	141.4	113
1942	21.5	120	3.7	142	137.9	110
1943	28.0	160	3.4	131	136.3	109
1944	23.6	132	3.3	127	148.4	118
1940-44 Ave	22.1	124	3.5	135	133.0	113
1945	25.3	141	4.3	165	137.7	110
1946	22.8	130	4.2	162	134.2	107
1947 Prelim. Forecast	22.2	124	4.2	162	152.5	122

Source: Bureau of Agricultural Economics, USDA.
(April 1947 revised figures not incorporated)

turkeys. Because of the small size of the average American family and the total cost of an individual turkey, most housewives showed a preference for dressed turkeys weighing approximately 9 to 13 pounds. Hotels and restaurants preferred large-sized birds. Since hens are considerably smaller than toms, especially in the larger varieties, household consumers preferred hens. Referring to Figure 11, as the average size of the turkey has increased, the greater the price spread between hens and toms. This appears to reflect a consumer preference for smaller birds.

Figure 11. U.S. AVERAGE PRICE RECEIVED FOR HENS OVER TOM TURKEYS IN CENTS PER POUND COMPARED WITH U.S. AVERAGE LIVE WEIGHT OF ALL TURKEYS FROM JANUARY 1940 TO APRIL 1947



Source: Bureau of Agricultural Economics and Urner-Barry Who's Who in Poultry Industries.

TABLE 12

TURKEY PRICES: NEW YORK MARKET FOR NORTHWESTERN GROWN, DRESSED FROZEN YOUNG HEN AND YOUNG TOM TURKEYS FROM 1939 TO 1947

Year	Sex	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Ave
						Cents per Pound								
1939	YH	31½	31	31½	30½									31
	YT	30	29½	29	29	30	29	27	25	24	22	21½	20½	26½
1940	YH	22½	23	23	23½	25½	26	24½	23½	24	24	26	26	24
	YT	21	20½	20½	21	23½	23	21	21	21	20	22½	24	21
1941	YH	25	25	25	26½	27	27	27½	29	30	29	30	31	28
	YT	23	23	24	27	30	30½	32½	34	33	29	28½	29	28
1942	YH	33	33½	33*	33*	32*	33*	37	37	38½	39	41	41½	37½
	YT	31	32	31*	32*	34*	34*	35	37	39	39½	40½	41½	37
1943**	YH	41½	42	42½	43	43½	44	44½	44½	44½	44	45½	45½	44
	YT	39	39½	40	40½	41	41½	42	42	42	41½	42	42	41
1944**	YH	46	46½	47	47	48	46½	46	46½	46½	45½	44½	44½	46
	YT	42½	43	43½	44	44	43	44	46½	46½	45½	44½	44½	44½
1945	YH	45	46	46	46	46½	47½	45½	45½	45½	45½	45½	45½	46
	YT	45	46	46	46	46½	47½	45½	43½	45½	45½	39	42	45
1946	YH	45½	47	45	46	47	47	50	53	53	57	53	53	49½
	YT	41	43	39	44	41	41	46	46	46	44	44	39	43
1947	YH	43	44	46	46½									
	YT	33	34½	36½	37									

*Estimates

**Average of all turkeys. YH under 16 lbs. YT over 20 lbs.

Source: Urner-Barry, Who's Who in Poultry Industries and Norbest News letters.

TABLE 13

AVERAGE WEIGHT PER HEAD SOLD, BY SECTIONS AND FOR OREGON FOR PERIOD 1929 TO 1946

Year	N.Atl.	E.N.Cent.	W.N.Cent.	So.Atl.	So.Cent.	West	Oregon	U.S.
				(In Pounds)				
1929	13.3	13.5	12.9	13.2	12.7	14.0	14.1	13.2
1930	13.5	13.7	13.1	13.4	12.9	14.2	14.3	13.4
1931	13.8	13.9	13.4	13.6	13.1	14.4	14.5	13.6
1932	14.0	14.1	13.6	13.8	13.3	14.6	14.7	13.8
1933	14.2	14.3	13.8	14.0	13.5	14.8	14.9	14.0
1934	14.4	14.5	14.1	14.2	13.3	14.6	14.2	14.1
1935	14.6	14.7	14.4	14.4	13.9	15.4	15.4	14.5
1936	14.5	15.0	14.5	14.5	14.1	15.5	15.0	14.7
1937	14.7	14.9	14.7	14.7	14.2	15.6	15.5	14.8
1938	15.1	14.8	14.7	14.7	14.1	16.0	16.3	14.9
1939	15.2	14.8	14.6	14.8	14.0	16.0	16.5	14.9
1940	15.4	15.1	14.7	14.7	14.1	16.4	17.0	15.1
1941	16.0	15.4	15.4	15.1	15.0	17.4	18.2	15.9
1942	16.3	15.6	16.0	15.2	14.8	18.0	18.8	16.3
1943	15.4	15.5	15.9	15.2	14.9	17.8	18.5	16.2
1944	15.9	16.2	16.5	15.6	15.4	18.3	18.4	16.7
1945	16.5	16.7	17.2	16.3	16.1	18.8	18.4	17.4
1946	16.9	17.3	17.8	16.9	16.0	19.5	19.4	17.9

Source: Bureau of Agricultural Economics, USDA.

CHAPTER 6

DESIRED IMPROVEMENTS IN OUR SYSTEM OF MARKETING

For many years, turkeys were sold alive direct to the consumer. The first birds marketed dressed were dressed on the farms. When the distance from production areas to market increased with the movement of production westward, these inefficient methods of processing were gradually discarded and by the time Oregon developed into an important producing area, new methods were being adopted and Oregon was fortunate in not being tied to antiquated methods such as is still found in some Eastern and New England areas. Today, Oregon uses modern processing techniques. A negligible number of turkeys are dressed on farms. Up-to-date plants process the major part of the turkeys. However, consumer demands are necessitating continued improvements in processing. To meet competition with other meats, turkey must be available in the retail trade, dressed, drawn, cleaned, in attractive packages and ready for the oven.

Commercial evisceration of turkeys is a comparatively new process. The first evisceration was done in Oregon in about 1938. Evisceration plants require expensive equipment and few plants have been able to afford

them. However, many thousands of Oregon turkeys have been eviscerated in recent years. According to USDA reports, 12,647,484 pounds were eviscerated in Oregon for the year 1946. Army and Navy demands plus interest in halving and quartering birds for retail sales stimulated interest in evisceration during the war. The hotel trade requires New York dressed style birds, primarily, as they believe that they can more economically eviscerate their own. However, it is expected that soon all markets will require eviscerated turkeys and for several reasons. First, the homemaker shall require a bird ready for the oven; secondly, the evisceration process dresses off about 15 to 18 per cent from the New York dressed carcass, which would be a considerable savings in the cost of transportation and storage; and thirdly, it is a natural function of the dressing plant to complete the process of evisceration before the bird is frozen and boxed. In addition, the eviscerated bird does not acquire a taint from the entrails as the New York dressed birds sometimes do. Consequently, they can be kept in storage longer.

Greater competition will necessitate the use of all by-products as is done in the meat packing and other industries. The head, neck and shanks can be used for

phosphate fertilizer, the entrails can be utilized as canned dog or cat food. The blood and feathers can also be used as a source to supplement the return to the processing plants. Feathers as fertilizer have been found to be profitable in some areas. Special processing of feathers promises to yield a fill for pillows and mattresses comparable to that of the finest duck down. Feathers also may be used in the manufacture of plastics, for the production of liquid adhesives, trimming hats, and making feather dusters and artificial flowers (16, p.40).

PART III

PROBLEMS FACING THE INDUSTRY

CHAPTER 7

A WARTIME EXPANDED CAPACITY

The war brought about a greatly expanded production. Red meats were scarce, military demands were heavy, and hotels and restaurants were beginning to appreciate fully the value of making turkey a year around dinner offering. This caused turkey prices to rise to an all time high. The War Foods Administration continually pressed for greater production. Consequently, production was expanded in all areas and particularly was it stimulated on the west coast. The large birds, which were being produced in the greatest numbers in the western areas, were especially in great demand by the military and hotel trade. Turkey quarters and halves furnished meat for the housewife in place of the customary red meats. This resulted in a relatively high degree of prosperity in the industry. Whereas in 1940, 29 millions of pounds of turkey were produced in Oregon, by 1945 a peak of 48 million pounds was reached (Appendix Table III). This was a production increase of about 60 per cent.

The army suddenly ceased purchasing turkeys, with the cessation of hostilities in the late summer of 1945. The regular market trade had difficulty in disposing of the large volume of production. Particularly was there

a glut on the market of the large toms. In line with other price levels, turkey prices continued to be high but high feed costs and increased price differentials between the heavy and light turkeys caused a sharp reduction in production in 1946 and a heavier reduction in 1947. Undoubtedly, this has been a very healthy adjustment, as price differentials and cold storage holdings have indicated a surplus which might have disastrous effects in spite of present price support programs.

The problem, however, is just what scale of production is normal and necessary to fill current and future market needs and how will it be possible to best utilize the greatest part of our wartime expanded productive plant to advantage. The future of the industry depends upon the success of efficiently producing a quality product and adjusting our production to whatever market that may be developed. Since Oregon produces turkeys in excess of its own requirements, it must maintain its competitive position in out-of-state markets. They must be able to compete with all producers of turkeys in every turkey growing area in the United States. Market distribution places all turkeys in a competitive environment. Oregon producers must attempt to maintain or increase the consumption of turkey and particularly develop a market for the large type bird which has been generally accepted as the best suited to their productive facilities.

CHAPTER 8

DEVELOPMENT OF THE BROAD BREASTED BRONZE

The development of a larger type bird has been one of the most significant trends in the turkey industry in the last ten years. However, a consumer resistance to this development is becoming one of the foremost problems of the industry today. Oregon has been one of the leading states responsible for this condition with its development of the Broad Breasted Bronze turkey.

Interest in the breeding of a broader breasted turkey first became evident in the United States in 1937 when several Oregon breeders imported some breeding turkeys from Canada (15, p.16). These birds showed broader breasted characteristics than the conventional type Standard Bronze. Substantial progress was made in transmitting these characteristics through a breeding program which crossed the imported birds with the Standard Bronze strains. When these birds were exhibited at the World Poultry Congress in 1939, widespread attention stimulated interest and accelerated the breeding of a broad breasted bronze type. Ten years of intensive breeding has perfected a variety which recently has been recognized by the American Poultry Association's Standard of Perfection as a truly distinctive type and accepted as a

new breed.

The development of this variety and its general acceptance by producers throughout the U.S. in preference to existing varieties has greatly increased the average size of the turkeys marketed. Reference to Table 13 will show that in Oregon, the average weight of turkeys marketed has increased about 4 pounds over the last ten year period. For several years, consumers welcomed this new breed as the amount of breast meat on the carcass was being emphasized. However, even before the war, there were indications of some consumer resistance to the larger type birds. A reference to Figure 11 will indicate a variation in price advantage of the larger bird in comparison with the smaller bird. World War II temporarily forestalled any particularly great price reflection of this growing discrimination. Military demands and, to an increased extent, the serving of turkey dinners by hotels, along with the over-all meat shortages, placed a premium on the large birds, but price ceilings erased differentials. However, the war ended with substantial holdings of these large birds on farms and in cold storage (Table 14) and the prewar discrimination of this size turkey was reflected in sharp price differentials which very definitely favored the small turkeys. In the 1946 holiday marketing season, as much as a 20 cent per

TABLE 14

TURKEYS: COLD STORAGE HOLDINGS BY MONTHS FROM 1941 TO 1947

Month	1941	1942	1943	1944	1945	1946	1947
				(In thousands of pounds)			
January	60,626	50,028	35,692	36,655	72,606	108,181	128,253
February	65,343	59,641	38,016	48,345	74,077	134,514	139,571
March	59,346	55,768	29,880	47,090	62,730	134,548	126,138
April	46,966	45,757	19,003	36,567	46,486	123,920	107,359
May	36,221	35,455	11,501	30,313	32,682	106,868	94,522
June	30,427	31,405	7,625	35,658	28,823	96,710	86,131
July	23,038	28,249	8,141	35,341	27,260	79,385	
August	19,750	18,943	5,481	28,769	20,610	63,407	
September	12,802	12,132	5,113	22,888	17,796	54,838	
October	9,171	8,009	9,610	22,347	26,978	47,066	
November	8,245	12,741	14,353	42,126	42,722	83,547	
December	21,129	26,857	24,325	67,506	77,533	116,695	

Source: Bureau of Agricultural Economics, USDA.

pound differential showed up in market quotations on light and heavy turkeys. Shortages and high prices of red meats and increased purchases by hotels and restaurants of the heavy toms, was not sufficient to offset the depressing effect that the great backlog of large turkeys had upon the market. Some panic was felt among producers and many faced a potential loss on their tom turkeys. The Northwest, with production being predominently Broad Breasted, was among those affected the most. This factor along with extremely high feed costs seriously threatened the stability of production in Oregon for 1947. Some areas have reported a 35 to 50 per cent reduction in production. Others as much as 100 per cent. The latest estimates place 1947 production in Oregon at about 65 to 70 per cent of the 1946 production. There has been scattered interest in shifting to a small type bird, but Oregon producers who are proud of the part they have played in developing the efficient producing Broad Breasted Bronze, are reluctant to relinquish their attachments and have maintained their production patterns but only on a reduced scale. Large purchases of the heavy toms on the markets since last season have moved a great amount of the cold storage holdings, and, perhaps, by the next marketing season, a more nearly normal proportion of heavies to lights will result in a more favorable price situation between hens and toms.

CHAPTER 9

SEASONALITY OF CONSUMPTION

Extending the market for turkey meat is another one of the critical problems facing the turkey industry today. Consumption of turkey has been restricted primarily to the Thanksgiving and Christmas holidays. The Pilgrim fathers were responsible for establishing a precedent by annually providing turkey as the main dish on a day which was set aside as one of thanksgiving. Custom soon established the turkey as the prime roast to be eaten on the day which has been designated annually as Thanksgiving. The usual high cost of production relegated turkey to the role of luxury meat. These two factors, custom and high cost, were responsible for narrowing turkey consumption primarily to the holiday season. For years, production patterns were geared to this type of market and only in recent times have improved production methods enabled producers to greatly increase production at a cost which now enables consumers to class turkey as a utility meat. Improved refrigeration facilities enables the market to make turkey available at all times of the year.

There are several limitations to increasing year-around consumption, however. Although turkey meat is

good, people tire of it easily. This may be an important factor in restricting the consumption of it very often by very many people.

CHAPTER 10

COMPETITION WITH OTHER AREAS

The problem of meeting severe peacetime competition from other producing areas is another critical problem facing the Oregon turkey industry.

Turkeys soon lose their identification of origin, once they have entered the millstream of marketing, with the possible exception of established brand names. There is little basis for area competition after they have been accepted by the terminal marketing agencies and offered to the consuming public. Consequently, competitive advantages arise only upon these bases which are in the control of the agencies with the producing areas: 1) quality, 2) cost of production, and 3) cost of marketing.

Quality as a Basis of Area Competition

There are several things to be considered generally in determining quality; namely, appearance, color, shape, condition and texture of meat. There are other factors in grading that are also considered important to the consumer such as size, age, and sex. All handlers of the turkey, even the cook, may determine the quality of the

meat to be consumed, but by far the most important of these are the producer and local processor. A good bird must be dressed and packed carefully in order for it to command a quality price in the consuming market.

Since quality of product is determined primarily within the producing area, it has become a very important competitive factor. Turkey producers are inclined to play up the superior quality of the turkeys grown in their respective areas. There is very little evidence available to indicate where the superior quality turkeys are grown. Some markets, however, will quote a detailed price differential which will favor turkeys grown in certain areas over those of others. Market reports sometimes will indicate a range of as much as ½ to 1½ cents a pound higher for Northwestern grown young toms over Western and Midwestern grown birds and 2½ to 4½ cents over Southwestern and Virginia and Maryland grown birds. There seems to be no better explanation for this preference for Northwestern grown turkeys other than it must be on a basis of quality. It would seem that turkeys graded upon a uniform basis should command the same price position on the market. Since there is a range of quality within each grade and Northwestern producers also claim that their birds have a finish that few areas can compare with, it appears that birds grown and graded in the

Northwest generally average nearer the upper range of the grade over those grown and graded in other areas. Care and uniformity of packing also increase the attractiveness to the market of Northwestern packed turkeys.

Costs of Production

A comparison of cost studies, representative of several major turkey growing areas, will indicate the relative position Oregon producers have in competition with other areas. Three studies have been chosen, a New York study in 1943, representative of the Middle Atlantic area, an Illinois study in 1945, representative of the East North Central producers and a Washington state study in 1942, representative of Northwestern producers, which would be comparable to Oregon conditions (Table 15). These studies have been adapted to a common basis of comparison. The New York and Washington costs were re-evaluated upon a 1945 basis in line with the Illinois study.

The major cost factors considered were feed costs, labor costs, poult cost and miscellaneous costs, which includes the use of land and equipment, interest on investment, mortality, etc., with deductions for value of manure and feathers in the Illinois and New York studies.

Admittedly, there are a number of factors which it has been impossible adequately to correct for in order to make it a perfect comparison. It is important that one keep in mind that a difference in the average live weight used in each of these studies greatly affects the comparable unit costs per pound of turkey produced. However, average weight is an important competitive factor and it must be given credit.

Feed Costs. Feed costs were highest in the New York area, although they were a smaller per cent of the total cost - 19.4 cents a pound or 45.4 per cent of the total cost in New York, as against 17.5 cents a pound and 66.3 per cent of the total cost in Illinois and 15.8 cents a pound and 51.6 per cent of the total cost in Washington. On this basis of comparison, the advantage in feed costs is in favor of the Northwestern area.

Labor Costs. The next largest cost item in the New York and Washington study was the labor cost. The labor cost in New York was 09.9 cents a pound or 23.2 per cent. Washington labor costs were 08.5 cents a pound or 27.8 per cent of the total, while the Illinois study shows labor costs of 02.0 cents per pound or 07.6 per cent of the total. Here, apparently, the advantage is in favor

TABLE 15

TURKEYS: A COMPARISON OF GROWING COSTS IN NEW YORK, ILLINOIS AND WASHINGTON

ILLINOIS STUDY*

Item	Cost/lb live wt (Cents)	Per cent of total costs
Feed	17.5	66.3
Labor	02.0	07.6
Poult cost (per bird sold)	04.2	15.9
Misc. less credits for manure & feathers	02.7	10.2
Totals	26.4	

Average live wt. 18.1 lbs.

NEW YORK STUDY** 1945 - basis year

Item	Cost/lb live wt (cents)	Per cent of total costs	Conversion factor	Est.1945 costs (cents)	Per cent of total costs
Feed	19.4	51.3	100#	19.4	45.4
Labor	07.2	19.2	137##	09.9	23.2
Poults	05.8	15.3	143###	08.2	19.2
Misc.	05.2	14.2	100(est)	05.2	12.2
Totals	37.6			42.7	

Average live wt. 16.7 lbs.

WASHINGTON STUDY***

(Adapted to a 1945 basis for comparison)

Feed	15.2	60.4	104#	15.8	51.6
Labor	05.2	20.4	164##	08.5	27.8
Poults	03.0	11.7	150###	04.5	14.7
Misc.	01.8	07.5	100(est)	01.8	05.9
Totals	25.2			30.6	

Average live wt. 18.3 lbs.

\# BAE turkey-feed ratios (Table 16)
\## Average Wage rates (Table 17)
\### Poult cost (Table 18)

Sources: * (25, p.6)
** (11, p.3662)
*** (3, p.31)

TABLE 16

TURKEYS: UNITED STATES AVERAGE TURKEY-FEED PRICE RATIOS*

Year	Ratio	Year	Ratio
1933	8.1	1940	8.4
1934	7.2	1941	9.2
1935	8.6	1942	9.8
1936	9.0	1943	11.1
1937	7.2	1944	10.8
1938	10.9	1945	11.5
1939	10.4	1946	9.7

*Number of pounds of turkey ration equivalent in value to local market prices to one pound of turkey, live weight.

Source: Bureau of Agricultural Economics, USDA, reports.

of the Illinois producer, but a question arises as to whether the method of computing costs may be comparable in the several studies. Referring to Table 17, farm wage rates in Illinois do not favor such a cost advantage. It is possible that more efficient practices in Illinois have reduced labor costs considerably.

Poult Costs. A comparison of poult costs again gives the advantage to the Illinois producer but only by a small margin over the Washington producer. Reference to Table 18 will show relative poult cost among the different area.

Miscellaneous Costs. Here, also, a question may arise as to comparable considerations in the several areas, which we shall not attempt to analyze in detail. It would be expected that New York would have a higher miscellaneous cost because of the general higher price level. Washington State seems to have the advantage here.

In all of the cost studies, it was agreed generally, that the most important factors in determining costs are mortality, efficiency of feed utilization and efficiency of management to utilize labor properly.

Costs of Marketing

The greatest single item in the cost of marketing is

TABLE 17

AVERAGE U.S.FARM WAGE RATES, BY MONTH, WITHOUT BOARD, BY STATES
FOR OCTOBER 1, 1940, 1945 and 1946

State	1940	1945	1946	State	1940	1945	1946
Maine	$49.75	$130.00	$130.00	W.Virg.	$33.00	$70.00	$ 73.75
N.H.	56.50	124.00	136.00	N.C.	36.25	65.00	74.25
Vt.	50.00	120.00	131.00	S.C.	18.75	46.00	54.50
Mass.	63.50	132.00	144.00	Georgia	19.25	48.00	58.00
R.I.	65.00	130.00	142.00	Florida	28.50	80.00	84.00
Conn.	64.00	124.00	142.00	Kent.	29.25	67.00	77.00
N.Y.	48.75	118.00	129.00	Tenn.	24.75	57.00	65.00
N.J.	56.50	128.00	134.00	Ala.	19.75	49.50	54.75
Penn.	43.00	93.25	106.00	Miss.	20.25	50.50	57.50
Ohio	40.25	89.25	103.00	Ark.	24.50	64.75	72.50
Ind.	39.50	92.00	101.00	La.	23.25	56.00	59.00
Ill.	43.75	105.00	113.00	Okla.	31.25	96.00	99.25
Mich.	44.25	108.00	120.00	Tex.	31.25	97.25	102.00
Wisc.	45.25	109.00	123.00	Mont.	57.50	155.00	156.00
Minn.	44.25	120.00	130.00	Idaho	56.25	177.00	176.00
Iowa	44.00	117.00	127.00	Wyo.	54.50	143.00	156.00
Mo.	33.00	82.50	93.00	Colo.	47.25	131.00	141.00
N.D.	45.50	140.00	146.00	N.M.	40.75	102.00	110.00
S.D.	42.75	127.00	134.00	Ariz.	57.00	142.00	145.00
Neb.	37.50	118.00	128.00	Utah	62.75	145.00	156.00
Kan.	37.75	111.00	118.00	Nev.	66.25	150.00	150.00
Del.	42.00	92.00	100.00	Wash.	61.00	195.00	194.00
Md.	40.75	89.00	101.00	Oregon	55.25	174.00	178.00
Virg.	32.00	68.00	82.75	Calif.	72.25	185.00	185.00
U.S.	36.84	95.70	104.00				

Source: Bureau of Agricultural Economics, USDA

TABLE 18

TURKEYS: AVERAGE PRICES PAID BY FARMERS FOR POULTS IN 1943, 1944, AND 1945, BY STATES, CENTS PER POULT

State	1943	1944	1945	State	1943	1944	1945
Maine	54.00	60.00	80.00	W.Virg.	46.00	57.00	68.00
New Hamp	55.00	65.00	85.00	N.Car.	42.50	55.00	68.00
Vt.	59.00	67.00	80.00	S.Car.	35.00	64.00	66.00
Mass.	50.00	70.00	83.00	Georgia	35.00	40.00	50.00
R.I.	51.00	74.00	80.00	Florida	33.00	35.00	65.00
Conn.	50.00	75.00	80.00	Ky.	35.50	37.00	60100
New York	56.00	75.00	80.00	Tenn.	37.00	40.00	50.00
N.Jersey	55.00	73.00	80.00	Ala.	40.00	45.00	46.00
Penn.	53.00	63.00	73.00	Miss.	35.50	56.00	56.00
Ohio	53.00	62.00	72.00	Ark.	45.00	60.00	70.00
Ind.	51.00	60.00	77.00	La.	31.00	33.00	53.00
Ill.	47.50	52.00	70.00	Okla.	41.00	60.00	65.00
Mich.	61.00	80.00	80.00	Texas	46.00	51.00	64.00
Wisc.	58.00	66.00	83.00	Mont.	62.00	80.00	80.00
Minn.	68.00	81.00	84.00	Idaho	64.00	72.00	78.00
Iowa	54.00	76.00	76.00	Wyo.	62.00	72.00	83.00
Mo.	46.00	52.00	63.00	Colo.	66.00	83.00	86.00
N.Dak.	56.00	68.00	79.00	N.Mex.	54.00	70.00	70.00
S.Dak.	48.00	73.00	76.00	Ariz.	53.00	72.00	76.00
Nebr.	57.00	70.00	70.00	Utah	72.00	85.00	88.00
Kan.	52.00	60.00	73.00	Nev.	70.00	82.00	82.00
Del.	55.00	65.00	72.00	Wash.	54.00	66.00	74.00
Md.	52.00	68.00	75.00	Oregon	58.00	73.00	75.00
Virg.	46.50	61.00	73.00	Calif.	64.00	72.00	78.00

Source: Bureau of Agricultural Economics, USDA.

that of transportation. Distance from deficit consuming areas is a determinant of competitive costs. The Northwest producers are at a great disadvantage in this regard. The Eastern markets in which they must compete are at a greater distance than those markets are from most other surplus producing areas.

Processing costs are an important cost item but there is very little basis for a competitive comparison. Most areas have developed modern efficient processing plants. It is generally accepted that Oregon is well enough equipped with modern processing plants to compare with most areas.

The method of marketing, whether direct or indirect, will probably determine whether one producing area has a greater advantage over another area. Producers located near large consuming areas have greater opportunities to sell direct than others. Marketing cooperatively has been an attempt by producers to gain similar advantages collectively as have those producers who have marketed singly direct to consumers.

PART IV

SOLUTIONS TO THE SEVERAL PROBLEMS OF OREGON PRODUCERS

CHAPTER 11

ADJUSTING PRODUCTION

A surplus of 50.8 million pounds was produced in Oregon in 1945 (Table 8). The deficit producing areas are in the eastern section of the United States. This raises a question as to how long Oregon producers will be able to compete in these markets. Higher freight rates because of the greater distances to these markets place Oregon producers at a considerable disadvantage.

It is possible that with an overall U.S. surplus, as in 1945 and 1946, and narrowing profit margins, Oregon producers may be forced out of the Eastern markets. If it should be necessary to confine production to the West coast and adjacent export markets, an increasing population in this area may make this feasible. At present consumption levels, an estimated 14 million people in the three west coast states would consume 70 million pounds of turkey, compared with 30 million pounds as of 1940. Alaska, Hawaii and western Canadian markets will offer a market for several million more pounds. California, Washington and Oregon produced 155 million pounds in 1946. The 1947 crop is estimated to be about 70 per cent of the 1946 crop, or 108.5 million pounds. Present

population estimates would offer a market for approximately 65 per cent of this production.

CHAPTER 12

SMALL OR A LARGE TYPE TURKEY

Wide price differentials between light and heavy birds resulting from an increase in the supply of the heavy birds on the market and a shifting of certain classes of demand to a smaller type of bird have caused Oregon producers to ask themselves whether they should continue production of the Broad Breasted Bronze or shift to a smaller type bird. On the one hand, they have been producing a bird highly adaptible to local growing conditions and which will produce a pound of meat most efficiently and, on the other hand, many consumers have expressed a willingness to pay a premium for a smaller type bird but which is not as economical a producer of meat. Numerous studies have indicated that the BBB grows most rapidly (Table 19), and utilizes feed more efficiently than other varieties. Reference to Table 20 comparing two extreme types, the Broad Breasteds and the Beltsville Small-whites confirms this. At 26 weeks, the BB's weighed 18.7 pounds compared with 12.5 pounds of the Beltsville Small-whites. Four pounds of feed was necessary to produce a pound of gain for the BB's but 4.4 pounds of feed was required to produce a pound of Small-white.

TABLE 19

GROWTH STANDARDS FOR TURKEYS
(BOTH SEXES)

Age	Broad Breasted Bronze	Standard Bred Bronze	White Holland	Beltsville Small White
One day	.154	.125	.120	.110
2 weeks	.375	.315	.330	.310
4 "	1.035	.805	.735	.790
8 "	3.40	2.91	2.15	2.61
12 "	7.00	5.91	4.85	4.66
16 "	11.30	9.67	8.17	7.08
20 "	14.65	12.07	11.02	9.25
24 "	17.90	14.69	13.58	11.46
26 "	19.45	16.11	14.83	12.41
28 "	20.75	16.92	15.67	13.69
30 "	21.85	18.32	16.50	14.59
32 "	23.00	18.66	17.20	15.67

Source: (10, p.339)

TABLE 20

TURKEYS: AVERAGE WEIGHT PER BIRD AT END OF EACH 2-WEEK PERIOD, AND POUNDS FEED CONSUMED PER POUND GAIN IN LIVE WEIGHT FOR DIFFERENT PERIODS IN BROAD BREASTED BRONZE TURKEYS AND IN BELTSVILLE SMALL-TYPE WHITES

Period, Weeks	Average weight per bird at end of period, both sexes		Pounds feed consumed per pound gain in live weight to end of period	
	Broad Breasted Bronze	Beltsville Small Whites	Broad Breasted Bronze	Beltsville Small Whites
1 - 2	0.5	0.3	1.3	3.3
3 - 4	1.2	0.7	1.6	2.9
5 - 6	2.1	1.4	1.9	2.7
7 - 8	3.4	2.2	2.1	2.8
9 - 10	5.0	3.3	2.2	2.6
11 - 12	6.7	4.4	2.4	2.9
13 - 14	8.5	5.7	2.6	3.1
15 - 16	10.3	6.9	2.8	3.3
17 - 18	12.3	8.1	3.0	3.6
19 - 20	14.1	9.2	3.2	3.7
21 - 22	15.7	10.1	3.4	4.0
23 - 24	17.3	11.2	3.7	4.2
25 - 26	18.7	12.5	4.0	4.4
27 - 28	20.1	....	4.3	....

Source: Jull's, Morley A., Raising Turkeys, McGraw-Hill Book Company, New York, 1947, pp.180-181.

TABLE 21

A COMPARISON OF THE PERCENTAGE OF EDIBLE MEAT OF THE LIVE WEIGHT OF MALES AND FEMALES

Broad Breasted Bronze		Standard Bronze		White Holland		Beltsville Small White	
Males	Females	Males	Females	Males	Females	Males	Females
54.6	59.4	52.5	56.0	52.4	54.5	54.0	54.4

Source: Marshaw, et al., Beltsville Exp. Station, USDA.

The percentage of edible meat is also greater on the large type bird (Table 21).

In determining which type bird to raise, the producer must consider also, what will best satisfy consumer demand. There are two distinct types of demand that must be weighed carefully in one's mind. One is the demand of the home and the other is of the restaurant trade.

Home Demand. Homemakers have recently been showing a preference for a small type of bird. There are several factors responsible for this change.

1) The average family unit has been decreasing in size in recent years. Less meat is consumed at each meal of the typical family unit, and when a whole turkey is purchased, it usually necessitates carrying over some of the meat to be eaten at subsequent meals. Often it is necessary to eat turkey at each meal for a week. Because of the rich distinctive flavor of turkey meat, people soon tire of it. This works to the disadvantage of the turkey industry, as people usually do not care to buy it but occasionally.

2) The cooking facilities of the average homemaker are smaller. This is a result of the decrease in the size of the family unit and also a change in the cooking

habits of the home. Ovens are becoming smaller and so are the roasters, which restricts all homemakers to buying a smaller bird to fit these facilities used.

3) It has been customary for turkeys to be roasted whole, and until recently, this has been the only form which has been offered on the market. Usually it is necessary to purchase a whole turkey each time. This requires a large outlay of cash. Homemakers are often inclined to purchase their food on a day to day basis. Consequently, they have tried to reduce this cash outlay by buying a smaller bird.

Restaurant Demand. On the other hand, restaurants desire a larger bird. It has been only during the last several years that restaurants have recognized the value of serving turkey as a year-around dinner item. The consumption of turkey in restaurants has increased many-fold during the last ten years. Many restaurants consider it almost a revolutionary development in their trade and believe it to be the best money maker that they have (3, p.5). They have had little difficulty in creating a demand for turkey dinners. A 20 pound tom will provide sixteen 8 ounce dinner plate servings. The balance of the turkey carcass may be used for turkey ala king, soup, etc. The added dressing which most customers want with their roast turkey is a very economical fill on

the dinner plate. This trade requires a large bird, a 23 to 25 pound bird being the most desirable although even the heavier birds are taken. There is considerable probability that there will be a further expansion in this direction as an outlet for the large toms.

CHAPTER 13

WIDENING PRESENT MARKETS

Increased consumption may result from 1) greater year-around consumption, 2) better utilization of special processes and 3) greater ability of turkey to compete with other meats on a cost basis.

Year Around Consumption. Since turkeys have been considered primarily a luxury meat and normally consumed during the holiday season, a year-around market must be developed with more people eating more turkey more often. One additional meal per person per year would increase per capita consumption by about one-half a pound. Two things are necessary. Extensive advertising and educational campaigns must be carried on to create an increased demand and turkeys must be processed into a form which will encourage greater consumption. Turkeys long have had a natural advertising advantage during the holiday season. During that time the public is made turkey conscious through the schools, the radio and press, in honor of Thanksgiving day.

The problem, however, is to conduct an organized campaign throughout the year which will make consumers conscious of the fact that turkey is a very delicious

and nutritive meat and may make an economical meal. For the past several years, the Poultry and Egg National Board has been conducting such a campaign. Many other agencies have been cooperating (8, p.328).

Much basic research is necessary before we will be able to produce a quality meat which can compete on a cost basis with other meats and to develop processes which will provide the homemaker with a purchasable meal of turkey meat to fit an average sized family. Many advances have been made in production techniques but the processing of turkey only recently has been receiving attention. A number of experiments have been conducted during the last several years on the composition and percentages of edible cuts of a turkey carcass (Appendix Tables XIII, XIV, XV and XVI). Authentic information is being distributed showing the relative advantages of turkey meat as an everyday meal item. This will enable the consumer properly to evaluate his or her purchase and to determine what is the most economical method to fit his purchase needs. Various methods of processing turkey have been developed.

Utilizing Special Processes. There is considerable interest in special processes of preparing turkey meat. This is partly a result of attempts to find means of

adapting the large type bird to the average consumer's demand. But it is primarily an attempt to sell more turkeys. Some of these special processes are: 1) halving and quartering, 2) turkey steaks, 3) canning, 4) smoking and curing, 5) barbecuing, 6) turkeyburgers and 7) canned and frozen turkey meals.

Halving and quartering of eviscerated turkeys was carried on quite extensively during the war due to scarcity of red meats. It offered a reasonable size purchase unit which an average consumer was willing and could afford to buy. With the return to the market of a plentiful supply of red meats, the demand for quarters and halves fell off. However, halving and quartering may be a partial solution to the problem of "eat more turkey" but only at a lower level of demand. It definitely provides one logical method of handling the excessively large birds.

Turkey steak is a more recent development in providing a piece of meat which will compete with red meats and fit in well with the daily bill of fare. It is still in the experimental stage and those who have tasted turkey steaks affirm to its delicacy but few as yet have tasted them. Several experiments have been carried out (17, p.24-26), but there has been no general acceptance of the best method of cutting up the turkey carcass into steaks.

Canned turkey has been tried by a number of processors but sales of canned turkey have been disappointing. Poor quality and high retail cost have been the primary reasons for this. There is a scarcity of natural juices in the conventional methods of preparing the turkey for canning and consequently the canned product does not have as rich a flavor as, for example, canned chicken. Special preparations such as turkey loaf, filled with cheaper meats and cereals and seasoned to give it a roast flavor is being placed on the market but there has been little movement as yet of these special canned preparations.

Smoked turkey is generally accepted by those who have eaten it as being delicious but the shrinkage and cost of curing has forced it to remain in a market for exclusive trade only. Its most enthusiastic promoters expect little more than that for it in the future.

Barbecuing is another special process that has a few enthusiastic promoters but relatively few consumers.

Turkeyburgers were popularized during the wartime meat shortage, but this trade was soon lost because of poor quality. The burger was usually overloaded with a fill of cheaper meat and cereals.

Canned and frozen turkey meals appears to be an item

which may gain greater prominence in the future with the adaptation of frozen meals to more special uses (3, p.28).

The number of these special processes indicate the effort that is being made to increase the consumption of turkey. The success of this depends upon extensive consumer education to increase consumer preference for turkey. This promises to be a long time project before any noticeable results are obtained.

Competition with Other Meats. Increased consumption may depend upon our ability to produce turkey on a comparable cost basis with other meats.

The turkey ranks high among domestic animals as an efficient utilizer of grains and animal by-products. The average turkey when finished for market at 28 weeks of age has consumed only about 4.5 pounds of feed for each pound of live body weight (Table 20). Chickens consume from 5 to 6 pounds, young rabbits consume about 5.5 pounds of feed for each pound of body weight, a 200 pound hog 4.5 to 5.5 pounds of feed, whereas a spring lamb or a baby beef consumes about 8 pounds of feed for each pound of gain (12, p.807-810). It must be kept in mind, however, that the hog, lamb and calf consume cheaper feed than the turkey.

In the fowl class in percentage of edible meat the turkey is surpassed only by squab pigeons and capons (Table 21). In the red meat class, hogs will dress 56 per cent, beef 43 per cent and lambs 52 per cent edible meat as percentage of the live weight (1, p.31, 37, and 125).

This would compare with 66 per cent of edible meat (Table 22) of turkeys or a more modest figure of 57 per cent in the Broad Breasted Bronze variety as found in the Beltsville experiments (Appendix Tables IX, X). The latter is considered more acceptable. According to available evidence the turkey ranks high in all classes of meat producers, in percentage of edible meat.

TABLE 22

PERCENTAGE OF EDIBLE MEAT TO DRESSED WEIGHT*

Squab pigeons	73.94 per cent
Fattened capons	67.46
Turkeys (Prime roasting)	66.53
Geese	65.07
Fattened hens	64.22
Fattened roasters	63.07
Fattened broilers	60.73
Squab guineas	60.25
Ducks	60.17
Unfattened roasters	56.86
Unfattened broilers	54.27

Source: Marsden, Stanley J. and Martin J. Holmes, Turkey Management, 4th Edition, The Interstate, 1946, p.510.

*Dressed weight refers to "blood-and-feather" dress. Edible meat consists of giblets and drawn carcass minus the bones.

A comparison of costs between the turkey and the hog, the most efficient producer of all classes of livestock, favors the hog but the difference is not great.* Computing costs on a basis as of March 15, 1947, turkey costs about 25 cents per pound to raise. On the same date, hogs would cost approximately 17.5 cents a pound or a difference of about 7.5 cents.

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* A COMPARISON OF COSTS OF RAISING A POUND OF PORK AND A POUND OF TURKEY AS OF MARCH 15, 1947

Hogs

\# Hog-corn ratio is 17.6. U.S. Ave. Price of hogs is 26.4¢. Therefore corn costs $1.50 per bu or 2.7 cents per pound.
\## 80 per cent of average hog ration is corn.
\## Feed is 80 per cent of total cost of raising a hog. Therefore corn is 64 per cent (80% times 80%) of cost of raising pork.
\### It takes 4.5 pounds of feed per pound gain. Therefore 11.15 cents is the cost of corn per pound gain.
(4.5 times 2.7)
Therefore the cost per pound of pork is 17.42 cents.
(11.15 times $\frac{100}{64}$)

Turkeys

\# Turkey-Feed ratio is 7.9. Turkey price is 29.7 cents/lb. Therefore turkey feed ration costs 3.76 cents/lb.
\#### Feed is 60 per cent of total cost of raising turkeys.
\##### Turkeys require about 4.5 lbs. of feed per pound gain. Therefore 15.04 cents is cost per pound gain for feed
(4.5 times 3.76)
Therefore 25.1 cents is total cost per pound gain.
(15.04 times $\frac{100}{60}$)

\# BAE: USDA. Agricultural Prices. March 28, 1947.
\## 12, para 1443.
\### 12, para 1274.
\#### 4, p.29.
\##### Table 20.

With a scarcity of corn predicted for the 1947 crop year, the cost of pork may well go above that of turkeys as corn constitutes 80 per cent of the feed ration for hogs but only a small per cent of the turkey ration. A comparison with other classes of red meat producers would probably favor the turkey as beeves and lambs do not utilize feed as efficiently or dress out as high a percentage of edible meat.

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APPENDIX

APPENDIX INDEX

TABLE I

TURKEYS: BREEDER HENS ON FARMS JANUARY 1, BY STATES, 1941-47

State & Division	1941	1942	1943	1944	1945	1946	1947
				Thousands			
Maine	5	5	6	6	7	10	8
N.H.	5	6	7	8	10	13	11
Vt.	10	10	11	11	13	17	16
Mass.	26	28	33	37	49	58	38
R.I.	3	3	3	3	4	4	3
Conn.	11	14	16	18	26	30	24
N.Y.	36	41	43	52	61	87	100
N.J.	12	13	15	21	27	34	27
Pa.	65	69	55	70	78	86	93
N. Atl.	173	189	189	226	275	339	320
Ohio	67	67	60	85	106	175	166
Ind.	40	45	52	47	61	85	85
Ill.	55	58	72	90	109	144	98
Mich.	56	55	55	69	69	100	86
Wis.	41	37	45	66	56	73	61
E.N. Cent.	258	262	284	357	401	577	496
Minn.	249	264	256	300	339	380	285
Iowa	125	138	128	138	134	141	148
Mo.	201	221	221	254	279	335	302
N.Dak.	210	202	164	125	85	53	46
S.Dak.	196	180	139	75	63	41	26
Nebr.	116	121	96	92	101	101	96
Kans.	177	147	150	112	106	141	127
W.N. Cent.	1274	1293	1154	1096	1107	1192	1030
Del.	14	12	10	10	12	13	10
Md.	50	52	47	40	53	58	52
Va.	92	105	103	105	121	151	136
W.Va.	29	29	23	20	22	30	32
N.C.	39	45	38	30	30	36	38
Ga.	35	40	49	51	63	76	65
Fla.	20	21	22	22	21	24	19
S. Atl.	305	332	322	307	348	419	383

(Continued on following page)

TABLE I (Continued)

State & Division	1941	1942	1943	1944	1945	1946	1947
Ky.	50	45	49	38	39	41	37
Tenn.	36	33	32	31	26	26	20
Ala.	34	39	41	43	34	34	30
Miss.	38	44	43	40	35	31	23
Ark.	25	26	26	30	28	30	24
La.	22	19	16	15	13	12	11
Okla.	250	225	169	147	106	103	89
Tex.	675	621	609	670	704	774	642
S. Cent.	1130	1052	985	1014	985	1051	876
Mont.	29	23	19	15	10	9	8
Idaho	21	21	26	28	28	25	29
Wyo.	17	12	10	8	5	5	4
Colo.	65	65	66	66	52	76	57
N.Mex.	13	14	20	17	19	19	15
Ariz.	12	9	12	10	10	16	12
Utah	20	26	34	25	50	35	10
Nev.	5	5	7	8	9	6	5
Wash.	60	76	103	118	125	140	112
Ore.	131	196	235	331	420	433	299
Calif.	351	428	518	668	762	899	557
West.	724	875	1050	1294	1490	1663	1108
U.S.	3864	4003	3984	4294	4606	5241	4213

Source: Bureau of Agricultural Economics, USDA.

TABLE II

TURKEYS: NUMBER PRODUCED ON FARMS, BY STATES, 1940-46[1]

State & Division	1940	1941	1942	1943	1944	1945	1946
				Thousands			
Maine	51	45	51	47	49	58	50
N.H.	58	65	69	64	70	91	74
Vt.	143	149	140	128	141	184	173
Mass.	258	262	286	269	292	352	330
R.I.	21	22	25	26	30	35	33
Conn.	106	104	131	136	177	224	210
N.Y.	397	458	485	466	547	752	751
N.J.	124	119	136	183	248	372	402
Pa.	790	840	915	961	1116	1453	1424
N. Atl.	1928	2044	2238	2280	2670	3521	3447
Ohio	939	809	889	845	971	1147	1141
Ind.	444	356	390	448	608	1005	1075
Ill.	581	623	654	521	733	992	1138
Mich.	455	466	475	512	631	994	925
Wis.	410	423	474	540	575	634	607
E.N. Cent.	2829	2677	2882	2866	3518	4772	4886
Minn.	3008	3160	3160	2871	3162	3959	3992
Iowa	1700	1770	1717	1835	2300	2882	3114
Mo.	1846	1522	1339	1314	1507	1818	1729
N.Dak.	1647	1280	1121	731	784	828	961
S.Dak.	1371	1226	923	523	398	424	416
Nebr.	1053	1014	912	792	842	1047	1149
Kans.	1174	1134	1043	827	734	901	882
W.N. Cent.	11509	11106	10215	8893	9727	11859	12243
Del.	115	107	93	84	87	100	90
Md.	409	401	400	360	423	485	462
Va.	797	797	893	847	978	1217	1320
W.Va.	227	237	294	268	317	413	434
N.C.	234	234	261	235	284	371	416
S.C.	156	146	175	233	274	411	412
Ga.	111	112	131	141	141	171	179
Fla.	112	104	101	102	93	111	111
S. Atl.	2161	2138	2348	2270	2597	3279	3424

(Continued on following page)

TABLE II (Continued)

State & Division	1940	1941	1942	1943	1944	1945	1946
Ky.	296	272	278	219	225	254	215
Tenn.	187	176	152	172	147	155	172
Ala.	121	150	164	164	135	145	146
Miss.	109	134	132	112	88	92	77
Ark.	121	127	136	120	127	146	123
La.	57	56	52	50	43	43	45
Okla.	1457	1238	1008	792	627	668	657
Tex.	4508	3563	3625	3629	3667	4602	4138
S. Cent.	6856	5716	5547	5268	5060	6105	5553
Mont.	245	216	204	182	153	153	169
Idaho	257	273	314	251	314	393	235
Wyo.	200	171	174	165	144	172	155
Colo.	911	839	881	852	851	938	869
N.Mex.	61	57	65	63	67	77	85
Ariz.	67	60	79	84	87	101	85
Utah	851	1039	1279	1341	1639	2032	1484
Nev.	46	38	29	38	45	50	46
Wash.	831	898	996	1094	1293	1527	1296
Oregon	1700	1719	1854	2241	2283	3080	2152
Calif.	3340	3506	3254	3966	4722	5732	4277
West.	8469	8816	9129	10277	11598	14255	10873
U.S.	53572	52497	52559	51854	55170	63791	60426

[1] Turkeys sold plus consumed in household of farm producers, and plus or minus change in inventory.

Source: Bureau of Agricultural Economics, USDA.

TABLE III

TURKEYS: POUNDS PRODUCED ON FARMS, BY STATES, 1940-46

State & Division	1940	1941	1942	1943	1944	1945	1946
	Thousand pounds						
Maine	755	720	836	705	744	923	820
N.H.	899	1021	1138	1012	1120	1520	1287
Vt.	2205	2354	2353	1920	2256	3036	2975
Mass.	3570	4112	4719	4035	4672	5773	5479
R.I.	315	338	407	404	480	560	544
Conn.	1632	1642	2122	2095	2726	3718	3696
N.Y.	5955	6877	7808	6944	8423	12333	12467
N.J.	1934	1976	2258	2837	3968	6138	6713
Pa.	12405	13692	14914	14992	17856	24120	24350
N. Atl.	29666	32732	36555	34944	42245	58121	58331
Ohio	14179	12539	13780	12760	15342	18695	19510
Ind.	6660	5661	6201	6989	9911	16784	18383
Ill.	8715	9469	10071	8232	12021	16864	20142
Mich.	6735	6943	7172	7987	9970	16302	15447
Wis.	6396	6598	7584	8532	9545	10905	11106
E.N. Cent.	42685	41210	44808	44500	56789	79550	84590
Minn.	44217	48981	50876	45075	52173	68095	71158
Iowa	26520	28674	28158	31195	40249	51587	57298
Mo.	23500	24048	21959	20630	24865	30724	31122
N.Dak.	22729	18944	17039	10673	11760	13248	16049
S.Dak.	18646	17655	13476	7635	6050	6700	6822
Nebr.	16264	15920	14865	13068	14314	18427	20222
Kans.	17140	17123	16479	13232	12185	15588	15612
W.N. Cent.	169016	171345	162852	141508	161596	204369	218183
Del.	1725	1690	1451	1310	1392	1670	1575
Md.	6216	6256	6321	5616	6768	8197	8085
Va.	11716	12194	13663	12874	15452	20203	22968
W.Va.	3110	3241	4263	3852	4755	6525	6858
N.C.	3440	3487	3811	3525	4260	5825	6906
S.C.	2355	2293	2766	3682	4193	5658	7004
Ga.	1642	1612	1965	2229	2200	2270	2900
Fla.	1602	1456	1404	1469	1595	1665	1665
S. Atl.	31806	32329	35644	34527	40415	53513	57961

(Continued on following page)

TABLE III (Continued)

State & Division	1940	1941	1942	1943	1944	1945	1946
Ky.	4262	4162	4198	3197	3571	4114	3526
Tenn.	2627	2605	2264	2512	2190	2418	2718
Ala.	1682	2205	2411	2362	1943	2219	2264
Miss.	1472	1971	1967	1646	1285	1435	1171
Ark.	1707	1864	2108	1788	1893	2336	1869
La.	781	817	743	710	624	654	689
Okla.	20398	18075	14817	11568	9405	10488	9746
Tex.	60744	54157	53649	54948	57205	74565	67035
S. Cent.	93685	85846	82157	78726	78116	98217	89018
Mont.	3430	3805	3163	2839	2402	2478	2805
Idaho	3413	4205	4962	3992	5244	6760	3995
Wyo.	2900	2599	2698	2524	2150	2683	2604
Colo.	13939	13592	14537	14058	14637	16228	15647
N.Mex.	848	844	962	907	1005	1239	1377
Ariz.	1018	983	1249	1360	1470	1787	1513
Utah	13190	17039	21231	21993	28847	37388	27008
Nev.	712	624	505	646	810	900	828
Wash.	14543	16882	19522	20786	24826	30235	26438
Ore.	28900	31286	34855	40786	42007	56672	41749
Calif.	55778	61706	60199	72577	88773	112347	87251
West.	138671	153065	163883	182468	212181	268717	211215
U.S.	505527	516527	525899	516675	591342	762487	719298

Source: Bureau of Agricultural Economics, USDA.

TABLE IV

TURKEYS: AVERAGE ANNUAL PRICE PER POUND, BY STATES, 1940-46[1]

State & Division	1940	1941	1942	1943	1944	1945	1946
				Cents			
Maine	20.3	23.1	27.5	31.9	34.5	32.4	41.4
N.H.	20.4	23.8	29.5	34.9	35.5	36.5	44.6
Vt.	22.3	23.2	31.5	36.9	35.2	37.0	42.6
Mass.	25.1	26.9	32.0	40.4	38.4	41.6	46.3
R.I.	25.1	26.2	32.0	38.8	38.7	41.3	47.0
Conn.	21.9	26.4	31.5	37.9	36.9	41.3	48.5
N.Y.	22.2	26.0	33.5	41.1	42.1	41.1	48.0
N.J.	23.0	28.4	36.0	45.2	46.1	42.8	45.3
Pa.	22.9	26.8	32.5	40.3	41.4	40.6	45.3
N. Atl.	22.5	26.3	32.6	40.2	40.8	40.6	46.2
Ohio	17.9	21.7	28.5	34.7	36.1	33.5	36.1
Ind.	16.3	20.4	27.5	35.0	35.4	33.7	35.9
Ill.	15.7	18.9	27.0	32.4	33.1	32.6	36.9
Mich.	16.8	21.1	26.5	34.5	35.5	33.9	36.7
Wis.	16.6	19.5	25.0	31.6	31.6	33.4	38.0
E.N. Cent.	16.8	20.4	27.1	33.7	34.5	33.4	36.6
Minn.	15.7	19.1	27.0	29.6	32.5	31.5	37.9
Iowa	15.8	20.0	27.5	31.2	33.6	32.6	37.2
Mo.	13.9	17.6	26.0	31.0	34.5	31.3	33.7
N.Dak.	14.9	19.3	28.5	32.1	33.1	32.0	33.9
S.Dak.	14.6	17.2	25.0	29.3	30.9	30.7	34.0
Nebr.	13.1	16.6	24.0	28.7	31.4	31.8	35.4
Kans.	12.7	17.2	25.0	29.6	31.2	31.2	34.2
W.N. Cent.	14.7	18.4	26.5	30.2	32.9	31.8	36.2
Del.	20.5	25.3	33.5	39.4	39.6	20.1	40.3
Md.	20.3	25.1	33.5	38.4	41.7	40.1	42.8
Va.	17.9	22.3	28.0	34.0	34.8	37.1	37.6
W.Va.	18.5	22.7	28.5	33.9	34.7	36.1	40.8
N.C.	18.8	22.4	27.0	35.2	34.9	36.4	41.0
S.C.	19.7	22.9	29.0	35.2	36.6	38.1	41.5
Ga.	19.1	20.7	25.5	34.4	36.9	39.4	42.2
Fla.	19.9	22.4	30.0	37.6	40.9	42.9	48.9
S. Atl.	19.0	23.0	29.2	35.4	36.6	37.9	40.2

(Continued on following page)

TABLE IV (Continued)

State & Division	1940	1941	1942	1943	1944	1945	1946
Ky.	15.3	18.9	25.5	31.8	33.2	32.2	34.1
Tenn.	15.0	18.4	24.0	30.3	32.6	34.5	36.6
Ala.	17.2	18.9	23.5	34.5	34.9	37.7	41.7
Miss.	17.0	19.3	25.0	32.3	35.2	36.1	40.6
Ark.	13.5	17.3	23.0	29.6	30.5	31.4	34.0
La.	18.8	22.5	29.5	36.0	37.5	39.4	42.2
Okla.	12.2	16.4	24.0	29.5	30.9	30.3	33.1
Tex.	12.3	17.3	23.5	29.8	30.8	30.0	31.5
S. Cent.	12.7	17.3	23.8	30.1	31.2	30.6	32.4
Mont.	16.9	21.4	29.0	36.7	37.3	36.8	40.0
Idaho	13.5	19.6	25.0	32.7	34.8	33.0	35.3
Wyo.	15.2	20.1	26.5	32.6	33.8	33.0	38.9
Colo.	14.3	18.9	26.5	30.3	32.8	33.0	38.9
N.Mex.	15.2	20.5	24.0	28.6	30.3	32.0	35.0
Ariz.	17.6	22.8	28.0	34.7	36.9	35.0	35.7
Utah	17.4	22.3	28.5	36.6	36.5	36.3	36.0
Nev.	17.7	24.1	28.5	40.1	38.0	37.1	37.5
Wash.	15.8	20.2	29.5	33.5	33.2	34.2	33.8
Oreg.	15.0	20.2	28.5	33.1	33.2	34.7	31.5
Calif.	14.8	20.9	30.0	33.5	33.7	32.9	33.5
West.	15.2	20.7	28.9	33.5	34.0	34.0	34.0
U.S.	15.4	19.9	27.5	32.6	34.0	33.6	36.2

[1] Weighted average of monthly prices per pound received by farmers.

Source: Bureau of Agricultural Economics, USDA.

TABLE V

TURKEYS: CASH RECEIPTS FROM FARMS, BY STATES, 1940-46

State & Division	1940	1941	1942	1943	1944	1945	1946
				Thousands of dollars			
Maine	153	163	216	215	246	273	354
N.H.	186	239	326	342	386	506	6605
Vt.	512	535	725	714	772	1074	1238
Mass.	818	1064	1468	1570	1702	2231	2713
R.I.	69	85	125	151	167	218	264
Conn.	344	409	648	736	988	1435	1835
N.Y.	1295	1594	2065	2701	3456	4341	5347
N.J.	459	533	789	1177	1674	2373	3187
Pa.	2772	3569	4784	5929	7167	9388	10651
N. Atl.	6608	8291	11686	13552	16558	21837	26193
Ohio	2502	2738	3958	4234	5345	5559	7111
Ind.	1078	1177	1622	2479	3341	5453	6538
Ill.	1594	1744	2599	2596	3870	5204	7746
Mich.	1136	1434	1821	2573	3534	4831	5829
Wis.	1062	1275	1800	2516	3022	3481	4214
E.N. Cent.	7172	8368	11800	14398	19112	24528	31438
Minn.	6965	9003	14076	12803	17021	20496	28105
Iowa	4226	5443	8255	9255	14247	16514	20788
Mo.	3429	4163	5680	6021	8425	8956	10822
S.Dak.	3243	3468	4722	3773	3828	4306	5310
N.Dak.	2702	2982	3344	2691	1893	2096	2292
Nebr.	2251	2521	3650	3779	4404	5854	7084
Kans.	2214	2888	4009	3955	5796	4550	5230
W.N. Cent.	25150	30498	43734	42277	55614	62772	79631
Del.	354	432	496	516	526	630	649
Md.	1271	1503	2101	2158	2682	3131	3445
Va.	2066	2634	3856	4196	5229	7119	8165
W.Va.	565	743	1215	1343	1640	2259	2721
N.C.	625	701	1017	1236	1377	2023	2698
S.C.	422	442	697	1268	1411	2382	2878
Ga.	263	316	463	718	794	932	1053
Fla.	282	320	367	522	540	605	770
S. Atl.	5848	7091	10212	11932	14199	19081	22369

(Continued on following page)

TABLE V (Continued)

State & Division	1940	1941	1942	1943	1944	1945	1946
Ky.	608	781	1028	1031	1138	1236	1180
Tenn.	376	479	533	752	724	775	989
Ala.	234	328	497	671	633	704	782
Miss.	214	306	432	470	416	473	420
Ark.	219	303	467	494	586	708	630
La.	134	174	207	225	212	204	238
Okla.	2607	2957	3708	3394	3073	3083	2109
Tex.	7281	9232	12635	15308	17081	21302	21417
S.Cent.	11573	14560	19507	22845	23863	28485	28760
Mont.	565	639	872	979	878	811	970
Idaho	457	791	1193	1361	1732	2242	1538
Wyo.	445	507	650	768	710	860	974
Colo.	2127	2818	3996	4155	4953	5138	6251
N.Mex.	127	156	192	243	250	335	420
Ariz.	171	209	314	433	400	508	515
Utah	2376	3743	6018	6027	10831	13712	11612
Nev.	129	146	139	332	200	294	338
Wash.	2537	3195	5434	6721	8178	9256	9695
Ore.	4353	5654	9553	12574	13982	19218	14880
Calif.	8826	12231	19430	22272	29201	35918	32340
West.	21913	29579	47821	55040	71335	88272	79931
U.S.	78245	98387	144760	160044	198731	244975	268322

Source: Bureau of Agricultural Economics, USDA.

TABLE VI

DEATH LOSS OF TURKEYS

Geographic Division	Young turkeys lost as a per cent of total numbers bought and home hatched						Breeding stock lost as a per cent of breeders on hand January 1					
	1941	1942	1943	1944	1945	1946	1941	1942	1943	1944	1945	1946
	Per cent						Per cent					
North Atlantic	17	19	23	23	18	18	7	8	8	9	8	7
East North Central	21	23	23	23	20	20	9	11	11	10	9	8
West North Central	24	28	29	23	18	18	11	11	12	10	8	7
South Atlantic	27	31	38	30	24	23	10	11	12	10	13	9
South Central	45	43	44	38	32	39	14	16	14	15	15	13
Western	22	21	21	22	22	16	7	7	8	7	6	6
U.S.	27.8	28.8	29.7	25.9	22.3	21.7	10.5	11.1	11.4	10.4	9.3	8.3

Source: Bureau of Agricultural Economics, USDA.

TABLE VII

TABLES OF YIELDS OF HEN AND TOM TURKEYS AT DIFFERENT STAGES OF PROCESSING, IN POUNDS

TABLE 1

TABLE OF YIELDS FOR TOMS

Live Weight	Dressed Weight	Drawn Weight	Whole Roasted Weight	Total wt. of Edible Meat	Weight of Breast Meat
35.1	32	29.0	20.2	17.7	6.9
32.9	30	27.1	18.9	15.4	6.2
30.7	28	25.1	17.5	14.1	5.7
28.6	26	23.2	16.2	12.9	5.1
26.4	24	21.2	14.8	11.6	4.5
24.2	22	19.3	13.4	10.4	4.0
22.0	20	17.4	12.1	9.1	3.7
19.9	18	15.4	10.7	7.8	2.8
17.7	16	13.5	9.4	6.6	2.2

TABLE 2

TABLE OF YIELDS FOR HENS

24.2	22	19.2	13.8	10.7	3.4
22.0	20	17.4	12.4	9.7	3.1
19.9	18	15.6	11.0	8.6	2.9
17.7	16	13.8	9.6	7.5	2.6
15.5	14	12.0	8.2	6.4	2.4
13.3	12	10.2	6.9	5.3	2.1
11.2	10	8.4	5.5	4.3	1.9
9.0	8	6.6	4.1	3.2	1.6

TABLE 3

TABLE OF YIELD FOR TOMS

Total lbs of N.Y. dressed wt.	Size of N.Y. dressed wt basis	Drawn Weight	Whole Roasted Weight	Yield of Edible Meat	Total Yield of Breast meat
32	100	90.6	63.1	52.2	21.6
30	100	90.0	63.0	51.3	20.6
28	100	89.6	62.5	50.3	20.3
26	100	88.2	62.3	49.6	19.6
24	100	88.3	61.7	48.3	18.8
22	100	87.7	60.8	47.3	18.2
20	100	87.0	60.5	45.5	18.5
18	100	85.5	59.4	43.3	15.6
16	100	84.4	58.8	41.2	13.8

TABLE 4

TABLE OF YIELD FOR HENS

Total lbs of N.Y. dressed wt.	Size of N.Y. dressed wt basis	Drawn Weight	Whole Roasted Weight	Yield of Edible Meat	Total Yield of Breast Meat
22	100	87.3	62.7	47.7	15.5
20	100	87.0	62.0	47.0	15.5
18	100	86.6	61.1	46.7	16.1
16	100	86.3	60.0	45.6	16.3
14	100	85.7	58.6	42.9	17.1
12	100	85.0	57.5	43.3	17.5
10	100	84.0	55.0	41.0	19.0
8	100	82.5	51.3	37.5	20.0

TABLE 5

A COMPARISON OF YIELDS OF HEN AND TOM TURKEYS

Dressed weight in pounds	Per cent yield of cooked edible meat	Per cent yield of cooked breast meat
(a)	(b)	(c)
	Yields for tom turkeys	
32	52.2	21.6
30	51.3	20.6
28	50.3	20.3
26	49.6	19.6
24	48.3	18.8
22	47.3	18.2
20	45.5	16.9
18	43.3	15.6
16	41.2	13.8
	Yields for hen turkeys	
22	47.7	15.5
20	47.0	15.5
18	46.7	16.1
16	45.6	16.3
14	42.9	17.1
12	43.3	17.5
10	41.0	19.0
8	37.5	20.0

Source: Cline, L. E., What size is most economical. Norbest Turkey News, Vol. 11, No. 9, March 1947. p.5

TABLE VIII

APPROXIMATE WEIGHT, IN POUNDS, OF DRESSED AND EVISCERATED TURKEYS AND OF EDIBLE MEAT ACCORDING TO LIVE WEIGHT IN FOUR VARIETIES, THE TURKEYS HAVING BEEN KILLED AT 28 WEEKS OF AGE

Variety and Sex	Live Weight	Dressed Weight	Eviscerated Weight	Edible Meat
Broad Breasted Bronze:				
Males	24.0	21.7	17.9	13.1
Females	15.5	14.2	11.9	9.2
Standardbred Bronze:				
Males	20.0	18.0	14.6	10.5
Females	12.5	11.4	9.4	7.0
White Holland:				
Males	18.5	16.5	13.4	9.7
Females	11.0	9.7	8.0	6.0
Beltsville Small White:				
Males	15.0	13.4	10.9	8.1
Females	9.0	7.9	6.5	4.9

Source: H. M. Harshaw, W. L. Kellogg, R. R. Rector, and S. J. Marsden, U.S. Department of Agriculture, 1943.

TABLE IX

APPROXIMATE PERCENTAGES OF SHRINKAGE DUE TO DRESSING AND EVISCERATING AND APPROXIMATE PERCENTAGES OF DRESSED TO LIVE WEIGHT AND OF EVISCERATED TO DRESSED AND LIVE WEIGHT, RESPECTIVELY, IN TURKEYS KILLED AT 28 WEEKS OF AGE

Variety & Sex	Fasted live weight, pounds	Per cent blood and feathers of live weight	Per cent dressed weight of live weight	Per cent of all of dressed weight	Per cent eviscerated weight of live weight	
Broad Breasted Bronze:						
Males	24.0	9.5	90.5	17.5	82.5	74.7
Females	15.5	8.5	91.5	16.0	84.0	76.9
Standardbred Bronze:						
Males	20.0	10.0	90.0	19.0	81.0	72.9
Females	12.5	9.0	91.0	18.0	82.0	74.6
White Holland[1]						
Males	18.5	11.0	89.0	19.0	81.0	72.1
Females	11.0	12.0	88.0	18.0	82.0	72.2
Beltsville Small White						
Males	15.0	11.0	89.0	19.0	81.5	72.5
Females	9.0	12.0	88.0	18.0	82.0	72.2

Source: H. M. Hershaw et al., U.S. Department of Agriculture, 1943.

TABLE X

APPROXIMATE PERCENTAGES OF BREAST MUSCLE, LEG MUSCLE, OTHER EDIBLE MEAT, AND TOTAL EDIBLE MEAT IN DRESSED TURKEYS AND THE PERCENTAGE BREAST AND LEG MUSCLE OF TOTAL EDIBLE MEAT IN TURKEYS KILLED AT 28 WEEKS

Variety and Sex	Dressed weight pounds	Per cent breast muscle of dressed weight	Per cent leg muscle of dressed weight	Per cent other edible meat of dressed weight	Per cent breast and leg meat of total edible meat	
Broad Breasted Bronze:						
Males	21.7	22.0	20.5	18.0	60.5	70.2
Females	14.2	23.0	20.0	21.5	64.5	66.7
Standardbred Bronze:						
Males	18.0	18.0	19.5	21.0	58.5	64.1
Females	11.4	18.5	19.0	24.0	61.5	61.1
White Holland:						
Males	16.5	18.0	19.0	22.0	59.0	62.7
Females	9.7	18.5	18.5	24.5	61.5	60.2
Beltsville Small White:						
Males	13.4	20.0	18.5	22.0	60.5	63.6
Females	7.9	18.5	18.0	25.0	61.5	59.4

Source: H. M. Harshaw, W. L. Kellogg, R. R. Rector, and S. J. Marsden, U. S. Department of Agriculture, 1943.

TABLE XI

NEW YORK DRESSED HEN TURKEYS
(Under 16 lbs.N.Y. Dressed Weight)
(Young U.S. Grade A)

Example of yield on hen turkeys purchased New York Dressed and sold Cut-up.

Costs based on West Coast maximum ceiling price of New York Dressed in less than 10,000 pound lots delivered within 25 miles.

Fancy Cuts (Cut-up Eviscerated Wt)	Pounds	Cutting % of N.Y. Dressed Weight	Retail Extension Per Pound	Retail Extension Per 100 lbs. of Turkey Carcasses
Breast	4.94	35.44	$ .69	$ 24.45
Legs	1.38	9.90	.69	6.83
Thighs	1.39	9.97	.69	6.88
Total Fancy Cuts	7.71	55.31	.69	38.16
Other Cuts (Cut-up Eviscerated Wt)				
Back	1.58	11.33	.40	4.53
Wings	1.31	9.40	.40	3.76
Neck	.40	2.87	.40	1.15
Gizzard	.38	2.73	.40	1.09
Liver	.14	1.00	.40	.40
Heart	.06	.43	.40	.17
Total Other Cuts	3.87	27.76	.40	11.10
Total Saleable Cuts (Cut-up Eviscerated Wt)	11.58	83.07	.5930	49.26
Shrinkage and Waste) New York Dressed to) Eviscerated Weight)	2.36	16.93	---	---
TOTAL N.Y. DRESSED WT.	13.94 lbs.	100.00%	$.4926	$49.26
Maximum Delivered Cost - West Coast			$.4175	$41.75
Gross Margin			.0751	7.51
Gross Margin %			15.03 %	15.03 %
Mark-up % on Cost			18.00 %	18.00 %

Source: Safeway Stores, Inc. (2/13/45)