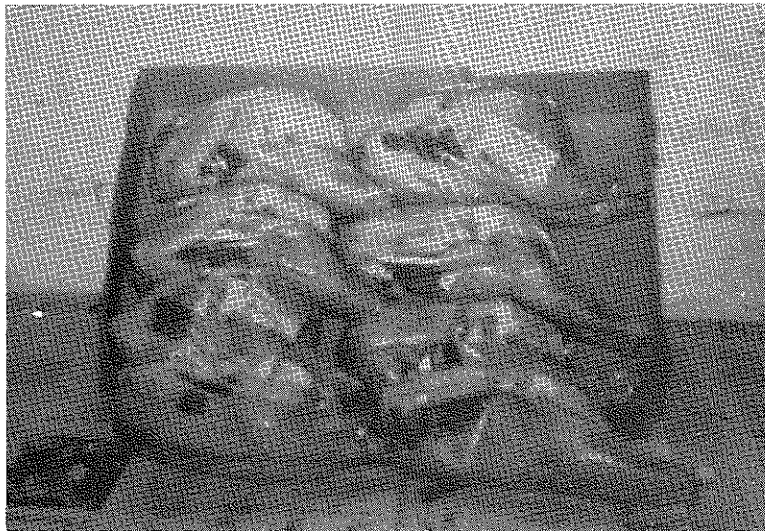


COSTS AND RETURNS IN MARKETING DRESSED CHICKENS

184 POULTRY FARMS, NEW YORK, 1946-47



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COSTS AND RETURNS IN
MARKETING DRESSED CHICKENS

Elmer N. Searls*

Importance of Chicken Marketing in New York State and the Northeastern Region

Chicken marketing in New York State and in the Northeastern United States is secondary to egg marketing as measured by the contributions each make to farm income. For the five years from 1936 to 1940, cash income from chicken sales was 59 percent of that from egg sales for the region. The percentage which chicken sales was of egg sales during this period in each of the different states was: Delaware, 703; Maryland, 117; Virginia, 85; Connecticut, 72; Maine, 50; New Hampshire, 49; Vermont, 49; Massachusetts, 47; Pennsylvania, 46; Rhode Island, 46; New Jersey, 43; West Virginia, 38; and New York, 37.

The commercial broiler industry in Delaware, Maryland, and Virginia causes the chicken marketing situation in these states to be somewhat different from that in the region. However, even within these states, there are poultrymen with rearing and laying flocks with much the same chicken marketing problems as poultrymen in the other states. This was the feeling of those in charge of making plans for the regional study of marketing dressed chickens by the poultryman. It was decided that New York State would be used as a source of data in making an analysis of the marketing-dressed-chicken business.

The poultrymen selected for this study were distributed throughout upper New York State. To further facilitate application of the findings to other states in the Northeastern Region, the records were divided into four areas. The location of the poultry farms in each of the four areas is shown in figure 1.

With eggs the primary source of income in the chicken business in New York State and in the Northeastern of the United States, poultrymen are interested in increasing the salvage value of their egg production machinery, the hens, which are replaced in most cases each year. Based on 1946 figures for New York State, an increase of one cent per pound in the price for mature chickens sold would have raised farm income nearly one-half million dollars.

*This study was made under the direction of Dr. L. B. Darrah. Assistance in collecting data was given by Messrs. Wendell G. Earle, Arthur Kantner, Raymond C. Scott, and Del Mar Kearn---all of Cornell University. Clerical and stenographic assistance were given by Joyce Keim, Marjory Walker, Nellie Treleaven, Valeria Kantner, Beatrice Grant, Marian Hickey, and Carmelia Bechard

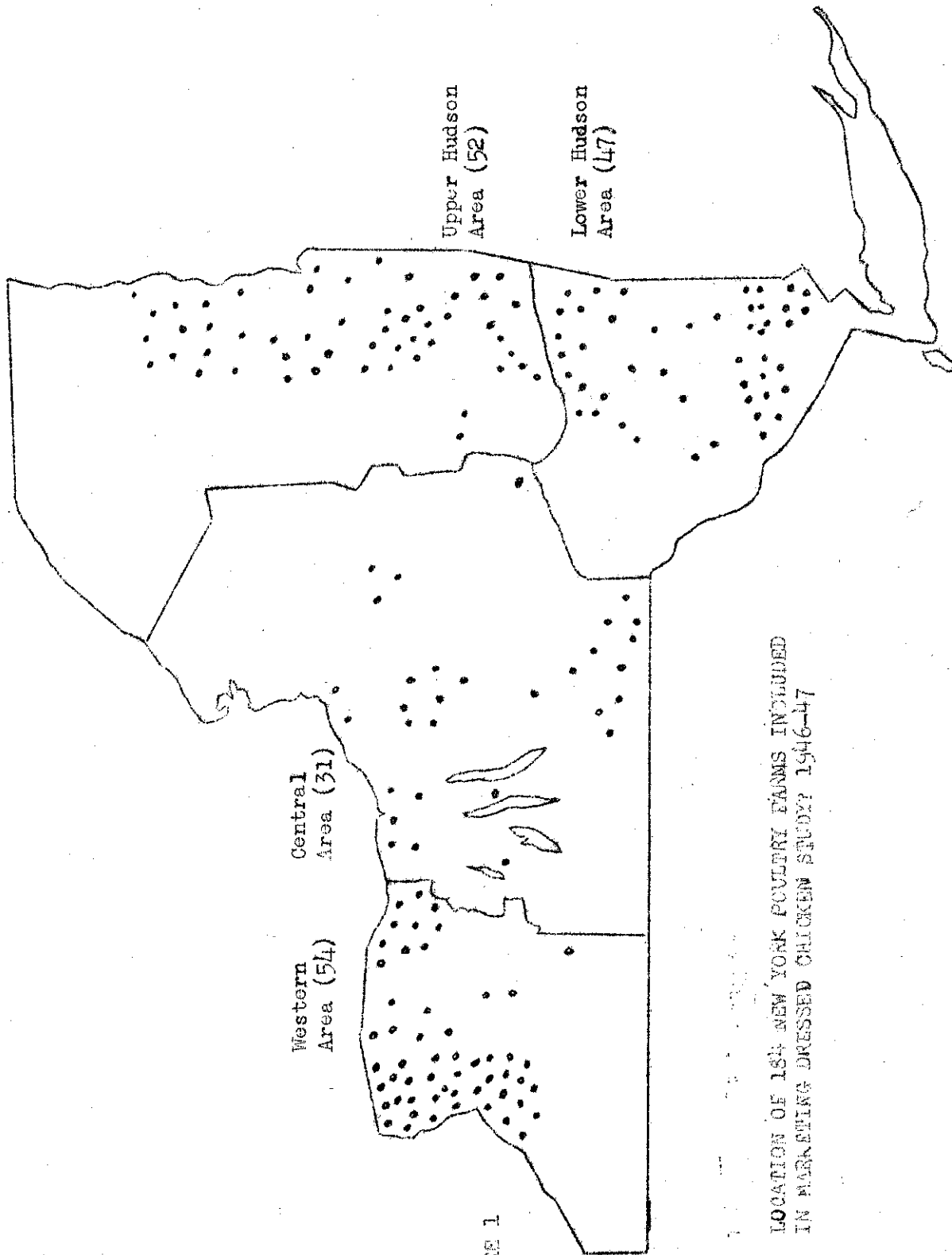


FIGURE 1

LOCATION OF 184 NEW YORK POULTRY FARMS INCLUDED
IN MARKETING DRESSED CHICKEN STUDY 1946-47

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Improvements made in the marketing system which will increase the returns from sales of cull hens can also be applied to the marketing of young chickens and broilers. It is the intention of this report to explain how that may be accomplished by the poultrymen killing, dressing and marketing his own dressed chicken to consumers, institutions and stores.

From this point on the discussion will refer to New York State alone. However, it is felt that the data used is representative of large numbers of poultry farms in the other states in the Northeast.

Markets Used by Poultrymen

The markets used by poultrymen in selling cull laying hens and young stock vary from farm to farm. There are no figures available to show exactly how New York poultrymen marketed the 23,134,000 chickens which were sold off their farms in 1946.

A study by L. B. Darrah in 1940-41 of the disposition that 120 commercial poultrymen in New York made of layers sold showed that 92 percent of light breeds were sold alive at the farm and 83.4 percent of the heavy breeds.* On farms with heavy breeds 8.8 percent of the layers sold were dressed whereas only 2.4 percent of the light breeds were sold dressed.

Problems of Marketing Chickens

The chicken marketing problems of the poultryman are all pretty well focalized in getting higher prices for the chickens he has to sell. Since the chicken business is highly competitive, the price which the buyer will pay for chicken is dependent upon supply and demand conditions affecting the chicken market and the markets for other products which are substitutes for chicken.

Many of the problems in marketing chickens in New York State were presented at meetings held in Syracuse, Buffalo, New York City and Albany in October 1945. These meetings were conducted by a sub-committee on Poultry and Eggs of the New York State Temporary Commission on Agriculture. Poultrymen were invited to report both production and marketing problems. At each meeting, the persons presenting testimony felt that returns could be increased by selling dressed chicken rather than selling birds alive and being at the mercy of the live poultry buyers. Many persons reported that there was only a small amount of competition by buyers for chickens and especially for fowl; there was either only one buyer in an area or if there were more than one, there seemed to be an agreement between them about prices.

* L. B. Darrah, Costs and Returns from Laying Flocks on Commercial Poultry Farms, 1940-41, Cornell University Agricultural Experiment Station Bulletin 802, 1943.

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In some sections of the state, many reported that it had been very difficult to get live poultry buyers to stop at the farm for a few fowl, and to keep up a high rate of lay in the laying flock, the non-producers must be removed currently. Furthermore, layers are of better quality and will bring a higher price if they are sold just after they go out of production.

THE STUDY

Objectives

The objectives of the study were: (1) to gather information about the farms on which chickens were being dressed and sold; (2) to obtain the items of cost in dressing and selling chickens by poultrymen, as well as the total income from the marketing-dressed-chicken business; and (3) to determine the factors affecting profit.

Period Covered

Information on the costs and returns of marketing dressed chickens and general business information covered the period from July 1, 1946 to June 30, 1947. One full year was considered necessary for getting the information needed to achieve the objectives of the study.

Means of Obtaining Data

The survey of the marketing-dressed-chicken business was made during June and July of 1947. Poultrymen were given no advance notice of the enumerators' arrival to get this data. Information as to who was killing, dressing and marketing dressed chicken in the counties selected was obtained from miscellaneous sources, including County Agricultural Extension Agents, State Agricultural Extension Workers, representatives of feed distributors, poultrymen and others. Data obtained included volume of processing, costs, returns, markets, processing procedure, selling procedure, pricing policies and related data.

Explanation of Terms

Some of the important terms used in this study and a definition for each are as follows:

Broilers: Young chickens weighing under $2\frac{1}{2}$ alive were classed as broilers.

Fryers: Young chickens weighing from $2\frac{1}{2}$ to $3\frac{1}{2}$ pounds alive.

Roasters: Chickens which had never been used to produce eggs, were under one year of age, and weighed $3\frac{1}{2}$ pounds and over were classed as roasters.

Capons: Any chicken which had been caponized when it was young and fed until it weighed over 5 pounds alive was classed as a capon.

Youngstock: All chickens classed as broilers, fryers, roasters and capons.

Fowls: Chickens which had been used for egg production were classed as fowls.

Liveweight: The weight of the chicken while it is alive.

New York Dressed Weight: The New York dressed weight of a chicken is that which remains after blood and feathers have been removed. Some writers refer to this as simply "dressed". This weight usually runs about 10-12 percent below the liveweight.

Drawn Weight: Drawn weight is the weight after the blood, feathers, head, feet and inedible viscera have been removed. It averages 27 to 35 percent below the liveweight.

Dressing Percentages: The figures used to convert live weights of the various classes to New York dressed and drawn weights or vice versa are shown in table 5.

TABLE 5. DRESSING PERCENTAGES FOR DIFFERENT STYLES OF DRESSING

Class of Chicken	Percentage of liveweight	
	New York dressed	Drawn
Broiler	88	65
Fryer	88	68
Roaster	89	71
Fowl	90	72
Capon	90	73

Processing: This term refers to work of killing, scalding, picking, pinning, drawing and otherwise preparing a chicken for sale either as a dressed or drawn bird. The jobs included in the work of processing chickens varied from farm to farm.

Dressed: A dressed chicken is one which has been killed and ready to be sold--either as New York dressed or drawn.

Market Outlets: The places to which poultrymen sold dressed chicken. The three important outlets were consumers, institutions and stores.

Consumers: The purchasers of dressed chickens who were going to use the meat in their own homes.

Institutions: Sales of dressed chickens to places where the meat was used in preparing meals for others than the purchasers were called sales to institutions. These sales were mostly to restaurants, hotels, boarding houses, taverns and picnic clambakes.

Stores: All places buying dressed chicken from the poultryman and re-selling to consumers or institutions were classed as stores.

Gross Margin: Gross margin is the difference in the price per pound of live chicken and the price per pound of the liveweight equivalent of the processed chicken.

Percent Mark-Up: Percent mark-up refers to the percentage which the price received for a pound of processed chicken is above the value per pound of the live chicken.

DESCRIPTION OF FARMS MARKETING DRESSED CHICKEN

Layers

Eighty-two percent of the poultrymen included in the study kept a laying flock. The average number of layers housed in the fall of 1946 was 1077. The number by summer of 1947 had decreased to 566 and averaged 849 for the year.

Chicks Hatched

Only 19.5 percent of the poultrymen marketing dressed chickens hatched any chicks. The average number of chicks hatched by all poultrymen was 3700. This average for all farms was possible even though 80.5 percent hatched no chicks because of the large numbers hatched on some farms. Twelve poultrymen hatched over 20,000 chicks, while one hatched 60,000 chicks.

The variation in percent of leghorn chicks hatched between areas was from 2 percent in the Central Area to 43 percent in the Western Area. For all farms, three heavy breed chicks were hatched for each leghorn chick.

Milk Cows

Farmers who are in the business of marketing dressed chickens seldom milk many cows. Fifty-six percent of farms included in this study had no milk cows. The largest number of cows milked on any farm was 55. This farm was located in the Lower Hudson area and was different from the others in that it was a large scale commercial farm with a farm superintendent and a larger than usual labor force. There was one farm with a 50 cow herd in the Upper Hudson area, but here too the farm was 400 acres in size (largest in study), and operated as a Veterans' Camp by New York State.

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From 1 to 10 milk cows, average about 3, were found on about 30 percent of the farms. A few cows may help utilize the labor supply much more efficiently and provide food for the family, but the chicken dressing business does not appear to fit well with the dairy business.

Non-farm Business

About sixteen percent of the poultrymen who were marketing dressed chicken had income from non-farm sources. Eleven of the farmers had full-time jobs off their farms. The work was varied and ranged from 10 days to 313 days.

The thirty farms reporting non-farm business averaged 164.2 days. The average for all farms was about one month.

Changes in Farm Business Since Started to Market Dressed Chicken

The chicken dressing and marketing business on farms included in this study has had little effect on the kinds or numbers of livestock kept. The most common change reported was a decrease in size of dairy herd. However, five farmers in Upper Hudson area had increased the size of their dairy business from what it was at the start.

Very few changes have been made in the cropping system on farms from which dressed chickens were marketed. No changes were reported for Western New York and Lower Hudson Valley. In the Central New York area two farmers had reduced small grain acreage, whereas one had increased acres in corn. In the Upper Hudson Valley, the one report was a decrease in amount of vegetables produced.

Sales of Live Chickens

A large proportion of the poultrymen marketing dressed chicken also sold some chickens alive. Live heavy breed chickens were sold from 110 farms or 59.8 percent of the total and live leghorn chickens from 41 or 22.3 percent.

For both young chickens and fowls, the number of poultrymen selling heavy breeds was more than those selling leghorns. This was much as might have been expected since 75.2 percent of all chicks hatched were heavy breeds and 24.8 percent were leghorns.

Most of the poultrymen in New York who were marketing dressed chicken in 1946 and 1947 sold their live chickens to poultry dealers. Of the 110 farmers selling live heavy breed chickens, 89 sold to poultry dealers and 21 to other than poultry dealers. Live leghorn sales to poultry dealers were made from 34 of the 41 farms, with 7 selling to other than poultry buyers.

The sales of live heavy breed chickens were about five times as large as the sales of live leghorn chickens for sales made both to poultry dealers and to other than live poultry dealers. The volume of all live chickens sold to live poultry dealers was also five times the volume sold to others. The range in numbers of live chickens sold per farm was from 783 per farm in Lower Hudson area to 1,202 per farm in the Western area. All areas except Lower Hudson area sold more live young chickens than live fowls.

For all farms included in the marketing-dressed-chicken study, the live chicken sales were 16.0 percent of all chickens disposed of both as live and dressed (table 1). Poultryman in the Central area had a slightly more adequate dressed-chicken-market outlet than in the other areas and those in the Upper Hudson Valley the least adequate. This was a vacation area which took most of its dressed chicken 2 or 3 months of the year. In this area 24.2 percent of the sales were live chickens.

Reasons for selling live chickens

The most common reason given by poultrymen marketing dressed chickens for selling some alive was that there was no outlet for all the dressed chicken they could produce.

The next two most important reasons for live chicken sales were: (1) shortage of labor for processing, and (2) a strong demand for live chickens. The demand for live chickens was mostly from Jewish persons whose religious beliefs prompted them to purchase live chickens and have them Kosher killed. Then, too, there were persons who wished to see the chicken alive before it was killed. Some farmers even reported the desire from some patrons for the chicken blood and other parts that were disposed of in the dressing operation.

Experience with live poultry buyers

An examination of the reports from poultrymen on the opportunity for selling chickens alive to poultry dealers would not indicate that the lack of poultry dealers in the community would be a reason for killing and dressing chickens. Of the 140 farmers answering this question, only 15, or 11 percent reported no poultry dealers in their community. Eighty-five percent stated that there was more than one live poultry buyer nearby.

Only 14 farms reported any regular stops for live poultry dealers. Nine of these were weekly. This indicates that unless a poultryman has poultry to sell regularly and in volume, a live poultry buyer is not going to stop at a man's farm who is marketing dressed chicken unless he is called. Only 53 percent of the farms reported that buyers would come when called. This was due to the fact that with the dressed chicken outlet for most of the chicken, there were only a few live ones to be sold at a time.

THE MARKETING DRESSED CHICKEN BUSINESS

When and Why Began

Marketing dressed chickens on a commercial scale is a relatively new

SALES OF LIVE CHICKENS IN RELATION TO CHICKENS PROCESSED

TABLE 1

184 New York Farms, 1946-47

Item	Western	Central	Upper Hudson	Lower Hudson	All Areas
Number of farms	54	31	52	47	184
Numbers of chickens marketed per farm					
Youngstock					
Live sales to poultry dealers	881	509	512	228	547
Live sales to others	210	215	7	136	134
Processed	5,626	5,827	1,792	3,730	4,092
Total	6,717	6,551	2,311	4,094	4,773
Fowls					
Live sales to poultry dealers	108	140	309	398	244
Live sales to others	3	42	18	21	16
Processed	448	1,303	855	990	846
Total	559	1,485	1,182	1,409	1,106
All chickens					
Live sales to poultry dealers	989	649	821	626	791
Live sales to others	213	257	25	157	150
Processed	6,074	7,130	2,647	4,720	4,938
Total	7,276	8,036	3,493	5,503	5,879
Percentage distribution of chickens marketed					
Youngstock					
Live sales to poultry dealers	13.1	7.8	22.2	5.6	11.5
Live sales to others	3.1	3.3	.3	3.3	2.8
Processed	83.8	88.9	77.5	91.1	85.7
Total	100.0	100.0	100.0	100.0	100.0
Fowls					
Live sales to poultry dealers	19.3	9.4	26.2	28.2	22.1
Live sales to others	.5	2.8	1.5	1.5	1.4
Processed	80.2	87.8	72.3	70.3	76.5
Total	100.0	100.0	100.0	100.0	100.0
All chickens					
Live sales to poultry dealers	13.6	8.1	23.5	11.4	13.5
Live sales to others	2.9	3.2	.7	2.8	2.5
Processed	83.5	88.7	75.8	85.8	84.0
Total	100.0	100.0	100.0	100.0	100.0

business in New York State. Ninety-one, or 49.5 percent of the cooperators in this study began the business since 1939. Another 30.5 percent began in the thirties. The enterprise was started before 1910 on three farms.

The most important reason for going into the business of marketing dressed chickens was to obtain higher profits from the chicken business. One hundred and three poultrymen gave this as one of their reasons. The next three most common reasons were: (1) to take advantage of good market outlets, (2) to supply the request of retail egg route customers for dressed chicken, and (3) to market cull hens more easily.

Some other reasons for dressing chickens were: (1) to start a business; (2) to take advantage of a market with a steady demand; (3) to increase size of farm business; (4) to continue business already started by father, uncle, or some one else; (5) to have more profitable use of labor and capital than other farm enterprises provided, and (6) to reduce price fluctuations which exist for live chickens.

Other Products Marketed With Dressed Chicken

One hundred and eight farmers marketed eggs along with dressed chicken. The range in egg sales for the year between farms was from 7 cases to 3,042 cases and the average per farm was 381 cases.

The non-livestock products marketed with dressed chicken were quite variable but not handled by many farmers. They consisted of: flowers, potatoes, beets, sweet corn, green beans, carrots, cauliflower, cucumbers, rhubarb, lettuce, peas, apples, honey, cabbage, cherries, tomatoes, strawberries, pears, peaches, grapes, and baked goods.

Use of Brand Name and Packaging

Only two farms out of the 184 were using a special brand name for their dressed chicken. These were called: (1) Zero Frozen at their Best, and (2) Onondaga.

The most common name used with dressed chicken was the name of the farm. The number of instances this was reported in different areas follows:

<u>Area</u>	<u>Number of farms using farm name with dressed chicken</u>
Western	16
Central	3
Upper Hudson	17
Lower Hudson	7
Total	43

Only one of the farms was using a specially printed label. On a small piece of light weight paper was printed the brand name, Onondaga, and the picture of an Indian's head. This label was placed inside the pliofilm used to wrap dressed chicken. Customers who had become accustomed to buying Onondaga Dressed Chicken at stores where this dressed chicken was sold were

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hesitant about buying any packages from the same farm that did not contain this label.

Pliofilm and cellophane were the most common materials used to package dressed chicken. Several farmers had special packages for their dressed chicken on order. One of the farmers who was marketing frozen dressed chicken was using a cardboard box with a cellophane window in the cover.

Source of Live Chickens to Dress

All but four of the farms marketing dressed chickens started baby chicks. The average number started was 5,427 with 2,335 or 43 percent of the total being straight run chicks. Twenty poultrymen were confining their dressed chicken business largely to the marketing of dressed fowl and started sexed pullets only for laying flock replacements. The average number of sexed pullets started on all farms studied was 262.

Farms in the Western area were raising about 23 percent more chickens per farm than the average of all farms. Fewest chicks were started in the Upper Hudson area where the farms averaged 3,686 chicks or about 32 percent below the average of all farms.

Sixty-nine or 37.5 percent of all poultrymen marketing dressed chickens bought some live chickens during the period studied. Largest proportion of farms buying live chickens was in the Central area and least in the Upper Hudson Valley.

All poultrymen but three in the Western area bought their live chickens from other farmers. Two of these three obtained some live chickens from a poultry dealer and one from a hatchery.

As an average, poultrymen marketing dressed chickens purchased one out of every five chickens that they processed. Those living in the Central area bought 52.1 percent of their chickens. This was about four times the proportion in the Western and Upper Hudson areas and three times that in Lower Hudson area.

Seventeen of the 184 poultrymen in this study had plans for changes in the number of baby chicks they would start the following year. Fourteen planned to increase the number and three expected to start fewer chicks. None reported any intention of shifting from heavy breeds to leghorns or vice versa.

The two leading reasons for raising more baby chicks were: (1) to save the time formerly used in purchasing live chickens, and (2) to have a larger supply for the anticipated expansion in the dressed chicken business.

With 90.8 percent of all poultrymen not intending to change the number of chicks raised in the following year, it would appear that poultrymen marketing dressed chickens when economic conditions are similar to those existing at time of this study follow much the same plan of obtaining their chickens for processing from year to year.

Seasonality of Operations

June, July and August were the months when New York poultrymen dressed and marketed most chickens. In August the numbers marketed were 44 percent above the annual average (table 2). From December through March, the volume of chickens dressed each month averaged less than three-fourths of the annual average.

The volume of broilers processed was lowest from December through March. Then it began to increase and reached a peak in August when the 172 broilers per farm were 55 percent above the annual average. Seasonality of operations for fryers and roasters was much the same as for broilers.

Marketing of capons began in September and reached a peak in November.

The seasonal variation for fowl was less than for other classes of chickens. The low point came in November and December with the largest number processed in June.

Market Outlets

The poultrymen sold 98.3 percent of all the chickens they dressed (table 3). They used 1.7 percent of their dressed chickens in their own households and had only an insignificant number spoil.

Slightly over one-half, 52.5 percent, of all chickens were sold as New York dressed. Of this amount, about 40 percent went to stores, 33 percent to consumers and the rest to institutions. The most important outlet for drawn chickens was institutions, which accounted for nearly 70 percent of the birds.

The style of dressing and leading outlets for each varied in different parts of the state. Drawn sales were more prevalent in the Western and Central areas while New York dressed sales were largest in the two Hudson areas. The Lower Hudson area disposed of 83.5 percent of their chickens as New York dressed, whereas the Western area marketed 64.3 percent as drawn.

The two areas in the Hudson Valley sold a larger proportion of their dressed chickens to consumers, while the two areas farther from New York City sold mostly to institutions.

Poultrymen in New York State who marketed dressed chickens used young chickens for 82.9 percent of their total marketings and fowl for 17.1 percent (table 4). Fryers, or chickens weighing $2\frac{1}{2}$ to 3 pounds, represented 29.7 percent of all chickens, broilers 27.3 percent and roasters 25.7 percent.

Poultrymen averaged 53 young chickens and 29 fowl for use in their own households.

The drawn price exceeded the dressed price by 57 percent for broilers, 37 percent for fryers and 31 percent for roasters. Drawn fowl prices were 29 percent above New York dressed fowl prices. Capons, with a 20 percent margin, had the smallest difference between New York dressed and drawn prices.

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TABLE 2. MONTHLY VARIATION IN NUMBERS OF DIFFERENT CLASSES OF CHICKENS SOLD
184 New York Farms, 1946-47

Year and month	Broilers	Fryers	Roasters	Capons	All		
					youngstock	Fowl classes	
							Number per farm
1946 - July	161	150	159	--	472	86	558
August	172	159	158	--	489	93	582
September	122	139	134	2	397	75	472
October	106	106	105	2	319	63	382
November	98	90	98	8	294	50	344
December	69	84	80	*	233	52	285
1947 - January	70	97	64	--	231	60	291
February	69	103	65	--	237	61	298
March	63	94	64	--	226	54	280
April	108	109	72	*	289	60	349
May	142	142	93	--	379	64	443
June	148	168	156	--	472	98	570
Average	111	120	104	1	336	68	404
Percentage monthly numbers are of average							
1946 - July	146	125	153	--	140	126	138
August	155	132	152	--	146	137	144
September	110	117	129	200	118	110	117
October	96	88	101	200	95	93	95
November	89	75	94	800	87	74	85
December	62	70	77	--	69	76	71
1947 - January	63	81	62	--	69	88	72
February	62	86	62	--	71	90	74
March	61	78	62	--	67	79	69
April	97	91	69	--	86	88	86
May	128	119	89	--	113	94	110
June	133	140	150	--	140	144	141
Average	100	100	100	100	100	100	100

*Less than 0.5

TABLE 3 VARIATION BETWEEN AREAS IN NUMBERS OF NEW YORK DRESSED
AND DRAWN CHICKENS SOLD TO DIFFERENT OUTLETS
184 New York Farms, 1946-47

Disposition	Western	Central	Upper Hudson	Lower Hudson	All Areas
	Number per farm				
New York dressed					
Consumers	239	1,809	192	1,659	853
Institutions	606	631	467	1,015	676
Stores	1,241	777	864	1,270	1,063
Total	2,086	3,217	1,523	3,944	2,592
Drawn					
Consumers	759	608	906	410	686
Institutions	3,033	3,035	146	276	1,513
Stores	114	155	12	2	64
Total	3,906	3,798	1,064	688	2,263
Both styles of dressing					
Consumers	998	2,417	1,098	2,069	1,539
Institutions	3,639	3,666	613	1,291	2,189
Stores	1,355	932	876	1,272	1,127
Total	5,992	7,015	2,587	4,632	4,855
Eaten	82	105	60	88	81
Spoiled	-	10	-	-	2
Total number processed	6,074	7,130	2,647	4,720	4,938
	Percentage distribution of all processed				
New York dressed					
Consumers	3.9	25.4	7.3	35.1	17.3
Institutions	10.0	8.8	17.6	21.5	13.7
Stores	20.4	10.9	32.6	26.9	21.5
Total	34.3	45.1	57.5	83.5	52.5
Drawn					
Consumers	12.5	8.5	34.2	8.7	13.9
Institutions	49.9	42.6	5.5	5.9	30.6
Stores	1.9	2.2	.5	-	1.3
Total	64.3	53.3	40.2	14.6	45.8
Both styles of dressing					
Consumers	16.4	33.9	41.5	43.8	31.2
Institutions	59.9	51.4	23.2	27.4	44.3
Stores	22.3	13.1	33.0	26.9	22.8
Total	98.6	98.4	97.7	98.1	98.3
Eaten	1.4	1.5	2.3	1.9	1.7
Spoiled	-	.1	-	-	*
Total number processed	100.0	100.0	100.0	100.0	100.0

* Less than 0.05

TABLE 4
 NUMBERS OF DIFFERENT CLASSES OF NEW YORK DRESSED AND DRAWN CHICKENS SOLD TO
 DIFFERENT OUTLETS

184 New York Farms, 1946-47

Item	All young						All chickens
	Broilers	Fryers	Roasters	Capons	chickens	Fowls	
Number per farm							
New York dressed							
Consumers	115	230	234	2	581	272	853
Institutions	245	214	102	1	562	113	675
Stores	330	255	315	3	903	161	1,064
Total	690	699	651	6	2,046	546	2,592
Drawn							
Consumers	24	195	287	-	506	180	686
Institutions	613	535	279	5	1,432	81	1,513
Stores	9	15	31	-	55	9	64
Total	646	745	597	5	1,993	270	2,263
Both styles of dressing							
Consumers	139	425	521	2	1,087	452	1,539
Institutions	858	749	381	6	1,994	194	2,188
Stores	339	270	346	3	958	170	1,128
Total	1,336	1,444	1,248	11	4,039	816	4,855
Eaten	13	20	20	-	53	29	82
Spoiled	1	*	*	-	1	*	1
Total number processed	1,350	1,464	1,268	11	4,093	845	4,938
Percentage distribution	27.3	29.7	25.7	.2	82.9	17.1	100.0

*Less than one

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In each area of the state, drawn broiler prices exceeded New York dressed prices by more than respective prices for any other class of chickens. Poultrymen in the Central area had the smallest difference between New York dressed and drawn prices of any area, for both young chickens and fowls. Drawn prices for young chickens and all chickens were best relative to New York dressed prices in the Lower Hudson area. There was little difference between the Western, Upper Hudson and Lower Hudson areas in the difference between drawn and New York dressed prices; the excess of drawn over New York dressed in these areas was 38 percent, 36 percent and 35 percent respectively.

Deliveries

All but seven of the 184 poultrymen included in this study had delivery routes. The most frequently used delivery schedule was weekly. Thirty-eight of the 108 who delivered once a week made their deliveries on Friday. Saturday was the next most common delivery day with Thursday of third importance.

Thursday and Saturday or Friday and Saturday were the days used most often for those delivering two times each week.

The twelve farmers who delivered dressed chickens three times each week had a wide variety of days without much preference for any particular three other than a Saturday which was usually one of the three days.

Two poultrymen made deliveries four times each week and three were making delivery five times weekly. Six farmers were delivering dressed chicken every day in the week except Sunday.

Credit Policies

Eighty-seven percent of all poultrymen marketing dressed chickens sold for cash. Sales on credit were made most extensively in the Central area where 19.3 percent of all poultrymen made credit sales. Nearly 10 percent of the poultrymen in this area had less than 80 percent of sales made for cash.

There was only one poultryman in this study who gave a discount for cash. This amounted to one percent of the gross sales.

Processing Procedure

Poultrymen in this study who killed, dressed and marketed dressed chickens performed as many as fourteen different jobs in getting their chickens ready to be sold. Not all poultrymen performed all jobs. The major cause for difference between farms in jobs performed was the style of dressing. When chickens were New York dressed, the following jobs which must be done to draw chicken were not necessary: (1) prepare to draw and (2) draw and/or cut up. Then there were some farmers who did not bother with one or more of the jobs of pinning, singeing, plumping, wrapping or storing which were used for either New York dressed or drawn chickens.

In practically any farm operation there will be time-consuming activities not directly related to dressing chickens and in this study these were: (1) waiting, (2) resting, and (3) talking or doing other work.

Care given chickens before dressing

One hundred and twenty-five, or 67.9 percent, of the poultrymen marketing dressed chickens did not give the live chickens any special care before killing them. About sixteen percent of the poultrymen took the chickens to be dressed off feed the night before and 13 percent gave their chickens some special kind of feed several days before killing.

Methods used to kill chickens

One-half of all poultrymen dressing chickens for market killed them by cutting the throat from inside the chickens's mouth. The second most important killing method was to cut the chicken's throat from the outside. This method was used by 30.9 percent of all poultrymen.

To chop the chicken's head off may seem a bit old fashioned, but this procedure was followed by 13.6 percent of all farmers. A varying combination of the three most important killing methods was used by 4.9 percent of the farmers with 1.1 percent killing their chickens by breaking the neck.

Only 33, or 17.9 percent, of all 184 poultrymen in this study took the trouble to puncture the chicken's brain when they were killing it. This practice was most common in the Western area and least in the Upper Hudson area.

Those who punctured the brain claimed the procedure gave a quicker kill, loosened the feathers so picking was easier, gave a more satisfactory bleed, and resulted in the dressed chicken having a better appearance.

Picking methods

Approximately one-third, 34.8 percent, of the poultrymen dressing chickens were picking by hand only. The time which some poultrymen used to hand pick a chicken was less than some other poultrymen used with a machine.

Mechanical pickers were used by 63.6 percent of all farmers. The Central area was the one in which fewest pickers were used; here 45.2 percent of the poultrymen were using pickers for the entire period but during the year, 9.6 percent of the poultrymen in this area purchased a picker. Pickers were most common in the Western area where 79.6 percent of all farms had mechanical pickers.

Scalding water was used by 97.8 percent of all poultrymen in their picking process. One-third of the poultrymen used scalding water which was kept at an even temperature by a thermostat.

The kinds of equipment used for scalding which were not thermostatically controlled were variable. They ranged from places where buckets were heated on the top of a kerosene stove to those where special scalding vats had been constructed. There was one homemade scalding tank equipped with: (1) thermostat for keeping temperature of water uniform, (2) device for keeping the tank full of water, and (3) a mechanism for agitating chicken in water for a specified time and then taking it out of the water to drain.

Dry picking was used by one poultryman. The skinning process was used entirely by one farmer and by another for sqab broilers. The wax process for removing feathers was used in one instance for the youngstock that was dressed.

Temperature of scalding water

Thirty-four, or 18.7 percent, of poultrymen using scalding water for picking chickens used water of one temperature for scalding young chickens and water of a different temperature for fowls. The balance used water of the same temperature for scalding both young chickens and fowls.

The most common water temperature for young chickens was under 134° F and between 150° F and 169° F for fowls. When same water temperature was used for both young chickens and fowl, most poultrymen used water between 130° F and 149° F.

Temperature of scalding water for fowl averaged 166° F, whereas that for youngstock was 148° F, and for all chickens the average was 155° F. Poultrymen in the Central area used water of higher than average temperature for all chickens.

Methods used for singeing

Eighteen percent of all poultrymen in this study singed their chickens after picking them. The practice was most common in the Upper Hudson area where 35 percent of all farmers included it in their dressing operations. Only four percent of those in the Lower Hudson area took time to singe their chickens.

Flames from gas stoves and shallow pans of alcohol were the most common singeing methods used. A very efficient method for singeing was the use of an acetylene torch equipped with a nozzle for providing a wide flame; however, care had to be exercised in using a flame with such intense heat not to burn the flesh of the chicken.

Methods used for cooling

Poultrymen removed the animal heat from the picked chicken by means of: (1) cold water; (2) ice water; (3) refrigerator, and (4) air. Three farmers in the study sold their dressed chicken without cooling them.

Cold water was used by 70.7 percent of all poultrymen cooling dressed chickens, ice water by 14.7 percent, air by 8.1 percent and refrigerator by 4.9 percent.

The time used by farmers in cooling chickens by the different methods is no indication of the time needed to remove the animal heat. The time taken was in most cases a matter of convenience in the processing operation. If chickens were not delivered within a few hours after being placed in the cooling equipment, they were usually left there until the next morning when they were delivered to consumers, institutions and stores.

Buildings

Kind of buildings used

Buildings used by poultrymen for dressing chickens ranged from structures built especially for this purpose on 14.7 percent of the farms to none on 2.2 percent. One building was used for many purposes and had space for: (1) the processing room, (2) a battery broiler room, (3) a salesroom, (4) a cold storage room, and (5) an apartment for the operator and his family. In every area the most common building facility was some remodeled farm building such as a poultry house, garage, tool shed, work shop, egg candling room, incubating room, milk house, horse barn, feed room, power house, etc..

Processing was carried on by 19.0 percent of the poultrymen in cellars of their homes or in the summer kitchens which were a part of the residence.

Investment in building

The average amount of money invested in building facilities for marketing dressed chicken was \$411. Of this investment, 63.7 percent was in the processing room, 24.6 percent in the storage room, 8.0 percent in the feed and hold room, and 3.7 percent in the room used for an office.

Since charges to the marketing-dressed-chicken business are based on a fixed percentage of the inventory value, those poultrymen with most capital invested had highest building expense. The investment in the Central area averaged \$806 per farm or over three times the investment per farm in the Upper Hudson area which was the one having the least capital invested in buildings.

Equipment

Kind of cooler used

Some kind of cooler was used by 47.8 percent of the poultrymen for holding dressed chickens from the time they were dressed until they were marketed. The balance of the farmers planned their dressing operations so the dressed chickens could be delivered soon after they were dressed.

On 24.5 percent of the farms some type of mechanical cooler was used for storing dressed chicken. An increasing number had found a farm freezer quite valuable in their operations. However, only 11.4 percent of the poultrymen had farm freezers at the time of this study. A farm freezer makes it possible for a person to kill more chickens than current market demand will take and sell them later. This could be a particular advantage when young chickens reach the weight most desired by the consumer or when large numbers have to be removed from the laying flock at one time. There may be times when profitable use of storage may be made just to take advantage of a seasonal rise in price.

Investment in processing and selling equipment

Investment in processing equipment averaged \$199.84 per farm or 47.5 percent of all equipment for processing and selling (table 5). The

TABLE 5. INVESTMENT IN PROCESSING AND SELLING EQUIPMENT
184 New York Farms, 1946-47

Item	Western	Central	Upper Hudson	Lower Hudson	All areas
Number of farms	54	31	52	47	184
Average per farm (dollars)					
Processing					
Coops	3.87	28.03	9.87	15.85	12.70
Killing funnels	2.65	1.77	1.87	1.06	1.87
Tank for blood	2.04	2.13	-	5.91	2.47
Scalder	30.63	68.65	40.92	45.17	43.66
Picker	145.59	111.74	105.96	104.13	118.10
Tables	4.50	4.68	.19	3.34	3.02
Singer	.35	.58	.23	.79	.47
Washing	4.17	5.23	.69	6.66	4.00
Other	-	46.28	13.00	13.82	13.55
Total	193.80	269.09	172.73	196.73	199.84
Selling					
Cooler	221.98	266.10	176.90	128.95	192.91
Scales	22.81	55.00	5.79	11.28	20.48
Other	9.07	20.81	.60	6.13	7.90
Total	253.86	341.91	183.29	146.36	221.29
Total processing and selling	447.66	611.00	356.02	343.09	421.13
Percentage distribution of investment					
Processing					
Coops	.9	4.6	2.8	4.6	3.0
Killing funnels	.6	.3	.5	.3	.5
Tank for blood	.5	.3	-	1.7	.6
Scalder	6.8	11.2	11.5	13.2	10.4
Picker	32.5	18.2	29.8	30.4	28.0
Tables	1.0	.8	.1	1.0	.7
Singer	.1	.1	.1	.2	.1
Washing	.9	.9	.2	1.9	1.0
Other	-	7.6	3.6	4.0	3.2
Total	43.3	44.0	48.6	57.3	47.5
Selling					
Cooler	49.6	43.6	49.6	37.6	45.8
Scales	5.1	9.0	1.6	3.3	4.8
Other	2.0	3.4	.2	1.8	1.9
Total	56.7	56.0	51.4	42.7	52.5
All equipment	100.0	100.0	100.0	100.0	100.0

largest processing equipment item was the mechanical picker which averaged 28.0 percent of the total investment. The scalding was the second most expensive item of equipment for processing but it only averaged 10.4 percent of the total.

The most expensive equipment item of all was the cooler. Only 47.8 percent of the poultrymen had coolers, but the investment in coolers represented 45.8 percent of all capital invested in processing and selling equipment.

Total equipment investment was most in the Central area where it averaged \$611. This was the area in which several poultrymen were marketing dressed chickens through stalls they had rented at nearby public markets. At these markets it was necessary to have more facilities for storage, weighing and selling dressed chicken.

COSTS AND RETURNS IN MARKETING DRESSED CHICKEN

Cost Items

The costs reported by the poultrymen included in this study who were marketing dressed chicken were classified under the headings of: buildings, equipment, labor, truck and auto, tractor and horse, fuel and electricity, ice, telephone and office, advertising, packaging materials, market value of live chickens, and other.

Charges for buildings, equipment, truck and auto, and horse and tractor were made on the basis of costs kept by New York farmers in the 1947 detailed cost farm account project. Charges for buildings were made at the rate of 14.4 percent of the average value used by the marketing-dressed-chicken business. Equipment charges were 21.7 percent of the average inventory value. Truck miles were charged at 9.1 cents per mile and auto miles at 4.2 cents.

There were only 140 horse and tractor hours used by all farmers in this business. Where any use was reported, horse hours were charged at 41 cents per hour and tractor hours at 51 cents per hour.

The operator's labor was charged at a uniform rate of 66 cents per hour on all records. This was arrived at by using one-and-one-half times the average wage rate in New York State for both wages with board and wages without board for the period covered by this study. Paid labor was charged as reported by the poultrymen. If there was no rate reported for hired labor, 62 cents per hour was used because this was the average wage paid by the 97 poultrymen who did report an hourly wage for their hired labor. Unpaid family labor was charged at the uniform rate of 62 cents per hour.

Other costs included charges for many miscellaneous items such as: sawdust, water, aprons, boots, soap, disinfectant, bad debts, oil and grease for machinery, licenses, lime, whitewashing and paint, farm bureau and other dues, stall rent at public markets, and cooler rent at public markets.

Since about 85 percent of the charges against the marketing-dressed-chicken business was for the cost of the live chickens, the financial outcome is to a large extent influenced by the farm values of live chickens dressed. Establishing exactly accurate prices for live chickens at the time of processing presents a problem.

Poultrymen were asked to charge their live chickens at prices which could have been obtained if the chickens had been sold alive. Their estimates were used in this study.

When the prices charged for the live chickens were compared with those reported on major live chicken markets in the area, considerable differences appeared in some areas. The live chicken market prices were all reduced three cents per pound to help put the market price nearer that which the poultrymen could have probably netted. No live capon market prices were available.

All classes of chicken dressed in the Western area and in the Upper Hudson area were charged against the dressed chicken business for more than the adjusted market price. Price differences for roasters in the Western area were very small. However, fowls dressed in the Upper Hudson area were charged at 32.2 percent above current live market prices (table 6).

Prices for all classes of live chickens dressed in the Central and the Lower Hudson areas were all lower than live market prices with one exception in each area.

Costs per Farm

The total cost of operating the marketing-dressed-chicken business during the year of this study averaged \$7,590.58 (table 7). The value of live chickens charged against the business was 84.3 percent of the total with 15.7 percent of all costs going for operating costs.

Man labor was the largest single operating cost item and amounted to 9.5 percent of all costs. Charges for truck and auto, equipment and building were the other more important operating expenses.

With costs used as a measure of volume of business, the largest volume was in the Central area and the smallest in the Upper Hudson area. Man labor represented the highest percentage of total costs in the former area and the other costs were also highest there. The reason for other costs being highest was that this was the area where most use was made of public markets. This was also in a highly industrial area and poultrymen were forced to compete for help in a labor market where wages were at a high level.

Value of live chickens represented between 81.2 and 86.5 percent of total costs in the different areas. The seriousness of charging any class of chickens against the marketing-dressed-chicken business at more than it would return on the live chicken market depends upon the proportion it constitutes of the total processed.

TABLE 6. PRICES OF LIVE CHICKENS DRESSED COMPARED WITH PRICES REPORTED ON LIVE CHICKEN MARKETS

18½ New York Farms, 1946-47

Item	Western	Central	Upper Hudson	Lower Hudson
Number of farms	54	31	52	47
	<u>Cents per pound</u>			
Prices charged business				
Broilers	37.0	33.8	36.1	32.6
Fryers	37.4	37.7	33.3	39.9
Roasters	39.5	36.4	35.8	36.6
Capons	44.7	44.2	--	39.7
Fowls	35.5	33.9	34.5	34.0
Prices reported on nearby market less 3 cents				
Broilers	36.1	39.2	28.2	37.0
Fryers	36.1	39.6	28.2	37.0
Roasters	39.2	39.6	32.8	47.8
Fowls	33.3	32.4	26.1	36.5
	<u>Percentage price charged is of adjusted market price</u>			
Broilers	102.5	86.2	128.0	88.1
Fryers	103.6	95.2	118.1	107.8
Roasters	100.8	91.9	109.1	76.6
Fowls	106.6	104.6	132.2	93.2

TABLE 7. COSTS PER FARM MARKETING DRESSED CHICKENS
184 New York Farms, 1946-47

Cost items	Western	Central	Upper Hudson	Lower Hudson	All areas
Number of farms	54	31	52	47	184
Dollars per farm					
Buildings	53.11	116.00	35.48	55.30	59.28
Equipment	97.26	132.52	77.21	73.57	91.48
Man labor	812.28	1188.61	472.46	543.81	719.88
Truck and auto	231.52	238.03	99.56	116.32	165.90
Tractor and horse	---	1.39	---	.38	.33
Fuel and electricity	21.89	76.29	32.31	37.51	37.99
Ice	10.69	12.94	4.37	15.98	10.62
Telephone and office	25.14	45.55	19.21	20.34	25.77
Advertising	16.35	20.42	4.25	4.34	10.55
Packaging materials	37.46	65.45	31.23	34.64	39.70
Other	29.81	125.90	2.67	34.72	39.59
Total operating costs	1365.81	2023.10	778.75	936.91	1201.09
Live chickens	7571.94	8677.90	4085.29	6070.87	6389.49
Total costs	8937.75	10701.00	4864.04	7007.78	7590.58
Percentage distribution of costs					
Buildings	.6	1.1	.7	.8	.8
Equipment	1.1	1.2	1.6	1.1	1.2
Man labor	9.4	11.1	9.7	7.8	9.5
Truck and auto	2.6	2.2	2.1	1.7	2.2
Tractor and horse	"	*	"	*	*
Fuel and electricity	.2	.7	.7	.5	.5
Ice	.1	.1	*	.2	.1
Telephone and office	.3	.4	.4	.3	.3
Advertising	.2	.2	*	.1	.1
Packaging materials	.4	.6	.7	.5	.5
Other	.3	1.2	*	.5	.5
Total operating costs	15.2	18.8	15.9	13.5	15.7
Live chickens	84.8	81.2	84.1	86.5	84.3
Total costs	100.0	100.0	100.0	100.0	100.0

*Less than 0.05

Returns and Profits per Farm

The gross returns from marketing dressed chickens averaged \$8,096.08 per farm (table 8). Sales of dressed chicken made up 97.6 percent of the total returns with 1.8 percent credit for those eaten in operator's household, 0.6 percent for custom work and less than one tenth of one percent from the sale of offal consisting of feathers, feet, heads and inedible eviscera.

For all areas, the returns from dressed chicken sales were approximately 98 percent of the total. Poultrymen in all areas had a small amount of return from custom work, but even the most which was in the Western area only averaged 1.1 percent. A very small return, 0.1 percent, was received for sale of offal in the Central area. All poultrymen averaged using about the same number of chickens in their households, so since total returns in the Upper and Lower Hudson areas were lower than the other two areas, poultrymen here received a slightly higher percent of their returns from chickens eaten.

Costs, Returns and Profits per Pound of Dressed Chicken

The average return received by all poultrymen included in this study for a pound of live chicken dressed and marketed as either New York dressed or drawn to consumers, institutions and stores was 45.7 cents (table 9). Returns from all New York dressed sales averaged 23.5 cents for all live-weight dressed, 21.1 cents from drawn sales, and 1.1 cents per pound came from other miscellaneous sources including sales of some offal, income from custom work, and value of live chickens eaten in poultrymen's households.

The total costs per pound averaged 42.8 cents and ranged from 41.1 cents per pound in the Lower Hudson area to 44.6 cents per pound in the Western area.

The average profit per pound was 2.9 cents. It was 0.4 cents per pound in the Western area, 3.6 cents per pound in the Central area, 4.1 cents per pound in the Upper Hudson area, and 4.5 cents per pound in the Lower Hudson area.

Poultrymen in the Western area had estimated the value of their live chickens more per pound than those in any of the other areas. This may have been one important reason why their profit per pound was lowest. When returns per pound (value of live chickens plus profit) were compared, the returns per pound were more nearly the same, ranging from 38.2 cents per pound in the Western area to 40.1 cents per pound in the Lower Hudson area.

Since labor was the largest single operating cost item, processing efficiency was important in affecting costs and returns. Poultrymen in the Upper Hudson area dressed and marketed 21.2 pounds of dressed chicken on a liveweight basis compared to 16.2 pounds for all farms. The difference in processing efficiency was largely responsible for poultrymen in the Lower Hudson having a return per hour of labor used of \$1.63 compared to 71.3 cents per hour for the Western area.

TABLE 8. RETURNS AND PROFITS PER FARM MARKETING DRESSED CHICKENS
184 New York Farms, 1946-47

Items	Western	Central	Upper Hudson	Lower Hudson	All areas
Number of farms	54	31	52	47	184
Dollars per farm					
Returns					
Custom work	96.76	69.10	15.38	8.30	46.51
Offal	--	12.81	--	--	2.16
Eaten	107.14	166.48	127.29	181.94	142.03
Other than sales	204.20	248.39	142.67	190.24	190.70
Sales					
New York dressed	2985.87	5964.23	2759.04	5898.94	4167.65
Drawn	5830.61	5389.32	2439.10	1680.57	3737.73
Total sales	8816.48	11353.55	5198.14	7579.51	7905.38
Total returns	9020.68	11601.94	5340.81	7769.75	8096.08
Percentage distribution of returns					
Returns					
Custom work	1.1	.6	.3	.1	.6
Offal	-	.1	-	-	*
Eaten	1.2	1.4	2.4	2.4	1.8
Total other than sales	2.3	2.1	2.7	2.5	2.4
Sales					
New York dressed	33.1	51.4	51.7	75.9	51.5
Drawn	64.6	46.5	45.6	21.6	46.1
Total sales	97.7	97.9	97.3	97.5	97.6
Total returns	100.0	100.0	100.0	100.0	100.0

*Less than 0.05

TABLE 9. COSTS, RETURNS AND PROFITS PER POUND OF CHICKEN DRESSED
184 New York Farms, 1946-47

Item	Western	Central	Upper Hudson	Lower Hudson	All areas
Number of farms	54	31	47	52	184
Number of chickens dressed	6,074	7,130	2,647	4,720	4,938
Liveweight of chickens	20,040	24,748	11,735	17,045	17,721
Liveweight per chicken	3.3	3.5	4.4	3.6	3.6
Hours of dressing & selling	1,296	1,860	748	797	1,108
Number of chickens processed per hour	4.7	3.8	3.5	5.9	4.5
Liveweight processed per hour	15.5	13.3	15.4	21.2	16.2
<u>Costs</u>					
	<u>Cents per pound</u>				
Building	.3	.5	.3	.3	.3
Equipment	.5	.5	.7	.5	.5
Man labor	4.2	4.8	4.0	3.2	4.1
Truck and auto	1.2	.9	.8	.7	.9
Tractor and horse	--	*	--	*	*
Fuel and electricity	.1	.3	.3	.2	.2
Ice	*	.1	*	.1	.1
Telephone and office	.1	.2	.2	.1	.2
Advertising	.1	.1	*	*	.1
Packaging materials	.2	.3	.3	.2	.2
Other	.1	.5	*	.2	.2
Total operating costs	6.8	8.2	6.6	5.5	6.8
Live chickens	37.8	35.1	34.8	35.6	36.0
Total costs	44.6	43.3	41.4	41.1	42.8
<u>Returns</u>					
Custom work	.5	.3	.1	*	.3
Offal	--	*	--	--	*
Eaten	.5	.7	1.1	1.1	.8
Total other than sales	1.0	1.0	1.2	1.1	1.1
<u>Sales</u>					
New York dressed	14.9	24.1	23.5	34.6	23.5
Drawn	29.1	21.8	20.8	9.9	21.1
Total sales	44.0	45.9	44.3	44.5	44.6
Total returns	45.0	46.9	45.5	45.6	45.7
Profit per pound	0.4	3.6	4.1	4.5	2.9
Returns per hour of labor	71.3	111.7	124.7	163.2	113.4
Returns per pound of chicken	38.2	38.7	38.9	40.1	38.9

*Less than 0.05

The average return per hour of labor used by all poultrymen marketing dressed chicken was \$1.13. This compared with an average return for labor used in taking care of the laying flocks on the farms which cooperated with Cornell University Farm Account Project in 1946 of \$1.27 per hour and of 63 cents per hour for that used in rearing chicks. Labor returns for layers and chicks in 1946 were slightly above the average for the 3-year period 1942-44 when the average for layers was \$1.14 and that for chicks was 59 cents.

On the basis of these figures, therefore, poultrymen marketing dressed chickens may be expected to receive about as much for labor used in this business as that used in keeping a laying flock and about twice that used to raise chicks.

Frequently buildings, capital and other facilities prevent a poultryman from expanding his laying flock to have a larger farm business. So the marketing-dressed-chicken business can be used to increase gross income on the farm. Furthermore, this work can be handled on most poultry farms with practically no additional labor from that used for other farm enterprises.

FACTORS AFFECTING COSTS AND RETURNS IN MARKETING DRESSED CHICKENS

The factors which were found related to costs and returns in marketing dressed chickens were: (1) number of chickens processed, (2) style of dressing, (3) efficiency of operation, and (4) percentage mark-up in price per pound.

Number of Chickens Processed

There were 40 poultrymen who processed under 1,000 chickens and 25 who processed over 9,999 (table 10). The average of the former group was 576 chickens per farm while the average of the latter was 19,131.

As the number of chickens processed increased, total operating costs declined. The range in operating costs was from 13.8 cents per pound for the group with fewest chickens to 5.7 cents per pound for the group with the largest volume. The largest decrease in cost occurred between the two lowest groups in volume processed or when average number of chickens was increased from 576 to 1,644. The group with the next largest volume had about twice as many chickens, yet its average operating cost was only one cent per pound less.

There was very little relationship between the charge made for live chickens and the number of chickens processed. The low volume group was charging the least for live chickens, but considering the weight of the birds processed, chances are they processed a higher proportion of fowl. The average weight of the birds processed declined from 5.2 pounds for the group with the lowest volume to 3.1 pounds for the group with the largest volume.

There was not much variation in the returns per pound. The groups with smallest and largest volume each received slightly less returns per pound than the other three groups.

The high operating costs per pound for the 40 poultrymen processing less than 1,000 chickens resulted in an average loss of 2.4 cents per pound. Since

TABLE 10. RELATION OF NUMBER OF CHICKENS PROCESSED TO COSTS AND RETURNS
184 New York Farms, 1946-47

Item	Number of chickens processed				
	Under 1,000	1,000 2,499	2,500 3,999	4,000 9,999	Over 9,999
Number of farms	40	51	34	34	25
Averages per farm					
Number of chickens	576	1,644	3,178	6,332	19,131
Liveweight of chickens, pounds	2,981	8,079	13,388	23,698	58,739
Liveweight per chicken, pounds	5.2	4.9	4.2	3.7	3.1
Hours spent processing	390	660	930	1,540	2,820
Chickens per hour spent processing	1.5	2.5	3.4	4.1	6.8
Liveweight per hour spent processing, pounds	7.8	12.2	14.3	15.2	21.1
Gross margin per pound, cents	10.2	10.8	9.3	10.3	8.3
<u>Cents per pound</u>					
<u>Costs</u>					
Building and equipment	1.3	1.0	1.0	.8	.8
Man labor	8.4	5.2	4.4	4.2	3.2
Truck and auto	2.8	1.0	.8	1.0	.8
Fuel and electricity	.5	.2	.3	.2	.2
Packaging materials	.3	.3	.2	.2	.2
Other	.5	.4	.4	.5	.5
Total operating costs	13.8	8.1	7.1	6.9	5.7
Live chickens	34.0	35.5	37.0	35.7	36.3
Total costs	47.8	43.6	44.1	42.6	42.0
<u>Returns</u>					
Sales and eaten	45.2	46.3	46.3	46.0	44.6
Custom work and offal	.2	.1	*	.4	.4
Total returns	45.4	46.4	46.3	46.4	45.0
Profit per pound	- 2.4	2.8	2.2	3.8	3.0
Return per pound of live chicken	31.6	38.3	39.2	39.5	39.3
Return per hour of labor	46.8	97.6	94.4	121.6	130.8

*Less than 0.05

profits were affected to a large extent by the charges made for live chickens and the prices received for the dressed chickens sold, there was little relationship between profits and numbers of chickens processed. All groups with over 1,000 chickens processed had a profit and the largest was 3.8 cents per pound for the group processing between 4,000 and 9,999 chickens.

Value of live chickens in the Western area was estimated at 34.0 cents per pound. However, the marketing-dressed-chicken business resulted in a loss of 2.4 cents per pound or a return of 31.6 cents per pound for live chickens marketed as dressed in this area. The returns per pound of live chicken dressed on all other farms averaged about 39 cents per pound.

Returns for man labor generally increased as volume increased and ranged from 46.8 cents per hour for the group dressing under 1,000 chickens to \$1.31 per hour for the group dressing over 9,999 chickens. This difference was due to the fact that the liveweight processed per hour ranged from 7.8 pounds in the lowest volume group to 21.1 pounds in the highest volume group, which means that the large businesses also had a much higher level of efficiency.

Style of Dressing

Costs, returns and profits were related to style of dressing used. Poultrymen selling only New York dressed chickens had an operating cost of 6.2 cents per pound compared to 7.5 cents per pound for those selling only drawn chickens (table 11). One cent of this 1.3 cent per pound larger operating cost for the latter group was explained by difference in labor cost.

Drawing chickens involves more work. The group processing New York dressed chickens averaged 5.4 chickens per hour while those with drawn chickens averaged 3.9 per hour. Because of this fact, labor cost was more for those processing drawn chickens than those with New York dressed chickens and this was true regardless of the numbers of chickens processed. The low volume New York dressed group had practically the same number of chickens as the low volume drawn group and the labor costs were 6.1 cents and 7.4 cents respectively. On the other hand for the high volume groups, those New York dressing chickens had 31,217 chickens compared to 23,284 chickens for the drawn group and their labor cost was 3.1 cents per pound while the drawn group averaged 3.9 cents per pound.

Poultrymen who sold drawn chickens estimated their live chickens at both levels of operation at higher prices than the corresponding volume groups of those having New York dressed chickens. This was partially due to the fact that those New York dressing chickens had a relatively higher percentage of their chickens made up of fowl than did those marketing drawn chickens.

Profits on farms selling New York dressed chickens averaged 2.7 cents per pound and varied from 0.7 cent for the half with fewest chickens to 3.0 cents per pound for those with most chickens. The profits on farms selling drawn chickens were 1.8 cents per pound with the small volume group losing 1.1 cents and the large volume group receiving a profit of 2.5 cents per pound.

MS.46.1 COSTS, RETURNS, AND PROFITS PER POUND OF CHICKEN BY STYLE OF DRESSING
TABLE 11
184 New York Farms, 1946-47

Item	New York dressed only			Drawn only		
	Fewest chickens	Most chickens	All	Fewest chickens	Most chickens	All
Number of farms	38	39	77	31	32	63
Averages per farm						
Number of chickens dressed	1,215	9,129	5,223	964	6,878	3,963
Liveweight of chickens, pounds	5,375	31,217	18,464	5,327	23,284	14,448
Liveweight per chicken, pounds	4.4	3.4	3.5	5.5	3.4	3.6
Hours of dressing & selling	512	1,409	967	634	1,390	1,013
Number of chickens processed per hour	2.4	6.5	5.4	1.5	4.9	3.9
Liveweight processed per hour	10.6	22.1	18.4	8.3	16.7	14.0
Percentage of broilers & fryers	22.6	46.0	34.5	11.4	47.1	29.5
Percentage of fowls	57.3	24.7	40.8	48.8	16.4	32.4
Number of broilers and fryers	285	5,425	2,839	116	4,212	2,196
Number of fowls	651	1,585	1,124	4,053	672	541
Gross margin on sales and eaten, cents per pound	10.0	8.3	8.6	10.4	8.7	9.0
Costs						
Building and equipment	1.0	.9	.9	1.2	1.0	1.1
Man labor	6.1	3.1	3.5	7.4	3.9	4.5
Truck and auto	1.3	.7	.8	2.0	.8	1.1
Fuel and electricity	.2	.2	.2	.3	.3	.3
Packaging materials	.2	.2	.2	.3	.2	.2
Other costs	.5	.6	.6	.6	.3	.3
Total operating costs	9.3	5.7	6.2	11.8	6.5	7.5
Live chickens	34.4	35.4	35.3	35.7	37.0	36.8
Total costs	43.7	41.1	41.5	47.5	43.5	44.3
Returns						
Custom work and offal	*	.4	.3	.3	.3	.3
Sales and eaten	44.4	43.7	43.9	46.1	45.7	45.8
Total returns	44.4	44.1	44.2	46.4	46.0	46.1
Profit per pound	.7	3.0	2.7	-1.1	2.5	1.8
Returns per pound of chicken	35.1	38.4	38.0	34.6	39.5	38.6
Returns per hour of labor	72.1	134.8	114.1	52.3	106.9	88.2

* Less than 0.05.

Gross margin per pound charged by farms with all drawn chickens was 9.0 cents per pound and that for the New York dressed group was 8.6 cents. In view of the operating costs involved, the group drawing chickens had a relatively lower gross margin than the others. This partially explains why those drawing chickens had lower returns than those dressing. It has already been mentioned that the operating efficiency on the farms dressing chickens was 18.4 pounds per hour compared with 14.0 pounds on the farms drawing chickens. This was another reason why the profits were larger on the former. A third advantage the New York dressed group had was that it processed 5,223 chickens while the other averaged 3,968.

The group processing drawn chickens estimated the value of their live chickens 1.5 cents per pound more than the other group and sold them at 1.9 cents per pound more. This 0.4 cent advantage in pricing was offset by a 1.3 cents per pound higher operating cost for the drawn group with the result that their profit was 0.9 cent per pound less, 1.8 cents compared to 2.7 cents.

The better operating efficiency and a larger volume of business for those selling New York dressed chickens resulted in an average return for labor of \$1.14 per hour compared to 88.2 cents for those selling drawn chickens.

Efficiency of Operation

Measures used to study the relationship between efficiency and costs and returns were: (1) picking methods, and (2) number of chickens dressed per hour spent dressing.

Picking Method

As number of chickens picked by machine increased the costs per chicken decreased. This was also true for the hand picking method. The average number of chickens dressed by the 34 poultrymen handpicking over 1,000 chickens was about the same as the average number dressed by the 52 using a mechanical picker and picking between 1,000 and 3,999 chickens. However, the average operating cost for the former was 6.8 cents per pound compared to 7.8 cents for the latter (table 12). Practically all the difference in costs was due to building and equipment. Man labor expense was 4.6 cents per pound in both cases and the number of chickens processed per hour was essentially the same. Apparently hand picking was about as economical as machine picking when 2,200 to 2,400 chickens were processed during the year and more economical if substantially fewer birds were processed. A large reduction in building and equipment expense per pound took place for those using mechanical pickers when average numbers increased from 673 to 2,456.

The 25 poultrymen with mechanical pickers who processed over 9,999 chickens during the year processed 9.2 chickens per hour and had the lowest labor cost and the lowest total operating cost. They had the third highest profit per pound because their returns per pound were relatively low and they were charging live chickens higher than other groups.

The lowest volume picking with machine and picking by hand had net losses of 3.6 cents per pound and 1.9 cents per pound respectively. Losses for operations with a low volume when picking was done with a machine were larger than for low volume operations when picking was done by hand.

TABLE 12 RELATION OF MACHINE AND HAND PICKING TO COSTS AND RETURNS
181 New York Farms, 1946-47*

Item	Picking method and number of chickens processed					
	Machine picked				Hand picked	
	Under 1,000	1,000 3,999	4,000 9,999	Over 9,999	Under 1,000	Over 1,000
Number of farms	10	52	30	25	30	34
Averages per farm						
Number of chickens processed	673	2,456	6,369	19,131	544	2,253
Liveweight of chickens, pounds	3,477	10,859	23,479	58,739	2,816	10,511
Liveweight per chicken, pounds	5.2	4.4	3.7	3.1	5.2	4.7
Hours processing	271	513	1,045	2,087	201	501
Chickens processed per hour	2.5	4.8	6.1	9.2	2.7	4.5
Liveweight processed per hour, pounds	13.0	21.1	22.6	28.5	14.0	21.2
Gross margin per pound, cents	12.5	9.9	10.3	8.4	10.7	10.1
<hr/>						
Costs	Cents per pound					
Building and equipment	3.0	1.2	.8	.8	.6	.5
Man labor	8.9	4.6	4.0	3.2	8.2	4.6
Truck and auto	2.5	1.0	.9	.8	2.9	.7
Other costs	2.6	1.0	.8	.9	.9	1.0
Total operating costs	17.0	7.8	6.5	5.7	12.6	6.8
Live chicken	35.7	36.8	35.5	36.2	33.3	35.6
Total costs	52.7	44.6	42.0	41.9	45.9	42.4
Returns						
Sales and eaten	48.2	46.7	45.8	44.6	44.0	46.0
Custom work and offal	.9	.1	.4	.3	-	-
Total returns	49.1	46.8	46.2	44.9	44.0	46.0
Profit per pound	-3.6	2.2	4.2	3.0	-1.9	3.6
Returns per pound of live chicken	32.1	29.0	39.7	39.2	31.4	39.2
Returns for labor per pound of chicken	5.3	6.8	8.2	6.2	6.3	8.2

* Three farms are excluded because picking was done by both machine and hand.

Number of Chickens Dressed per Hour Spent Dressing

As the number of chickens dressed per hour increased, operating costs per pound decreased from 14.5 cents for those with less than four chickens dressed per hour, average 2.1, to 4.2 cents for those dressing over 11 chickens per hour, average 16.7 (table 13). The bulk of the decrease in cost came between the first two groups. After that costs continued to decline as dressing efficiency increased, but at a slower rate.

The cost item showing the sharpest decline as dressing efficiency increased was labor. The labor cost for the most efficient group was 2.0 cents per pound compared to 9.8 cents per pound for the least efficient group.

The 37 poultrymen dressing over 11 chickens per hour had a larger proportion of young chickens as shown by the fact that the average liveweight of their chickens was smallest. This was one reason why they were able to dress 16.7 chickens per hour. The least efficient group was only dressing 2.1 chickens per hour.

The large loss of 4.7 cents per pound for those dressing under 4 chickens per hour was due to both a low volume of business and an inefficient operation.

Percentage Mark-Up in Price per Pound

When costs, returns, and profits are compared on the basis of only percent mark-up on either New York dressed or drawn sales, the results may be influenced by the percent mark-up on the one not being compared. To test what happened in this connection on the poultry farms studied, costs and returns were compared on percentage mark-up for drawn sales at different levels of percentage mark-up for New York dressed sales.

Of the 63 farms with no New York dressed sales, there were 35 farms with the percentage mark-up on drawn sales under 80 percent, average 66.9 (table 14). These poultrymen had an average loss of 0.9 cent per pound while on the other 28 with the mark-up for drawn price over 80 percent, average 107.1, the profit was 5.7 cents per pound.

In the group of 66 poultrymen selling New York dressed chickens for under 40 percent mark-up, there were 43 who had no drawn sales and 23 with drawn sales all over 40 percent, average 23.0. Costs per pound for both these groups were slightly larger than returns. The one with no drawn sales lost 0.6 cent per pound while the other one lost 0.8 cent per pound.

The remaining 51 poultrymen who had largest price mark-up for both New York dressed and drawn made larger profits per pound than any of the others. The 21 farms on which New York dressed chicken sold for more than 40 percent above the live price, average 65.7, and the mark-up for drawn sales was over 60 percent, average 111.4, had a profit per pound of 8.5 cents. The other 34 farms with New York dressed prices averaging 62.4 percent above live prices but having no drawn sales had an average profit of 6.8 cents per pound.

TABLE 13

RELATION OF NUMBER CHICKENS DRESSED PER HOUR SPENT
DRESSING TO COSTS AND RETURNS
184 New York Farms, 1946-47

Item	Number dressed per hour spent dressing			
	Under 4	4 - 7	8 - 11	Over 11
Number of farms	52	62	33	37
Averages per farm				
Hours of dressing	926	800	636	582
Number of chickens dressed	1,913	4,133	5,832	9,738
Liveweight of chickens, pounds	8,365	15,750	21,292	30,989
Liveweight per chicken, pounds	4.4	3.8	3.6	3.2
Chickens dressed per hour	2.1	5.2	9.2	16.7
Liveweight dressed per hour, pounds	9.2	19.8	33.1	53.4
Gross margin per pound, cents	9.8	9.5	8.4	9.5
<u>Costs</u>				
	<u>Cents per pound</u>			
Building and equipment	1.4	.7	.9	.7
Man labor	9.8	4.6	3.0	2.0
Truck and auto	1.9	.9	.9	.7
Other costs	1.4	1.0	.7	.8
Total operating costs	14.5	7.2	5.5	4.2
Live chickens	36.5	36.5	36.5	35.3
Total costs	51.0	43.7	42.0	39.5
<u>Returns</u>				
Sales and eaten	46.3	46.0	44.9	44.8
Custom work and offal	-	-	.1	.7
Total returns	46.3	46.0	45.0	45.5
Profit per pound	-4.7	2.3	3.0	6.0
Return per pound of live chicken	31.8	38.8	39.5	41.3

TABLE 14. RELATION OF PERCENTAGE MARK-UP IN PRICE OF NEW YORK DRESSED
AND DRAWN SALES TO COSTS AND RETURNS
184 New York Farms, 1946-47

Item	Percent mark-up on New York dressed sales					
	No sales		Under 40		Over 40	
	Percent mark-up on drawn sales					
	Under 80	Over 80	No sales	Over 40	No sales	Over 60
Number of farms	35	28	43	23	34	21
Averages per farm						
Percent mark-up New York dressed sales	--	--	32.1	23.0	62.4	65.7
Percent mark-up on drawn sales	66.9	107.1	--	70.4	--	111.4
Number of consumers	65	89	44	84	59	64
Number of institutions and stores	3.6	3.0	2.9	10.3	2.8	6.0
Number of chickens processed	4,378	3,455	5,452	5,727	4,933	5,936
Liveweight of chickens, pounds	15,400	13,257	18,239	19,449	18,748	22,926
Liveweight per chicken, pounds	3.5	3.8	3.3	3.4	3.8	3.9
<hr/>						
	<u>Cents per pound</u>					
Total cost per pound	45.5	42.5	42.6	45.8	40.1	41.4
Returns						
Sales and eaten	44.1	48.2	41.6	44.9	46.6	49.7
Custom work and offal	.5	*	.4	.1	.3	.2
Total returns	44.6	48.2	42.0	45.0	46.9	49.9
Profit	-9	5.7	-6	-8	6.8	8.5

*Less than 0.05

CONCLUSIONS

Many poultrymen in New York State might consider the marketing-dressed-chicken business as a means of disposing of their chickens more profitably. This business seems well suited to:

1. Those poultrymen situated near a relatively large town in which there is an area of consumers with good income who like the services such a business would provide them.
2. The fulfillment of the management practice which calls for the regular removal of non-laying hens from the laying flock, even though the number may be small.
3. Those poultrymen who need to expand the size of their poultry business and have limited capital, as well as labor and other facilities.
4. Those poultrymen who have the ability to meet consumers and merchandise their products at retail.

One of the most important things for a poultryman to remember in planning for the successful operation of his marketing-dressed-chicken business is the pricing policy. The main considerations to be made in this connection are:

1. Loss of weight from removal of blood and feathers in New York dressing a chicken varies from 10 and 12 percent depending on the class of chicken. If the dressing operation is more complete and the feet, head, and inedible eviscers are removed to produce a drawn chicken, the dressing loss varied from 27 to 35 percent. Therefore, the price of a pound of dressed chicken must be large enough above the live price to cover the loss in weight.
2. In addition to the mark-up in price for the dressing loss, the price for the dressed chicken must be large enough to cover all operating costs. In this study the operating costs were 6.2 cents per pound for New York dressed chicken and 7.5 cents per pound for drawn chicken.
3. If a fowl worth 36 cents per pound alive were dressed, the mark-up in price would need to be about 47 cents to cover the 10 percent loss in weight and the charge for operating expenses.

The formula for New York dressed chicken would be:

$$\frac{\text{Value of live chicken per pound} + \text{Operating costs per pound}}{\text{Dressed weight of one pound of live chicken}} = \text{Sale price per pound of dressed chicken}$$

$$\text{Example: } \frac{.36 + .062}{.90} = \frac{.422}{.90} = .4689 \text{ or } 47 \text{ cents, sale price}$$

The formula for drawn chicken would be the same as for New York dressed chicken except the drawn weight of one pound of live chicken would be used instead of the dressed weight of one pound of live chicken, and operating costs for drawn chickens would be used in place of those for New York dressed.

$$\text{Example: } \frac{.36 + .075}{.72} = \frac{.435}{.72} = .6041 \text{ or 60 cents, sale price}$$

4. Total operating costs can be approximated with different levels of cost by using labor costs. In this study labor cost 63 cents per hour and accounted for 56.5 percent of total operating costs in producing 18 pounds of New York dressed chicken and 60.0 percent of the total in producing 14 pounds of drawn chicken. The labor cost per pound was 3.5 cents per pound for New York dressed and 4.5 cents per pound for drawn.

If a poultryman's labor cost were different from that used in this study, he can estimate his labor cost per pound and total operating cost for New York dressed by using this formula:

$$\frac{\text{Labor cost per hour}}{18} = \text{Labor cost per pound}$$

$$\frac{\text{Labor cost per pound}}{.565} = \text{Total operating cost per pound for New York dressed chicken}$$

The formula for estimating labor cost and operating cost for drawn chickens would be as follows:

$$\frac{\text{Labor cost per hour}}{14} = \text{Labor cost per pound}$$

$$\frac{\text{Labor cost per pound}}{.60} = \text{Total operating cost per pound for drawn chicken}$$