



Progress In Poultry

"THROUGH RESEARCH"

EGG PRICING AT FARM, WHOLESALE, AND RETAIL LEVELS

Donald Bell, Poultry Specialist
University of California, Riverside

In 1984, the USDA reported a 38.6 cents per dozen spread between the price farmers received for their eggs and the price the consumer paid in the retail store. This meant that farmers received 63.3% of the consumer dollar spent for eggs. Through the years the spread has steadily increased as processors and retailers have reacted to increasing costs.

In recent years, Southern California egg producers began to question the fact that retail prices were commonly twice what they received at the farm. In the second half of 1981, for example, farm prices were 59.8% of the retail price. By the first half of 1983, the farmer's share had dropped to 50.4%. The price spread had increased ten cents per dozen in less than two years.

In order to establish an accurate assessment of these relationships, a national study of egg prices was conducted during the week of February 3, 1986, involving Extension Poultry Specialists from 26 states along with several commercial egg firms. A total of 189 supermarkets were visited and prices were recorded for each category of eggs observed. Egg processors were interviewed to obtain farm, store, and warehouse delivered prices for each category.

In most states, four to six stores were sampled in the general area of the State University. In two states, California and Virginia, a much larger sample was taken to demonstrate in-state differences. The data in the following discussion is broken down into three regions:

West - west of the Rocky Mountains
Midwest - between the Rocky Mountains and the Mississippi River
East - east of the Mississippi River

RESULTS

Retail Prices--In general, the Western States had the highest retail prices. Arizona was the only state with prices in excess of \$1.00 per dozen for large white eggs. Southern California and the Alexandria area of Virginia both had prices in excess of \$1.00 per dozen, but lower priced areas within these two states brought their average price down to less than \$1.00 per dozen.

Retail prices for jumbo and extra large eggs were usually priced ten and five cents per dozen, respectively, more than large eggs.

Medium eggs were generally four to eight cents per dozen less than large eggs. Small eggs were priced 20 to 25 cents per dozen less than large eggs except in California where small eggs were priced within 12 cents of the large egg prices. Brown eggs were usually priced 10 to 20 cents more than white. Table 1 lists the average prices observed and the number of stores sampled.

Table 1. Retail Prices by State (non-sale), Week of February 3, 1986.

	No. of Stores	White Eggs					Brown Eggs Large
		Jumbo	Extra Large	Large	Medium	Small	
<u>WEST</u>		(cents per dozen)					
Arizona	10	113.8	105.0	100.3	94.3	59.0	116.5
California	32	115.1	108.2	97.9	93.3	86.3	129.8
Colorado	5	93.3	87.3	82.7	79.0	63.0	93.8
Idaho	4	89.0	86.0	73.9	63.0	58.0	133.5
Utah	5	105.0	99.0	95.0	85.4	67.0	112.3
Washington	8	102.3	95.0	89.5	84.5	59.0	---
Total/Av.	64	103.1	96.8	89.9	83.3	65.4	117.2
<u>MIDWEST</u>							
Arkansas	1	---	---	81.0	75.0	---	---
Iowa	7	75.0	73.0	69.4	65.1	---	---
Kansas	4	98.0	88.8	79.8	84.3	70.0	---
Minnesota	6	84.5	78.6	74.5	67.6	59.0	---
Missouri	6	99.8	92.0	87.5	78.5	59.0	100.5
Nebraska	5	87.5	83.8	80.8	71.8	59.0	---
Oklahoma	2	---	89.5	87.5	69.0	---	---
Texas	4	101.3	99.5	95.5	90.8	67.0	112.0
Total/Av.	35	91.0	86.5	82.0	75.3	62.8	106.3
<u>EAST</u>							
Illinois	5	84.3	77.6	73.8	70.0	54.0	---
Indiana	4	86.0	84.0	80.5	76.0	56.0	94.0
Massachusetts	5	---	---	---	---	---	100.5
Michigan	5	92.3	86.6	81.6	70.6	55.0	109.0
Mississippi	4	88.0	81.8	81.5	75.3	54.0	95.0
North Carolina	7	95.4	88.8	84.8	81.2	63.5	96.3
New Hampshire	4	---	---	93.0	---	---	100.5
New York	4	106.8	101.0	94.5	86.0	59.0	---
Pennsylvania	2	---	86.0	83.0	77.0	58.0	---
Tennessee	6	97.8	92.2	89.4	83.2	66.0	91.0
Virginia	38	96.2	91.3	88.5	81.7	65.3	101.6
Wisconsin	6	89.0	81.7	77.2	71.2	49.0	---
Total/Av.	90	92.9	87.1	84.3	77.2	58.0	98.5
<u>U.S. TOTAL/AV.</u>	189	95.3	89.4	84.9	78.1	61.2	105.8

Brown eggs were found in 48 percent of the stores but in most cases, except in New England, brown eggs were limited to the large size only. Only 20 percent of the stores in the midwest carried brown eggs.

Table 2 lists the retail prices for brown eggs in Massachusetts and New Hampshire, the only states with a full line of brown egg sizes. Interestingly, these states show only a four cent premium for brown eggs while the other states show a 21 cent premium for brown eggs.

Table 2. New England Brown Egg Prices Compared to Large White Eggs (non-sale).

State	No. of Stores	Brown Eggs					White Eggs Large
		Jumbo	Extra Large	Large	Medium	Small	
		(cents per dozen)					
Massachusetts	5	112.6	106.8	100.5	90.0	74.7	99.5
New Hampshire	4	118.3	107.5	100.5	93.0	---	93.0
AVERAGE/TOTAL	9	115.5	107.2	100.5	91.5	74.7	96.3

California and Virginia surveyed retail prices in different regions with their states to determine within-state pricing patterns. The areas of Southern California and Alexandria, Virginia (a suburb of Washington, DC), showed the highest retail prices in the entire nation.

Southern California prices were 14 cents higher than prices in the Fresno, Modesto, and Davis areas 250 to 500 miles north. Alexandria prices were 21 cents higher than other locations within Virginia (Table 3).

Table 3. Retail Egg Price Variations Within States (non-sale).

State	White Eggs					Brown Eggs Large
	Jumbo	Extra Large	Large	Medium	Small	
	(cents per dozen)					
CALIFORNIA (32 stores)						
Riverside (Southern)	142.2	131.0	108.3	105.4	85.0	146.8
Fresno (Central)	114.1	105.1	98.6	94.6	87.0	131.8
Modesto (Central)	102.5	96.8	92.3	86.3	---	118.0
Davis (Northern)	101.5	99.8	92.4	86.8	87.0	122.7
VIRGINIA (38 stores)						
Abingdon/Bristol (very rural)	92.6	86.7	82.2	76.0	64.0	119.2
Roanoke/Lynchburg (rural-urban)	95.6	87.2	84.0	79.0	---	91.7
Richmond (capitol)	94.6	90.6	86.6	81.4	64.7	102.3
Norfolk (urban)	96.0	89.5	89.0	86.8	65.0	94.0
Alexandria (Washington DC suburb)	119.0	104.7	105.8	91.8	---	128.3
Winchester/Front Royal (urban)	97.8	91.0	86.0	80.6	68.3	105.2
Harrisonburg (very rural)	87.7	82.3	78.3	72.0	65.0	92.3

Within the eleven local areas studied in California and Virginia, a typical range of 15 cents per dozen for white eggs and 20 cents per dozen for brown eggs was observed between stores. These differences were especially large in the Fresno and Davis areas (Table 4).

Table 4. Range in Prices Between Stores Within Localized Markets, Large Eggs (non-sale).

State	White Eggs		Brown Eggs	
	High	Low	High	Low
<u>CALIFORNIA</u>	(cents per dozen)			
Riverside	115	96	151	141
Fresno	119	85	149	115
Modesto	99	89	139	108
Davis	105	79	121	115
<u>VIRGINIA</u>				
Abingdon/Bristol	91	79	99	91
Roanoke/Lynchburg	90	79	106	79
Richmond	89	83	115	91
Norfolk	95	83	115	94
Alexandria	105	103	129	127
Winchester/Front Royal	93	83	129	98
Harrisonburg	85	73	109	83

Farm and Wholesale Prices--Meaningful farm prices are difficult to obtain in many states because few eggs are traded at this level. Contract organizations or firms with both a producing and processing division have no need for farm prices and in the future the term will have less and less meaning.

Farm prices usually mean "the price for unprocessed eggs into the hands of the processor." These eggs are paid for on a grade-out basis of so much per dozen. Prices are usually in a relationship to a printed industry quotation. Several cooperators estimated these prices based upon wholesale prices and their knowledge of processing and handling costs.

Typical prices for farm large eggs during the first week of February ranged from 45 to 50 cents per dozen except for the Western States where prices averaged 54.8 cents per dozen. Most prices East of the Rockies were essentially the same.

Wholesale prices reflect the addition of transportation, processing, and packaging costs. These costs averaged just over 20 cents per dozen for store deliveries. Warehouse deliveries averaged 3 to 5 cents per dozen less. Store deliveries are generally more costly because an assortment of egg sizes and packs must be delivered to each store, differences in store arrangements make deliveries less efficient, and trucking costs are usually higher.

Retail prices averaged 16.8 cents per dozen over the store delivered price (Table 5).

Table 5. Farm, Wholesale, and Retail Prices by State, Week of February 3, 1986, Large White Eggs (non-sale).

	Wholesale			Mark-up		
	Farm Price	Store Delivery Price	Retail Price	Farm to Store	Store to Retail	Farm to Retail
WEST	(cents per dozen)			(cents per dozen)		
Arizona	58.0	79.0	100.3	21.0	21.4	42.4
California	53.8	77.2	97.9	23.4	20.7	44.1
Colorado	---	---	82.7	---	---	---
Idaho	56.0	73.0	73.9	17.0	.9	17.9
Utah	48.0	72.5	95.0	24.5	22.5	47.0
Washington	55.0	75.0	89.5	20.0	14.5	34.5
Average	54.8	75.3	89.9	21.2	16.0	37.2
MIDWEST						
Arkansas	47.0	---	81.0	---	---	34.0
Iowa	46.0	---	69.4	---	---	23.4
Kansas	50.0	66.5	79.8	16.5	13.3	29.8
Minnesota	47.0	67.0	74.5	20.0	7.5	27.5
Missouri	46.0	65.0	87.5	19.0	22.5	41.5
Nebraska	45.0	73.0	80.8	28.0	7.8	35.8
Oklahoma	47.0	---	87.5	---	---	40.5
Texas	50.0	71.0	95.5	21.0	24.5	45.5
Average	47.3	68.5	82.0	20.9	15.1	34.8
EAST						
Illinois	46.0	62.0	73.8	16.0	11.8	27.8
Indiana	44.8	65.0	80.5	20.2	15.5	35.7
Massachusetts	---	---	---	---	---	---
Michigan	46.0	62.0	81.6	16.0	19.6	35.6
Mississippi	---	---	81.5	---	---	---
North Carolina	46.1	66.0	84.8	19.9	18.8	38.7
New Hampshire	---	---	93.0	---	---	---
New York	47.0	66.0	94.5	19.0	28.5	47.5
Pennsylvania	47.0	68.0	83.0	21.0	15.0	36.0
Tennessee	46.0	69.0	89.4	23.0	20.4	43.4
Virginia	48.2	64.3	88.5	16.1	24.2	40.3
Wisconsin	48.0	68.0	77.2	20.0	9.2	29.2
Average	46.6	65.6	84.3	19.0	18.1	37.1
U.S. AVERAGE	48.5	68.8	84.9	20.1	16.8	36.3

Farm prices for brown eggs in Massachusetts and New Hampshire were 8 cents per dozen higher than the Eastern white egg prices. The farm to store mark-up was essentially the same as for white eggs but the retail mark-up was 25.6 cents per dozen compared to a national average of 16.5 cents per dozen for white eggs. The farm to retail spread for brown eggs was 47.0 cents per dozen compared to a national average of 37.5 cents per dozen for white eggs (Table 6).

Table 6. Farm, Wholesale, and Retail Prices by State, Week of February 3, 1986, Large Brown Eggs (non-sale).

	Farm Price	Wholesale Store Delivery Price		Mark-up (¢)		
		Retail Price	Farm to Store	Store to Retail	Farm to Retail	
	(cents per dozen)			(cents per dozen)		
Massachusetts	53.0	75.8	100.5	22.8	24.7	47.5
New Hampshire	54.0	74.0	100.5	20.0	26.5	46.5
Average	53.5	74.9	100.5	21.4	25.6	47.0

Mark-Ups--The 20.1 cent per dozen difference between farm and wholesale white eggs represents a 41.4% mark-up over the average farm price. The 16.8 cents per dozen difference between wholesale and retail prices represents a 24.5% mark-up over the average wholesale price. On the average, the farmer's share of the consumer dollar was 57.7%, 5.6 percent less than the 63.3% reported by the USDA in 1984 (Table 7).

Table 7. Percentage Mark-ups Between Farm, Wholesale, and Retail Prices, Large White Eggs (non-sale).

	Wholesale Price + Farm Price	Retail Price + Wholesale Price	Farm Price + Retail Price
	(percent)		
WEST			
Arizona	+36.2	+26.8	57.8
California	43.5	26.8	55.0
Colorado	---	---	---
Idaho	30.4	1.2	75.8
Utah	51.0	31.0	50.5
Washington	36.4	19.3	61.5
Average	39.5	21.1	60.1

Table 7. continued

	Wholesale Price + Farm Price	Retail Price + Wholesale Price	Farm Price + Retail Price
MIDWEST	(percent)		
Arkansas	---	---	58.0
Iowa	---	---	66.3
Kansas	33.0	20.0	62.7
Minnesota	42.6	11.2	63.1
Missouri	41.3	34.6	52.6
Nebraska	62.2	10.7	55.7
Oklahoma	---	---	53.7
Texas	42.0	34.5	52.4
Average	44.2	22.2	58.1
EAST			
Illinois	34.8	19.0	62.3
Indiana	45.1	23.8	55.7
Massachusetts	---	---	---
Michigan	34.8	31.6	56.4
Mississippi	---	---	---
North Carolina	43.2	28.5	54.4
New Hampshire	---	---	---
New York	40.4	43.2	49.7
Pennsylvania	44.7	22.1	56.6
Tennessee	50.0	29.6	51.5
Virginia	33.4	37.6	54.5
Wisconsin	41.7	13.5	62.2
Average	40.9	27.7	55.9
U.S. AVERAGE	41.4	24.5	57.7

The brown egg states showed a similar mark-up at the wholesale level, but because of higher retail prices the retail mark-up was 34.2% compared to 24.5% for U.S. white eggs. The farmer's share of the food dollar was reduced to 53.2% (Table 8).

Table 8. Percentage Mark-ups Between Farm, Wholesale, and Retail Prices, Large Brown Eggs (non-sale).

	Wholesale Price + Farm Price	Retail Price + Wholesale Price	Farm Price + Retail Price
Massachusetts	+43.0	32.6	52.7
New Hampshire	+37.0	35.8	53.7
Average	40.0	34.2	53.2

The individual marketing areas within California and Virginia showed large differences between stores with respect to wholesale/retail mark-ups. Southern California retailers marked their product up 35 cents per dozen compared to 16 cents for Fresno and Davis. Alexandria, Virginia, stores marked their eggs up 20 cents per dozen more than other Virginia stores. This resulted in farmers receiving less than 50 percent of the consumer dollar in these two areas (Table 9).

Table 9. Wholesale and Retail Mark-ups Within States, Large White Eggs (non-sale).

	Farm to Store	Store to Retail	Farm to Retail	Wholesale Price + Farm Price	Retail Price + Wholesale Price	Farm Price + Retail Price
	(cents per dozen)			(percent)		
CALIFORNIA						
Riverside	19.0	35.3	54.3	+35.2	48.4	49.9
Fresno	27.0	17.6	44.6	50.0	21.7	54.8
Modesto	---	---	---	---	---	---
Davis	24.0	14.9	38.9	44.9	19.2	57.9
VIRGINIA*						
Abingdon/Bristol	16.1	17.9	34.0	33.4	27.8	58.6
Roanoke/Lynchburg	16.1	19.7	35.8	33.4	30.6	57.4
Richmond	16.1	22.3	38.4	33.4	34.7	55.7
Norfolk	16.1	24.7	40.8	33.4	38.4	54.2
Alexandria	16.1	41.5	57.6	33.4	64.5	45.6
Winchester/Front Royal	16.1	21.7	37.8	33.4	33.7	56.0
Harrisonburg	16.1	14.0	30.1	33.4	21.8	61.6

* All farm and all store delivered prices are assumed to be equal.

Different Egg Prices--Table 10 summarizes the frequency that various products appeared throughout this survey. Several interesting observations can be made:

- * Small eggs are more commonly seen in Eastern supermarkets.
- * 87 percent of the stores handle three or more sizes of white eggs.
- * 48 percent of the stores sell brown eggs but only 20 percent of the stores in the midwest sell brown eggs.
- * Western stores generally have more egg products than in the rest of the U.S.
- * 16 percent of the stores had eggs on sale.
- * Western and Eastern stores featured 30 eggs or larger bulk packs at a rate 6 to 7 times as much as midwestern stores.
- * 5 stores had only one egg product available; three stores had 12 or more.

Table 10. Stores Displaying Various Egg Sizes and Categories.

Item	West	Midwest	East	U.S.
Stores	64	35	90	189
	Percentage of Stores			
Jumbo White	63	66	63	64
Extra Large White	98	94	86	92
Large White	95	100	91	94
Medium White	88	97	83	87
Small White	23	23	40	31
No White	0	0	3	2
1 Size	5	0	10	6
2 Sizes	6	9	3	5
3 Sizes	27	26	12	20
4 Sizes	44	43	42	43
5 Sizes	19	23	29	24
Brown	48	20	59	48
3 or More Sizes	0	0	12	6
3 or Less Items*	13	26	8	13
4 - 6	41	60	66	56
7 - 9	31	9	26	24
10 or More	16	6	1	7
Average Items	(6.3)	(5.0)	(5.6)	(5.7)
Eggs on Sale	20	14	14	16
Bulk Containers**	17	3	22	17

* Different packs (sizes, grades, brands, packaging types).

** 30 or more eggs.

Common Prices--As expected, prices ending in 9 were the most popular for the retailer. They do not like even numbers especially 4's. This pricing policy often leads to no change or an exaggerated change in retail prices if the wholesale price changes result in unwanted numbers (Table 11).

Table 11. Frequency of Egg Prices, Last Digit (non-sale).

9	28.6%	7	6.1%
5	22.4	2	4.1
3	14.8	6	4.1
1	7.1	8	4.1
0	6.6	4	2.0

Price Changes--The prices in this survey were taken during the same week. Eggs at retail would have been purchased by the store at an earlier date and therefore the mark-ups listed do not refer to the exact same eggs. A similar sampling during a period of increasing prices would tend to offset this distortion.

The 7 stores in Southern California were revisited a week later following a four cent per dozen price decrease. Three stores dropped their prices, two stores made no change, and two increased their prices.

Relative Prices in Different Packaging--A wide variety of packaging sizes were observed throughout this survey. In general, six and eight egg cartons were priced five to ten cents per dozen over the one dozen carton prices. Eighteen egg cartons were generally priced within one cent per dozen of the one dozen carton price. Thirty egg flats were generally sold for two to six cent per dozen less than the one dozen price.

Unusual Products--Eggs are sold in a variety of ways in an attempt to satisfy consumer demands. Oftentimes, though, it would seem that we've gone too far in this direction. Three stores were found that had 12 or 13 different products compared to an industry average of 5.7.

An assortment of unusual products were observed:

- * Large B's.
- * Non-graded loose.
- * Graded loose--bring your own carton.
- * 36-egg pack (2 x 18)
- * Brown fertile XL.
- * 5 dozen XL.
- * Jumbo loose brown or white--take your pick.
- * 24-egg pack (2 x 12)
- * 7 1/2 dozen medium.
- * Pee wees--30 egg flat.
- * Double yolk A's.
- * 10 eggs.
- * 8 eggs.
- * 6 eggs.

Discussion--During the past 20 years we've seen three distinct periods of retail egg prices. Prior to 1973, retail prices were commonly less than 50 cents per dozen. During the remainder of the 70's, prices fluctuated from 60 to 80 cents. In the 1980's, we've seen prices move beyond 80 cent per dozen and up to more than \$1.30 per dozen. In the just completed survey, large eggs averaged 84.9 cents per dozen.

The consumer price index for 1985 shows that egg prices are still lagging 34% behind the combined index for meat, poultry, fish, and eggs. Beef and veal prices in 1985 were 270% of the base year (1967), while eggs were only 174%.

Farmers have little influence over consumer prices as evidenced by the widening of the gap between farm and retail prices. Farm income can only be improved in an environment where supplies are scarce enough to eliminate the continued producer/processor discounting of wholesale prices under conditions of relatively stable consumer demand.

References--

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