U.S. Egg Cost of Production and Prices

November 9, 2017

Compiled by

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American Egg Board

The Egg Industry Center Market Reports & Industry Analysis are compiled in the memory of their creator, Don D. Bell, Poultry Extension Specialist Emeritus - UC Davis.

REPORT NOTE: This report estimates the average layer feed price and cost of production in six different U.S. regions as outlined on the following map. It also reports the EIC projected prices of eggs.

This report uses the corn and soybean meal prices reported by Feedstuffs weekly newspaper.
Monthly corn and soybean prices for each city are estimated as the simple average of the weekly prices for each month.
Monthly corn and soybean prices for each region are estimated as the simple average of prices for the cities in each region.

- The Northeast region price is the simple average of the prices for Buffalo and Boston
- The Southeast region price is the simple average of the prices for Atlanta and Fayetteville (NC)
- The Midwest region price is the simple average of the prices for Chicago and Minneapolis
- The South Central region price is the simple average of the prices for Ft. Worth, Kansas City and Memphis
- The California and Northwest region prices are the simple average of the prices for Los Angeles, San Francisco and Portland
- The U.S. price is the simple average of the prices for all the regions listed above (except California)

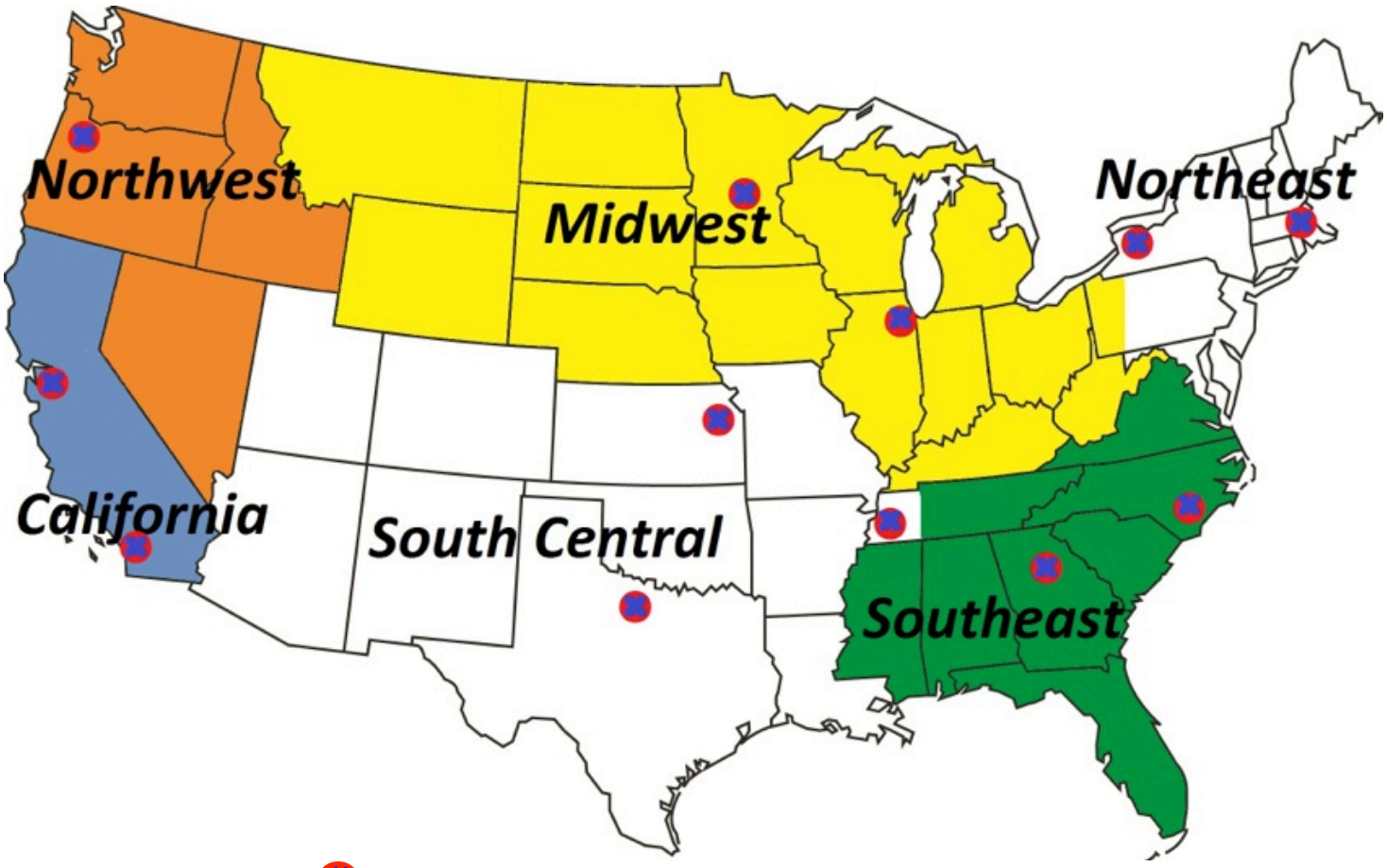
The average feed price is based on a diet consisting of 67% corn, 22% soybean meal, 8% limestone and 3% other ingredients.

The cost of production was adjusted from last year based on producer surveys. There is not enough information to separate costs by region other than using the differences in the feed ingredient prices.

Pullet cost are adjusted by region based on the average feed price for the month, assuming all the other costs are similar between regions.

Feed conversion is variable depending on the month. The labor, building and equipment, interest and miscellaneous costs are assumed to be 17.15 (cents/dozen) for all regions (except California) and months.

Map of U.S. Regions and the location of corn and soybean meal price information used in this report



Note: The red dots with blue x's ( ) mark the cities associated with monthly corn and SBM prices.

Highlights and comparison with previous month and previous year.
Prices and Percent Changes

Difference with respect to October last year (2017 vs. 2016).

Corn Price ($/ton)		SBM Price ($/ton)		Feed Cost ($/ton)		Cost of Prod (cents/doz.)		Egg Price (cents/doz.)	
-1.76	-1.2%	+13.01	+4.0%	+1.68	+0.9%	+0.30	+0.5%	+49.66	+168.3%

In October, corn prices were $1.76/ton (1.2%) lower than in the previous year. Soybean Meal prices were $13.01/ton higher than October last year.

These changes in prices resulted in a $1.68/ton (0.9%) higher cost of feed and 0.30 cents/doz. (0.5%) higher cost of production than October last year.

The October 2017 egg price paid to producers was 49.66 cents/doz. (168.3%) higher than in October 2016.

Difference with respect to the previous month this year (October 2017 vs. September 2017).

Corn Price ($/ton)		SBM Price ($/ton)		Feed Cost ($/ton)		Cost of Prod (cents/doz.)		Egg Price (cents/doz.)	
-1.81	-1.2%	+4.38	+1.3%	-0.25	-0.1%	-0.04	-0.1%	-4.79	-5.7%

The October corn price was $1.81/ton (1.2%) lower than the previous month. Soybean Meal prices were $4.38/ton (1.3%) higher.

These changes in prices resulted in a $0.25/ton (0.1%) lower cost of feed and 0.04cents/doz. (0.1%) lower cost of production than last month.

The October 2017 egg price paid to producers was 4.79 cents/doz. (5.7%) lower than the previous month.

CORN PRICE BY REGION ($/ton) - 2017 **TABLE 1**

Month	Southeast	Northeast	Midwest	South Central	Northwest	5-Region avg.
Jan	188.50	141.15	117.75	130.57	175.84	150.76
Feb	197.69	150.42	122.51	133.71	179.87	156.84
Mar	188.66	147.77	118.30	128.13	179.85	152.54
Apr	188.86	149.58	125.18	128.48	173.31	153.08
May	187.96	152.74	126.57	130.96	172.69	154.19
Jun	197.32	156.93	127.23	130.80	173.73	157.20
Jul	203.57	146.90	127.19	130.40	177.37	157.09
Aug	196.57	146.02	117.54	122.29	167.90	150.06
Sep	188.48	141.45	112.54	118.26	168.13	145.77
Oct	188.71	140.74	110.64	114.32	165.40	143.96
Nov						
Dec						
10 Month Avg.	192.63	147.37	120.54	126.79	173.41	152.15
Region/US avg.	1.27	0.97	0.79	0.83	1.14	

Source: Feedstuffs magazine

SOYBEAN MEAL PRICE BY REGION ($/ton) - 2017 **TABLE 2**

Month	Southeast	Northeast	Midwest	South Central	Northwest	5-Region avg.
Jan	382.00	363.52	312.61	335.71	360.56	350.88
Feb	382.00	365.58	318.34	339.83	363.70	353.89
Mar	382.00	354.40	304.60	321.13	352.55	342.94
Apr	382.00	339.57	292.70	315.56	339.55	333.88
May	371.00	333.91	291.60	317.61	337.91	330.41
Jun	346.25	331.43	287.20	305.93	329.26	320.01
Jul	376.50	344.66	312.25	331.27	354.66	343.87
Aug	377.00	325.80	290.75	313.06	332.55	327.83
Sep	377.00	328.35	296.95	313.59	343.28	331.83
Oct	377.80	335.60	296.05	324.41	347.21	336.21
Nov						
Dec						
10 Month Avg.	375.36	342.28	300.30	321.81	346.12	337.18
Region/US avg.	1.11	1.02	0.89	0.95	1.03	

Source: Feedstuffs magazine

Notes:

Northeast prices are estimated as the simple average of Buffalo and Boston
Southeast prices are estimated as the simple average of Atlanta and Fayetteville
South Central prices are estimated as the simple average of Ft. Worth, Kansas City and Memphis
Midwest prices are estimated as the simple average of Chicago and Minneapolis
Northwest and California prices are estimated as the simple average of Los Angeles, San Francisco and Portland

Note: "5-Region avg" is the simple average of the NE, SE, SC, MW, and NW regions.

ESTIMATED LAYER FEED COST BY REGION ($/ton) - 2017 **TABLE 3**

Month	Southeast	Northeast	Midwest	South Central	Northwest	5-Region avg.
Jan	238.44	202.65	175.77	189.44	225.23	206.30
Feb	244.59	209.31	180.21	192.44	228.63	211.04
Mar	238.54	205.08	174.37	184.59	226.16	205.75
Apr	238.67	203.03	176.36	183.61	218.92	204.12
May	235.66	203.90	177.05	185.72	218.14	204.09
Jun	236.48	206.16	176.53	183.04	216.93	203.83
Jul	247.32	202.35	182.01	188.35	224.96	209.00
Aug	242.74	197.61	170.81	178.90	213.76	200.77
Sep	237.32	195.11	168.83	176.32	216.27	198.77
Oct	237.65	196.23	167.36	176.06	215.31	198.52
Nov						
Dec						
10 Month Avg.	239.74	202.14	174.93	183.85	220.43	204.22
Region/US avg.	1.17	0.99	0.86	0.90	1.08	

Source: Egg Industry Center. Estimated based on corn and soybean meal prices reported by Feedstuffs magazine and all other costs total $28.1/ton.

Assumptions:

	Diet Composition				Transport
	Corn	SBM	Calcium*	Other ingredients*	and Milling
Percent	67%	22%	8%	3%	Costs*
$/Ton	variable	variable	4.6	12.6	10.9

* These are standardized costs

ESTIMATED 19-WEEK PULLET COSTS BY REGION ($/bird) - 2017 **TABLE 4**

Month	Southeast	Northeast	Midwest	South Central	Northwest	5-Region avg.
Jan	3.96	3.70	3.50	3.60	3.86	3.72
Feb	4.01	3.75	3.53	3.62	3.89	3.76
Mar	3.96	3.72	3.49	3.56	3.87	3.72
Apr	3.96	3.70	3.50	3.56	3.82	3.71
May	3.94	3.71	3.51	3.57	3.81	3.71
Jun	3.95	3.72	3.50	3.55	3.80	3.71
Jul	4.03	3.69	3.54	3.59	3.86	3.74
Aug	4.00	3.66	3.46	3.52	3.78	3.68
Sep	3.95	3.64	3.45	3.50	3.80	3.67
Oct	3.96	3.65	3.43	3.50	3.79	3.67
Nov						
Dec						
10 Month Avg.	3.97	3.69	3.49	3.56	3.83	3.71
Region/US avg.	1.07	1.00	0.94	0.96	1.03	

Source: Egg Industry Center

Assumes: 13.9 pounds of feed consumed per pullet at variable prices to grow a pullet to 19 weeks of age (for all regions), pullet feed cost 7% more expensive than layers cost (because of higher nutrient requirements); chick cost = 79 cents/baby chick, moving cost = 16 cents/pullet, and other costs = 124 cents/pullet (for all regions)

Note: "5-Region avg" is the simple average of the NE, SE, SC, MW, and NW regions.

ESTIMATED PULLET COST BY REGION under 1-cycle systems (Cents/doz.) - 2017 **TABLE 5**

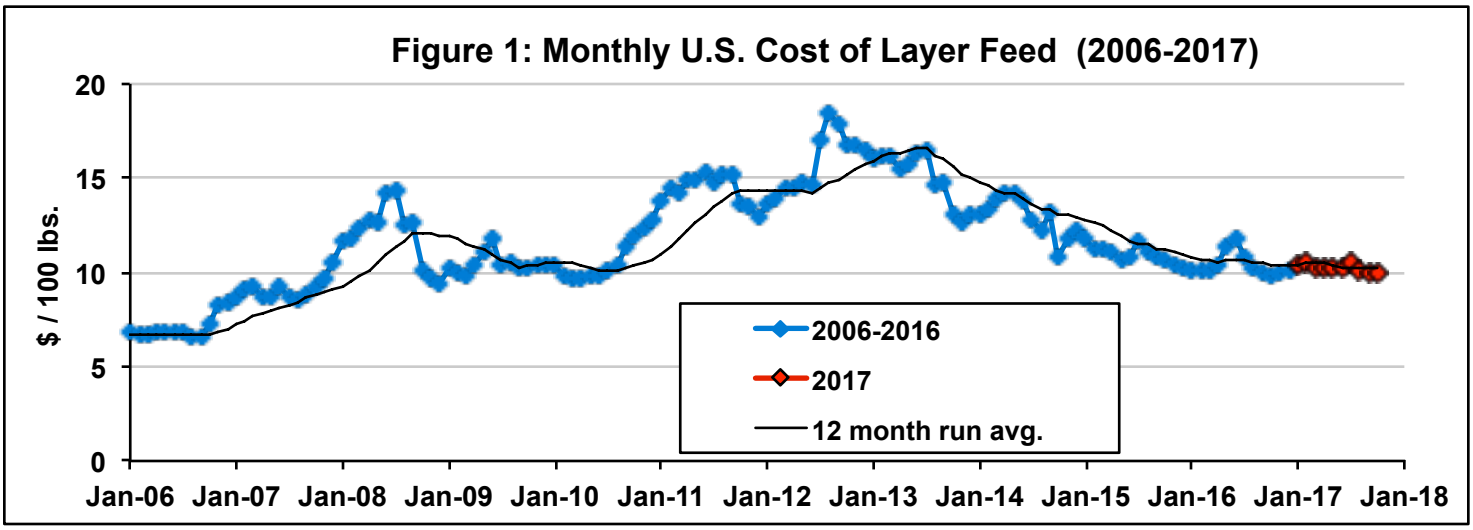
Month	Southeast	Northeast	Midwest	South Central	Northwest	5-Region avg.
Jan	11.49	10.72	10.14	10.43	11.20	10.79
Feb	11.62	10.86	10.23	10.50	11.28	10.90
Mar	11.49	10.77	10.11	10.33	11.22	10.78
Apr	11.49	10.72	10.15	10.31	11.07	10.75
May	11.43	10.74	10.16	10.35	11.05	10.75
Jun	11.45	10.79	10.15	10.29	11.02	10.74
Jul	11.68	10.71	10.27	10.41	11.20	10.85
Aug	11.58	10.61	10.03	10.20	10.96	10.68
Sep	11.46	10.55	9.99	10.15	11.01	10.63
Oct	11.47	10.58	9.96	10.14	10.99	10.63
Nov						
Dec						
10 Month Avg.	11.52	10.70	10.12	10.31	11.10	10.75
Region/US avg.	1.07	1.00	0.94	0.96	1.03	

Source: Egg Industry Center Assumes 34.5 dozen eggs per pullet placed under 1-cycle systems

ESTIMATED FEED COST BY REGION under 1-cycle systems (Cents/doz.) - 2017 **TABLE 6**

Month	Southeast	Northeast	Midwest	South Central	Northwest	5-Region avg.
Jan	37.43	31.82	27.60	29.74	35.36	32.39
Feb	38.40	32.86	28.29	30.21	35.89	33.13
Mar	37.45	32.20	27.38	28.98	35.51	32.30
Apr	37.47	31.88	27.69	28.83	34.37	32.05
May	37.00	32.01	27.80	29.16	34.25	32.04
Jun	37.13	32.37	27.72	28.74	34.06	32.00
Jul	38.83	31.77	28.58	29.57	35.32	32.81
Aug	38.11	31.03	26.82	28.09	33.56	31.52
Sep	37.26	30.63	26.51	27.68	33.95	31.21
Oct	37.31	30.81	26.28	27.64	33.80	31.17
Nov						
Dec						
10 Month Avg.	37.64	31.74	27.46	28.86	34.61	32.06
Region/US avg.	1.17	0.99	0.86	0.90	1.08	

Estimated based on feed costs ($/ton) shown in table 3, assuming 3.14 lbs of feed/dozen eggs



Note: "5-Region avg" is the simple average of the NE, SE, SC, MW, and NW regions.

ESTIMATED TOTAL COSTS BY REGION under 1-cycle systems (cents/doz.) - 2017 *

TABLE 7

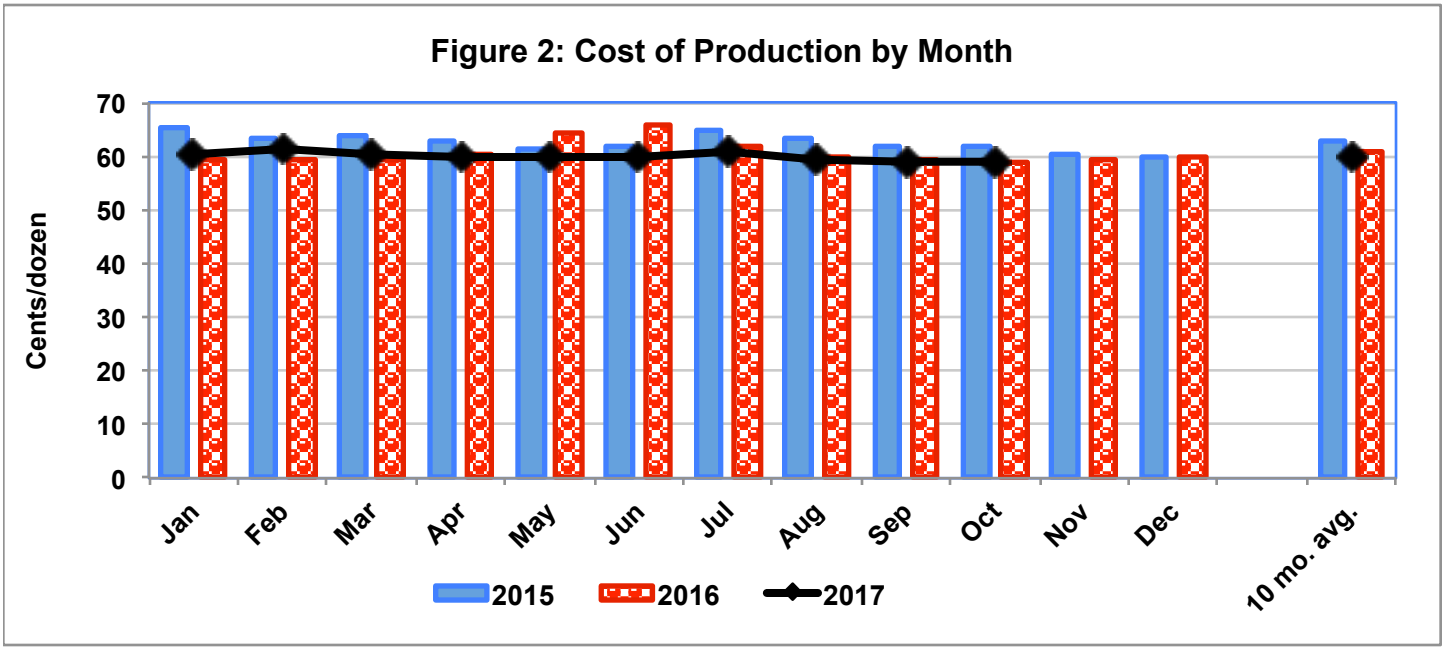
Month	Southeast	Northeast	Midwest	South Central	Northwest	California	5-Region avg.
Jan	66.07	59.68	54.88	57.32	63.71	76.26	60.33
Feb	67.17	60.87	55.68	57.86	64.32	76.86	61.18
Mar	66.09	60.12	54.63	56.46	63.88	76.42	60.24
Apr	66.11	59.75	54.99	56.28	62.59	75.13	59.94
May	65.58	59.90	55.11	56.66	62.45	74.99	59.94
Jun	65.72	60.31	55.02	56.18	62.23	74.78	59.89
Jul	67.66	59.63	56.00	57.13	63.67	76.21	60.82
Aug	66.84	58.78	54.00	55.44	61.67	74.21	59.35
Sep	65.87	58.34	53.64	54.98	62.11	74.66	58.99
Oct	65.93	58.54	53.38	54.93	61.94	74.48	58.95
Nov							
Dec							
10 Month Avg.	66.31	59.59	54.73	56.32	62.86	75.40	59.96
Region/US avg.	1.11	0.99	0.91	0.94	1.05	1.26	

Source: Egg Industry Center.

* These estimations are based on feed costs (cents/dozen) shown in table 6, pullet costs (cents/dozen) shown in table 5.
Building and equipment, labor, interest and miscellaneous costs are assumed to be 17.15 cents/dozen (except for CA, please see below)
Some assumptions were made in the absence of enough information of cost of production under the new California regulations.
These assumptions that are a clear simplification of the changes in different costs are:

1) the feed efficiency and pullet cost are similar between California and the rest of the country
2) the "building and equipment, labor, interest and miscellaneous" costs are assumed to increase proportionally to the space per layer increase or 73% higher (116 in^2/67 in^2) than on the other regions which put them at at 29.69 cents/dozen (17.15 * 116/67)

These estimations are based on standard costs for conventionally produced eggs. Higher labor costs might exist in certain regions. Newer, more efficient farms, would probably use less labor but have higher equipment costs.



Note: "5-Region avg" is the simple average of the NE, SE, SC, MW, and NE regions. California is not considered for the average because of the different production requirements.

U.S. ESTIMATED FARM EGG PRICE AND RETAIL EGG PRICE (cents/Doz) **TABLE 8**

month	Farm Price for All White Egg Sizes (cents/Doz)				Retail Price for Large White Eggs (cents/Doz)			
	2015	2016	2017	Change	2015	2016	2017	Change
Jan	88.2	91.7	49.5	-42.2	211.3	232.8	159.9	-72.9
Feb	106.0	92.8	38.9	-53.8	208.8	226.7	146.4	-80.3
Mar	124.1	66.9	46.7	-20.3	213.3	208.1	140.4	-67.7
Apr	80.4	41.8	42.8	1.0	206.5	179.3	140.9	-38.4
May	128.4	30.6	37.1	6.6	196.2	168.4	141.4	-27.0
Jun	172.1	31.8	39.5	7.7	257.0	149.1	133.2	-15.9
Jul	175.2	39.9	51.0	11.1	257.0	154.6	133.3	-21.3
Aug	204.5	39.8	55.8	16.0	294.3	145.5	136.7	-8.8
Sep	169.5	38.3	84.0	45.7	296.6	147.1	142.2	-4.9
Oct	123.6	29.5	79.2	49.7	280.8	139.0		
Nov	162.5	35.9			266.4	132.1		
Dec	106.1	73.3			275.1	138.3		
Avg.	137.2	50.3	52.4	2.1	237.9	179.1	141.6	-37.5
12 Month Avg.	136.7	51.0			246.9	168.4		

Source: Estimated using Urner Barry's price quotations by regions Source: Bureau of Labor Statistics (Dept. of Commerce)

Note: There was an error in the formula used to estimate the farm price for Jan-Mar 2017.

For this report, the price paid to producers for each size eggs is estimated by subtracting an "adjustment factor" from Urner Barry quotations of prices by region. The "adjustment factor" we are using varies around 42 cents/dozen and it is estimated by comparing the historical relationship between the Urner Barry prices with the Trailer Load prices reported by USDA.

The Undergrades eggs price is estimated as the price of Checks eggs as reported by USDA Marketnews minus 25 cents (up to a minimum of 8 cents) adjusted by the differences in prices between regions.

The average price of all eggs is estimated based on the proportions of Jumbo, Extralarge, Large, Medium, Small and Undergrades eggs. Based on the Breeders Performance Manuals up to 90 weeks of age.

Adjustment figures between Urner Barry quotes and producer prices are subject to change monthly and between regions and companies.

Figure 3: Estimated U.S. Average Farm Egg Prices by Month (Cents/dozen)

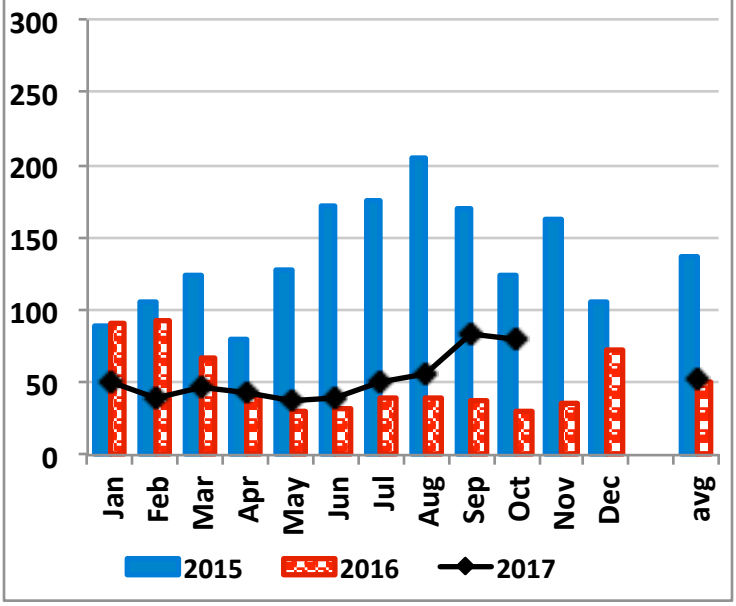


Figure 4: U.S. Consumer Retail Large Egg **Prices by Month (Cents/dozen)**

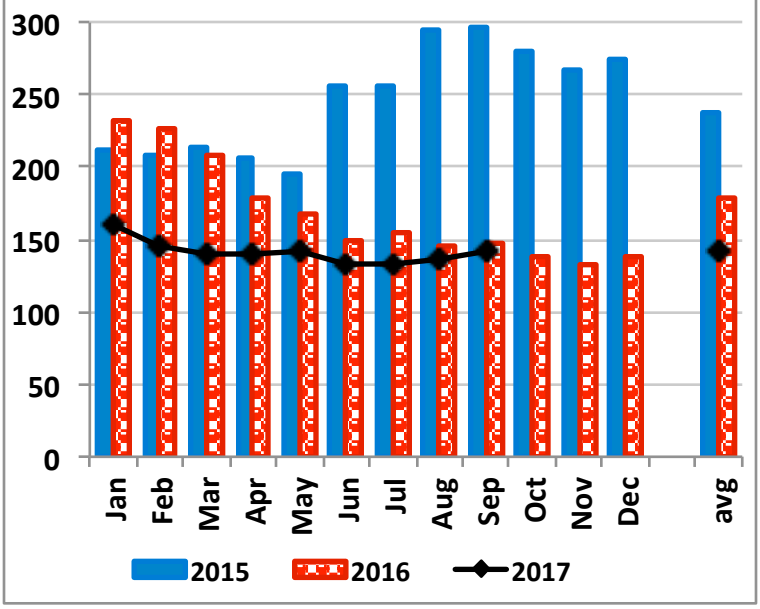


TABLE 9

ESTIMATED TOTAL COSTS comparing Breeders Manuals values vs. some loss in production efficiency (Cents/doz.) - 2017

month	TOTAL Cost (cents/dozen)							
	Manuals	5% higher feed conv. A	5% higher pullet feed B	lower eggs/ hen housed C	A and B	A and C	B and C	A, B, and C
Jan	60.33	61.95	60.56	60.90	62.18	62.52	61.14	62.76
Feb	61.18	62.84	61.41	61.75	63.06	63.41	61.99	63.65
Mar	60.24	61.85	60.46	60.80	62.07	62.42	61.04	62.65
Apr	59.94	61.55	60.16	60.51	61.77	62.11	60.74	62.34
May	59.94	61.54	60.16	60.51	61.76	62.11	60.74	62.34
Jun	59.89	61.49	60.11	60.46	61.71	62.06	60.69	62.29
Jul	60.82	62.46	61.04	61.39	62.68	63.03	61.62	63.26
Aug	59.35	60.92	59.56	59.91	61.14	61.48	60.14	61.71
Sep	58.99	60.55	59.20	59.55	60.76	61.11	59.77	61.33
Oct	58.95	60.50	59.16	59.50	60.72	61.06	59.73	61.29
Nov								
Dec								
10 Month Avg.	**59.96**	**61.57**	**60.18**	**60.53**	**61.79**	**62.13**	**60.76**	**62.36**

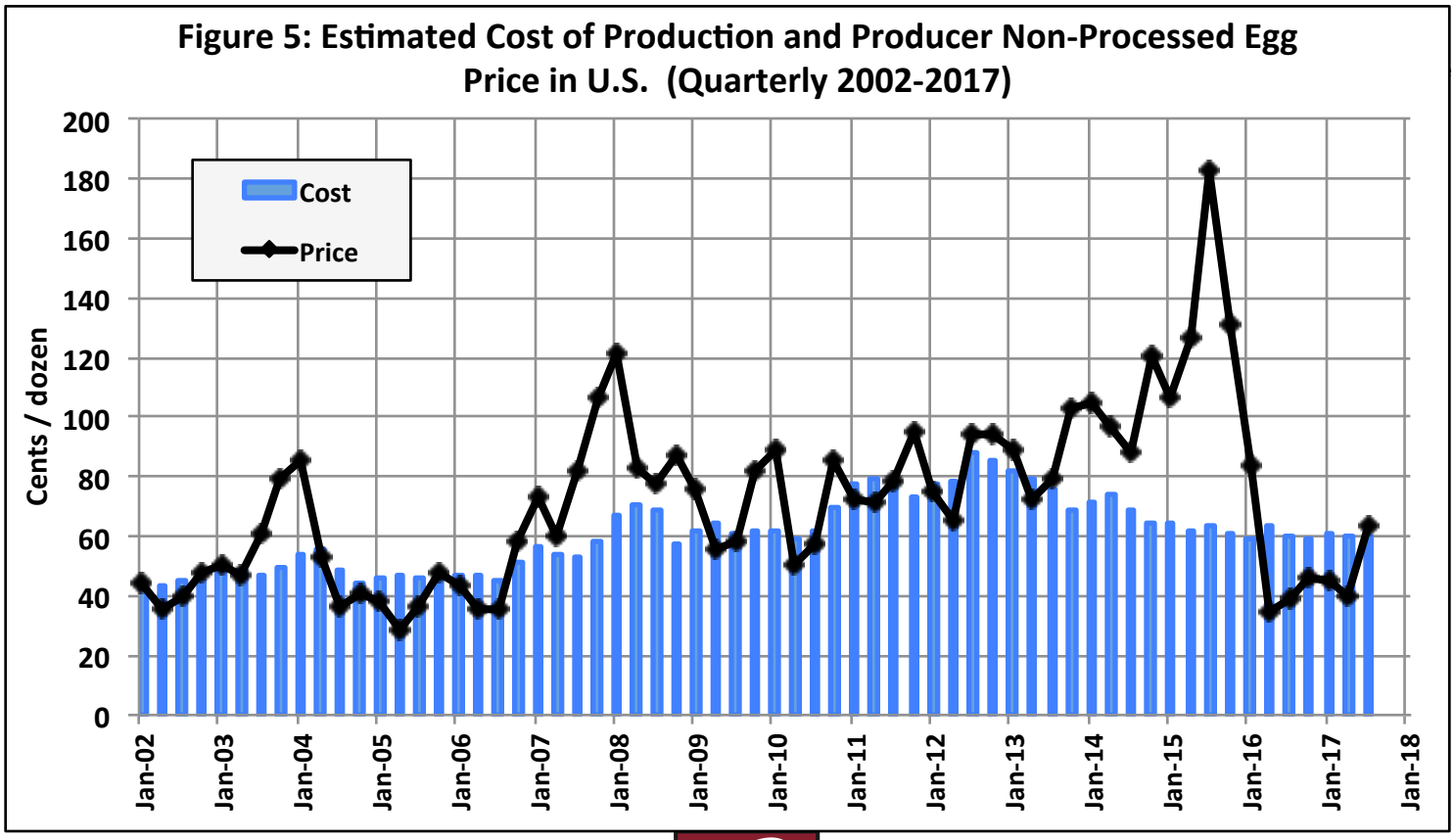
Source: Egg Industry Center, based on Feedstuffs magazine published prices of corn and soybean meal

"Manuals" is estimated using the weighted average of Breeders Manuals (70% Hyline w-36, 15% Shaver White, 8% Lohmann LSL-Lite and 5% Bovans White) for 20 to 90 weeks of age.

"5% higher feed conv." is the estimated cost if the feed conversion were 5% higher than the breeders manuals value (using 3.30 lbs./dozen instead of 3.14 lbs./dozen)

"5% higher pullet feed." is the estimated cost if the feed used to grow pullets were 5% higher than the breeders manuals value (using 14.6 lbs./pullet instead of 13.9 lbs./pullet)

"lower eggs/ hen housed" is the estimated cost if the number of eggs per hen-housed were 5% lower than the breeders manuals value (using 394 eggs/hen-housed instead of 414 eggs/hen-house)



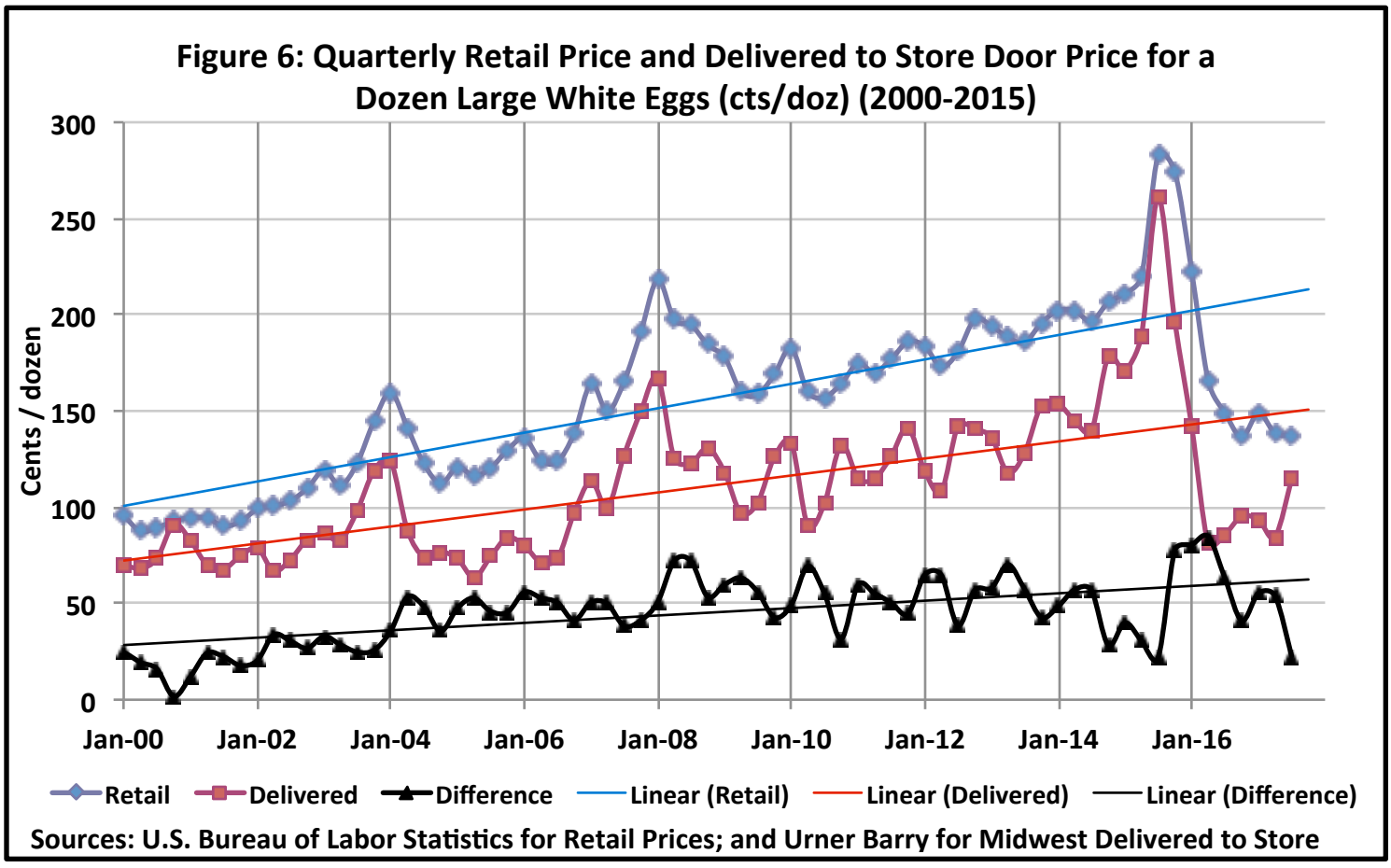
LARGE EGG PRICES - CONVENTIONAL (warehouse) AND CAGE-FREE (to 1st receivers) - ($/dozen) **TABLE 10**

	Conventional White 4-Regions			
month	**2014**	**2015**	**2016**	**2017**
Jan	1.20	1.17	1.13	0.83
Feb	1.42	1.40	1.38	0.71
Mar	1.41	1.57	0.98	0.69
Apr	1.51	1.23	0.67	0.74
May	1.20	1.42	0.60	0.61
Jun	1.20	2.26	0.50	0.65
Jul	1.28	2.10	0.74	0.79
Aug	1.23	2.66	0.60	0.86
Sep	1.18	2.23	0.69	1.11
Oct	1.23	1.65	0.50	1.17
Nov	1.50	1.96	0.63	
Dec	1.99	1.61	0.98	
10 Month Avg.	**1.29**	**1.77**	**0.78**	**0.82**

	Cage-Free to 1st receivers	
month	**2016**	**2017**
Jan		1.58
Feb		1.64
Mar		1.64
Apr		1.63
May		1.64
Jun		1.60
Jul		1.61
Aug	1.86	1.61
Sep	1.91	1.60
Oct	1.80	1.60
Nov	1.64	
Dec	1.64	
10 Month Avg.		**1.62**

Source: USDA AMS Poultry Market News and Analysis

Notes: the "Conventional Warehouse" is the simple average of white egg prices of 4-regions: MW, NE, SC and SE
the Cage-Free price includes pricing for both white and brown cage-free eggs



Note: the delivered to store door price is estimated from the Urner Barry quoted prices as the 5- region simple average (Northeast, Southeast, South Central, Midwest, and Northwest). California is not considered for the average because of the different production requirements.

We are currently working in developing a new price projection model

TABLE 11: U.S. CORN AND SOYBEAN PLANTINGS, HARVEST, AND UTILIZATION (2013 to 2017)

Year	Corn Planted (Million acres)	Corn Harvest (Million acres)	Corn Production Harvested (Million bushels)	Soybeans Planted (Million acres)	Soybeans Harvest (Million acres)	Soybeans Production Harvested (Million bushels)
2013/14	95.4	87.5	13,829	76.8	76.3	3,358
2014/15	90.6	83.1	14,216	83.3	82.6	3,927
2015/16	88.0	80.8	13,601	82.7	81.7	3,929
2016/17	94.0	86.7	15,148	83.4	82.7	4,307
Projections October, 2017				**Projections** October, 2017		
2017/18	90.4 *	83.1 *	14,280	90.2 *	89.5 *	4,431

Utilization of Soybean for Various Purposes (Million bushels)

Year	Begin. Stocks	Product-ion	Imports	Total Supply	Crush	Seed Feed & residual	% Crush of total	Exports	Net Use	Ending Stocks
2013/14	141	3,358	72	3,570	1,734	97	48.6	1,638	3,478	92
2014/15	92	3,927	33	4,052	1,873	96	46.2	1,842	3,862	191
2015/16	191	3,926	24	4,140	1,886	97	45.6	1,942	3,944	197
2016/17	197	4,296	22	4,515	1,899	105	42.1	2,174	4,214	301
2017/18+	301	4,431	25	4,757	1,940	101	40.8	2,250	4,326	430

Utilization of Corn for Various Purposes (Million bushels)

Year	Begin. Stocks	Product-ion	Imports	Total Supply	Feed	(Fuel) *	Food & Industrial	Exports	Net Use	Ending Stocks
2013/14	821	13,829	36	14,686	5,040	5,124	6,493	1,920	13,454	1,232
2014/15	1,232	14,216	32	15,479	5,280	5,200	6,601	1,867	13,748	1,731
2015/16	1,731	13,602	68	15,401	5,114	5,224	6,648	1,901	13,664	1,737
2016/17	1,737	15,148	57	16,942	5,464	5,438	6,890	2,293	14,647	2,295
2017/18+	2,295	14,280	50	16,625	5,500	5,475	6,935	1,850	14,285	2,340

+ (forecast October, 2017)

* Fuel is included in the "Food and Industrial" category

	Feed	Fuel	Food & Industrial *	Exports	Ending Stocks
2013/14	34.3%	34.9%	9.3%	13.1%	8.4%
2014/15	34.1%	33.6%	9.1%	12.1%	11.2%
2015/16	33.2%	33.9%	9.2%	12.3%	11.3%
2016/17	32.3%	32.1%	8.6%	13.5%	13.5%
2017/18+	33.1%	32.9%	8.8%	11.1%	14.1%

*** excluding the use for fuel**

Sources Acknowledgements (double click on the links below and you can go directly to the source):

Feedstuffs weekly newspaper	http://www.feedstuffs.com
USDA ERS Feed Outlook	http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1273
USDA ERS Oil Crops Outlook	http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1288
Urner Barry	http://www.ubcomtell.com/
Bureau of Labor Statistics	http://data.bls.gov/cgi-bin/srgate
USDA Marketnews	https://www.marketnews.usda.gov/mnp/py-report-config?category=Egg
USDA Cage-Free Shell Egg Report	https://www.ams.usda.gov/mnreports/pymcagefree.pdf

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Don -
Thank you for all your contributions to this industry.
You will be forever missed.
Your friends at EIC