U.S. Egg Cost of Production and Prices

February 15, 2019

Egg Industry Center

Compiled by

Maro Ibarburu

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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.

Special note:

Starting in January 2019, EIC changed the source of corn and soybean meal pricing information from Feedstuffs magazine to USDA-AMS Market News.

The main reason for this change is that Feedstuffs magazine hasn't been reporting prices for various locations for several months. At this point, there are no corn prices reported in the Northeast region and no soybean meal prices reported in the Northeast and Southeast regions.

The challenge with changing sources of information is that the numbers do not always match. This depends on several things such as the locations reported on within each region, the delivery period, the pricing point, inclusion of delivery or not, and the transportation mode.

For the corn market, we are using the "cash" delivery period for almost all the states except for where there is no "cash" price reported. In those cases, we use a 10-day (CA) or 30-day (LA, OR) delivery period.

For the soybean meal market, we are using the "cash" delivery period for almost all the states except for where there is no "cash" price reported. In those cases, we use a 10-day (CA), 20-day (MN), or 30-day (OR) delivery period.

There is no price information for soybean meal in any of the Northeaster States. Therefore, we estimate the soybean meal prices for the Northeast region based on the historical relationship with the Midwest price.

For the most part, USDA reported corn and soybean meal prices are lower than the ones reported by Feedstuffs magazine.

The largest difference in the reported prices between these two sources is for the Southeast region. As a result, the estimated feed costs and cost of production will be lower for the most part.

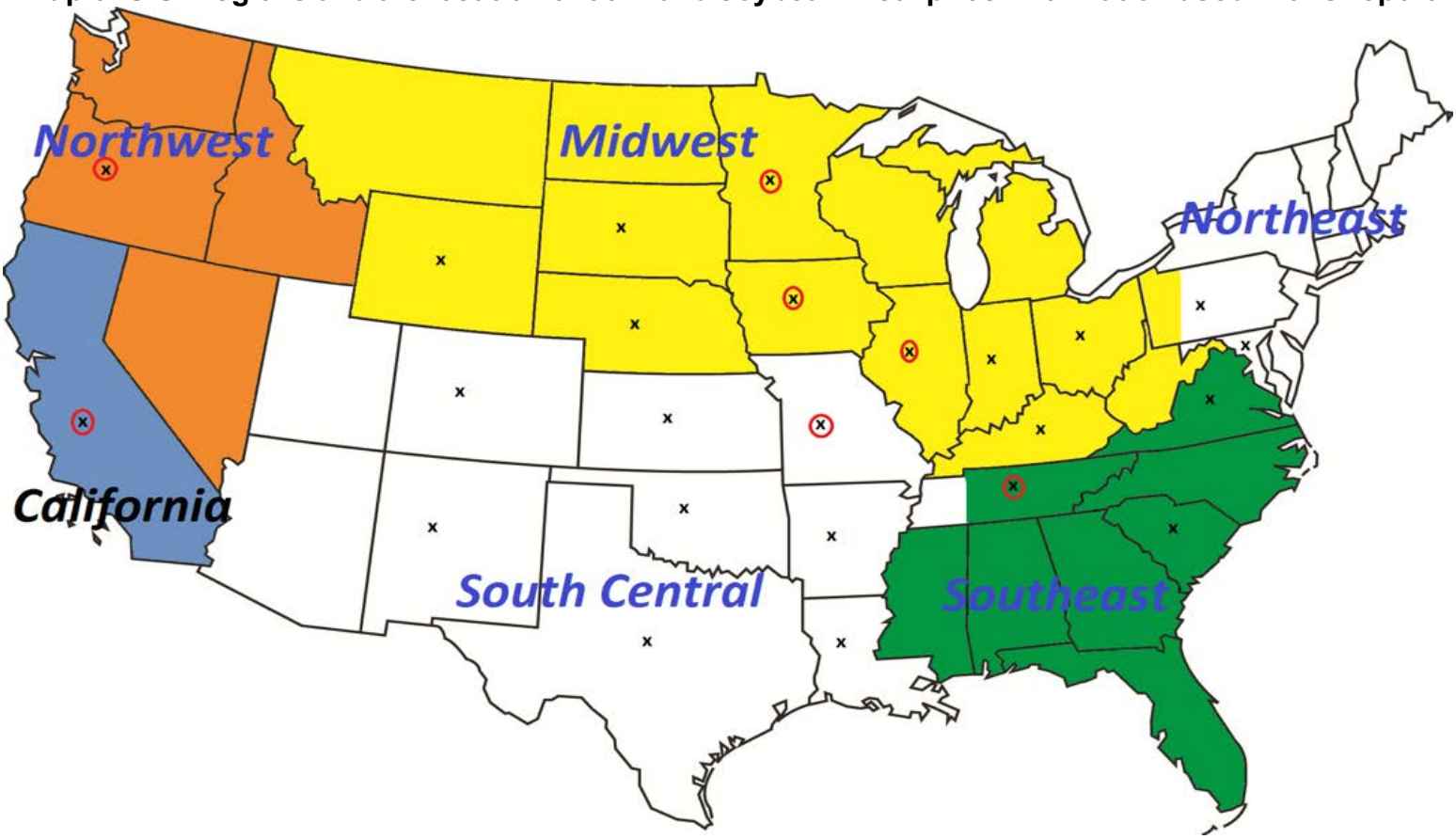
REPORT NOTE: This report estimates the average layer feed price and cost of production in six different U.S. regions as outlined on the following map. It also reports the EIC projected prices of eggs.

This report uses the corn and soybean meal prices reported by USDA AMS Market News.
Monthly corn and soybean prices for each region are estimated as the simple average of prices for the States with pricing information in each region (please see map below)
There is no price information for soybean meal in any of the Northeast States. Therefore, we estimate the soybean meal prices for the Northeast region based on the historical relationship with the Midwest price.
The West region prices are estimated s the simple average of California and Oregon prices.

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 17.96 (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 **X**'s mark the States with monthly corn prices reported by USDA.

The red circles with **X**'s inside (ⓧ) mark the States with monthly corn and SBM prices reported by USDA.

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

Difference with respect to January last year (2019 vs. 2018).

Corn Price ($/ton)		SBM Price ($/ton)		Feed Cost ($/ton)		Cost of Prod (cents/doz.)		Egg Price (cents/doz.)	
+10.96	+8.1%	-12.01	-3.6%	+5.42	+2.8%	+1.57	+2.7%	-16.95	-17.8%

In January, corn prices were $10.96/ton (8.1%) higher than in the previous year. Soybean Meal prices were $12.01/ton lower than January last year.

These changes in prices resulted in a $5.42/ton (2.8%) higher cost of feed and 1.57 cents/doz. (2.7%) higher cost of production than January last year.

The January 2019 egg price paid to producers was 16.95 cents/doz. (17.8) lower than in January 2018.

Difference with respect to the previous month this year (January 2019 vs. December 2018).

Corn Price ($/ton)		SBM Price ($/ton)		Feed Cost ($/ton)		Cost of Prod (cents/doz.)		Egg Price (cents/doz.)	
-0.09	-0.1%	-2.86	-0.9%	+0.03	+0.0%	+0.61	+1.0%	-12.71	-14.0%

The January corn price was $0.09/ton (0.1%) lower than the previous month. Soybean Meal prices were $2.86/ton (0.9%) lower.

Even though the feed ingredients prices were lower, the estimated feed costs and costs of production are higher because we adjusted the other costs based on inflation. These changes in prices resulted in a $0.03/ton (0.0%) higher cost of feed and 0.61 cents/doz. (1.0%) higher cost of production than last month.

The January 2019 egg price paid to producers was 12.71 cents/doz. (14.0%) lower than the previous month.

CORN PRICE BY REGION ($/ton) - 2019 **TABLE 1**

Month	Southeast	Northeast	Midwest	South Central	West	5-Region avg.
Jan	146.70	148.04	125.86	135.69	171.83	145.62
Feb						
Mar						
Apr						
May						
Jun						
Jul						
Aug						
Sep						
Oct						
Nov						
Dec						
1 Month Avg.	146.70	148.04	125.86	135.69	171.83	145.62
Region/US avg.	1.01	1.02	0.86	0.93	1.18	

Source: USDA AMS Marketnews

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

SOYBEAN MEAL PRICE BY REGION ($/ton) - 2019 **TABLE 2**

Month	Southeast	Northeast	Midwest	South Central	West	5-Region avg.
Jan	328.87	324.60	294.61	302.42	354.44	320.99
Feb						
Mar						
Apr						
May						
Jun						
Jul						
Aug						
Sep						
Oct						
Nov						
Dec						
1 Month Avg.	328.87	324.60	294.61	302.42	354.44	320.99
Region/US avg.	1.02	1.01	0.92	0.94	1.10	

Source: USDA AMS Marketnews

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

ESTIMATED LAYER FEED COST BY REGION ($/ton) - 2019 **TABLE 3**

Month	Southeast	Northeast	Midwest	South Central	West	5-Region avg.
Jan	200.06	200.02	178.56	186.86	222.52	197.60
Feb						
Mar						
Apr						
May						
Jun						
Jul						
Aug						
Sep						
Oct						
Nov						
Dec						
1 Month Avg.	200.06	200.02	178.56	186.86	222.52	197.60
Region/US avg.	1.01	1.01	0.90	0.95	1.13	

Source: Egg Industry Center. Estimated based on corn and soybean meal prices reported by USDA AMS Marketnews and all other costs total $29.4/ton. ... these costs had been estimated as 1.025 * last year costs until we get a new COP survey

Assumptions:

	Diet Composition				Transport
	Corn	SBM	Calcium*	Other ingredients*	and Milling
Percent	67%	22%	8%	3%	Costs*
$/Ton	variable	variable	4.8	13.2	11.4

* These are standardized costs

ESTIMATED 19-WEEK PULLET COSTS BY REGION ($/bird) - 2019 **TABLE 4**

Month	Southeast	Northeast	Midwest	South Central	West	5-Region avg.
Jan	3.78	3.78	3.62	3.69	3.95	3.77
Feb						
Mar						
Apr						
May						
Jun						
Jul						
Aug						
Sep						
Oct						
Nov						
Dec						
1 Month Avg.	3.78	3.78	3.62	3.69	3.95	3.77
Region/US avg.	1.00	1.00	0.96	0.98	1.05	

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 = 83 cents/baby chick, moving cost = 16.4 cents/pullet, and other costs = 130 cents/pullet (for all regions)
these costs had been estimated as 1.025 * last year costs until we get a new COP survey

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.) - 2019 **TABLE 5**

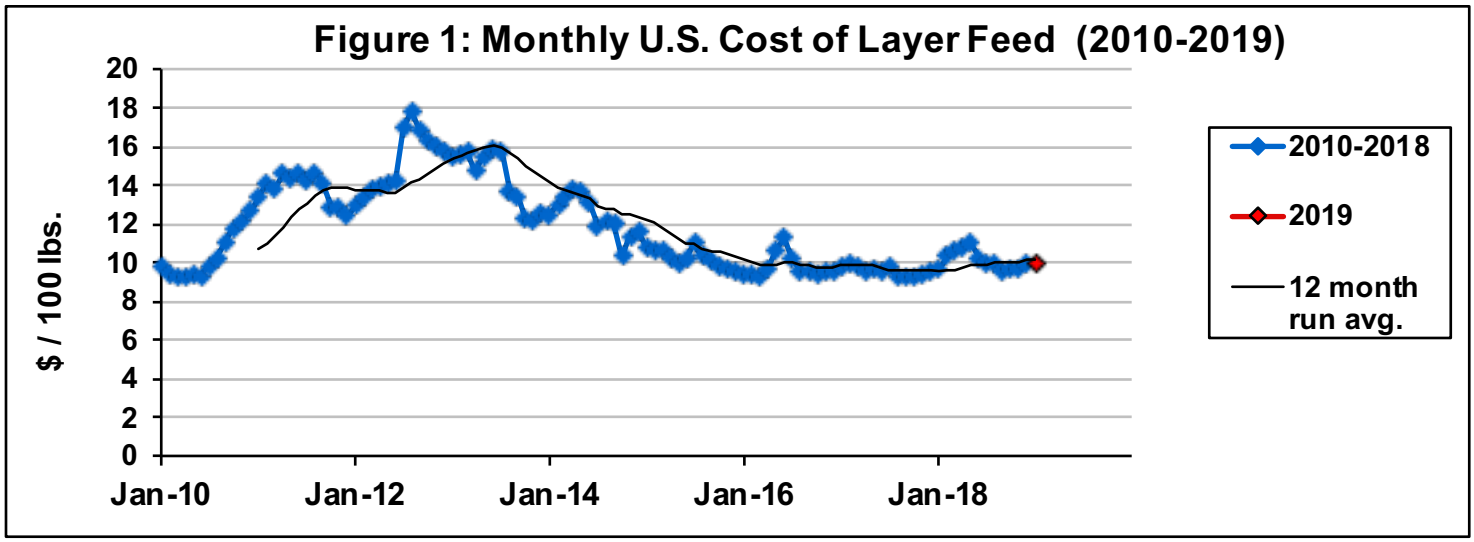
Month	Southeast	Northeast	Midwest	South Central	West	5-Region avg.
Jan	10.97	10.97	10.50	10.68	11.45	10.91
Feb						
Mar						
Apr						
May						
Jun						
Jul						
Aug						
Sep						
Oct						
Nov						
Dec						
1 Month Avg.	10.97	10.97	10.50	10.68	11.45	10.91
Region/US avg.	1.00	1.00	0.96	0.98	1.05	

Source: Egg Industry Center Assumes 34.5 dozen eggs per pullet placed under 1-cycle systems 210.0774141

ESTIMATED FEED COST BY REGION under 1-cycle systems (Cents/doz.) - 2019 **TABLE 6**

Month	Southeast	Northeast	Midwest	South Central	West	5-Region avg.
Jan	31.41	31.40	28.03	29.34	34.94	31.02
Feb						
Mar						
Apr						
May						
Jun						
Jul						
Aug						
Sep						
Oct						
Nov						
Dec						
1 Month Avg.	31.41	31.40	28.03	29.34	34.94	31.02
Region/US avg.	1.01	1.01	0.90	0.95	1.13	

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.) - 2019 * **TABLE 7**

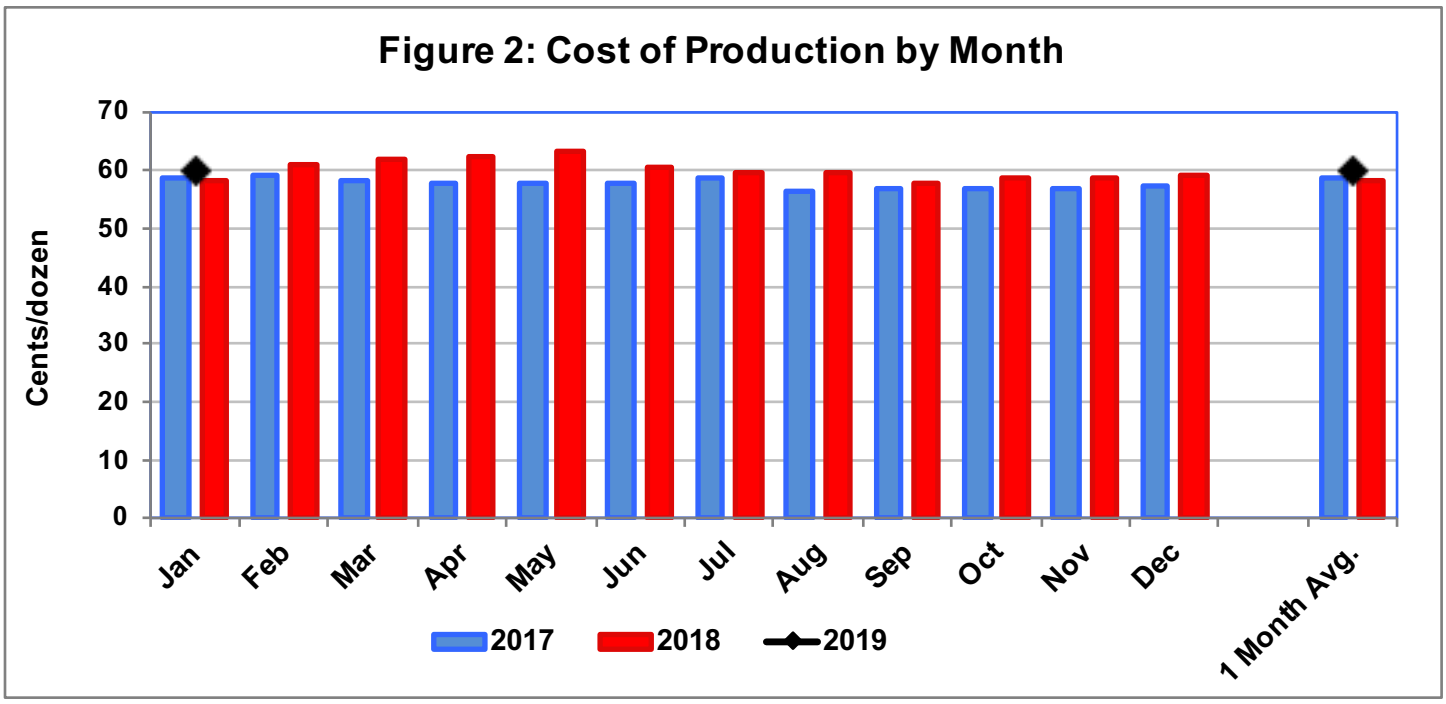
Month	Southeast	Northeast	Midwest	South Central	Northwest	California	5-Region avg.
Jan	60.33	60.33	56.50	57.98	64.35	77.48	59.90
Feb							
Mar							
Apr							
May							
Jun							
Jul							
Aug							
Sep							
Oct							
Nov							
Dec							
1 Month Avg.	60.33	60.33	56.50	57.98	64.35	77.48	59.90
Region/US avg.	1.01	1.01	0.94	0.97	1.07	1.29	

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 17.96 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 30.33 cents/dozen (17.96 * 116/67)

These costs had been estimated as 1.025 * last year costs until we get a new COP survey
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) 2017	2018	2019	Change	Retail Price for Large White Eggs (cents/Doz) 2017	2018	2019	Change
Jan	49.5	95.0	78.0	-16.9	159.9	176.9	155.4	-21.5
Feb	38.9	120.7			146.4	175.5		
Mar	46.6	184.2			140.4	183.1		
Apr	42.7	118.4			140.9	208.1		
May	37.1	65.1			141.4	198.7		
Jun	39.5	76.8			133.2	162.8		
Jul	50.9	94.4			133.3	172.5		
Aug	55.7	85.8			136.7	162.2		
Sep	83.5	73.4			142.2	165.1		
Oct	78.6	81.1			154.0	166.0		
Nov	109.1	95.6			150.6	159.6		
Dec	123.3	90.7			181.5	159.5		
Avg.	49.5	95.0	78.0	-16.9	159.9	176.9	155.4	-21.5
12 Month Avg.	62.9	98.4			146.7	174.2		

Source: Estimated using Urner Barry's price quotations by regions

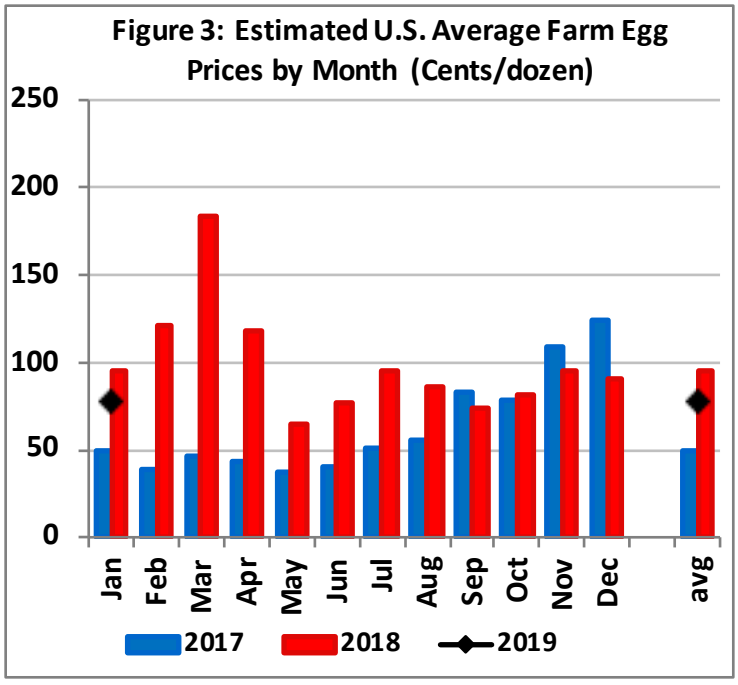
Source: Bureau of Labor Statistics (Dept. of Commerce)

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



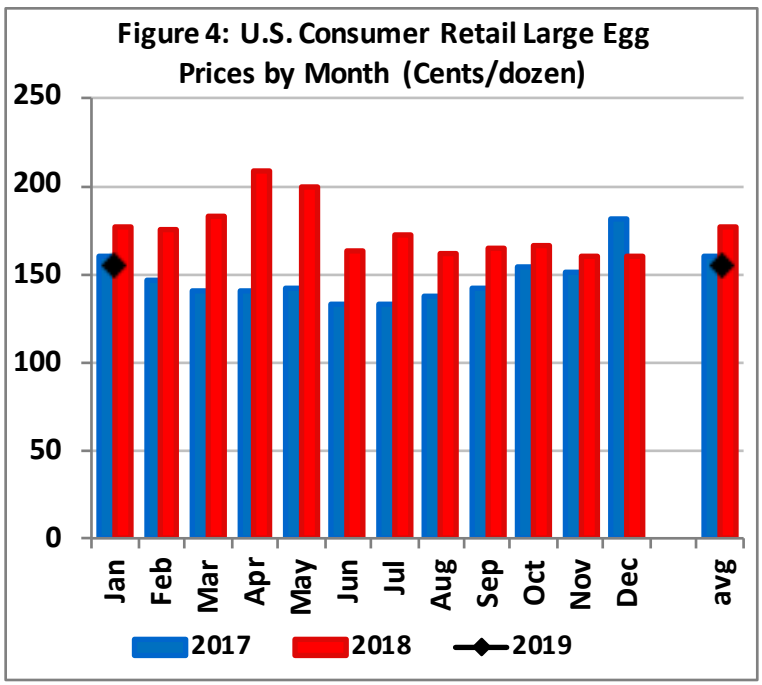


TABLE 9

ESTIMATED TOTAL COSTS comparing Breeders Manuals values vs. some loss in production efficiency (Cents/doz.) - 2019

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	59.90	61.45	59.95	60.30	61.50	61.85	60.52	62.07
Feb								
Mar								
Apr								
May								
Jun								
Jul								
Aug								
Sep								
Oct								
Nov								
Dec								
1 Month Avg.	**59.90**	**61.45**	**59.95**	**60.30**	**61.50**	**61.85**	**60.52**	**62.07**

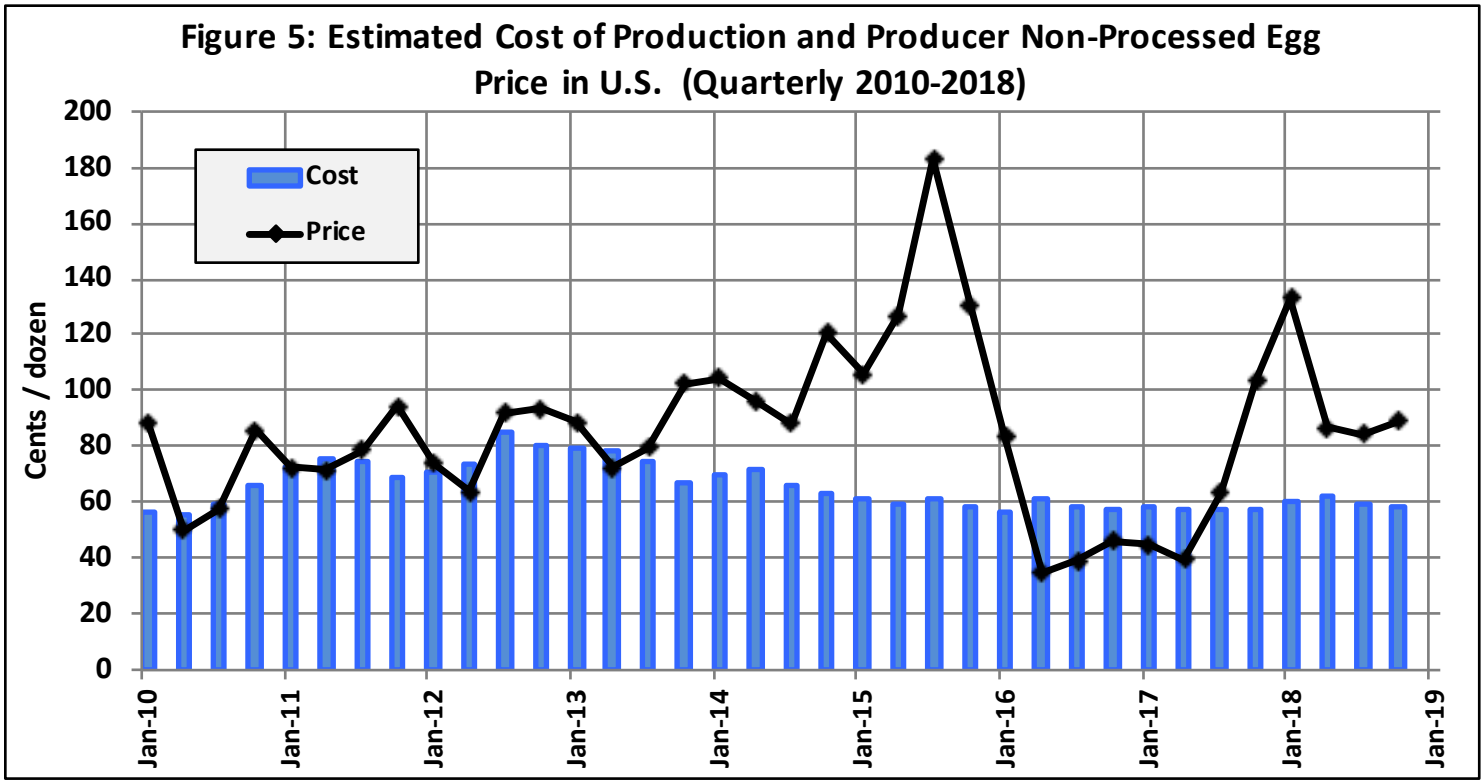
Source: Egg Industry Center, based on USDA Marketnews published prices of corn and soybean meal

"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)

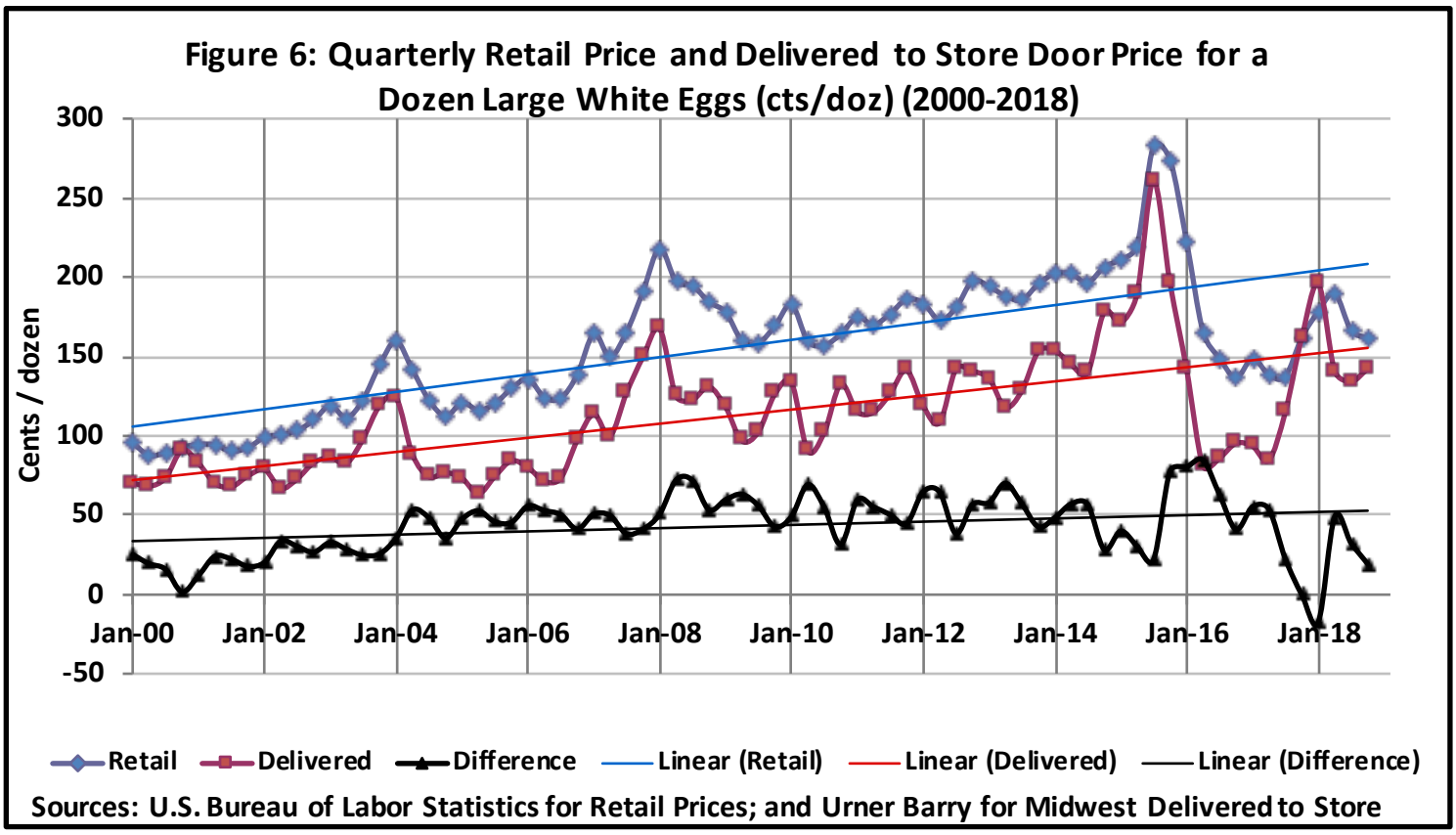


LARGE EGG PRICES - CONVENTIONAL (warehouse) AND CAGE-FREE (to 1st receivers) - ($/dozen) **TABLE 10**

	Conventional White	
	4-Regions AVG	
month	2018	2019
Jan	1.26	1.13
Feb	1.61	
Mar	2.14	
Apr	1.86	
May	0.99	
Jun	0.96	
Jul	1.37	
Aug	1.13	
Sep	1.01	
Oct	1.08	
Nov	1.23	
Dec	1.28	
1 Month Avg.	**1.26**	**1.13**

	Cage-Free to 1st receivers			
	Contracting price		Negotiated price	
month	2018	2019	2018	2019
Jan	1.60	1.56	1.89	1.52
Feb	1.60		1.88	
Mar	1.60		1.88	
Apr	1.60		1.76	
May	1.60		1.12	
Jun	1.59		1.12	
Jul	1.59		0.96	
Aug	1.59		1.15	
Sep	1.59		1.27	
Oct	1.56		1.44	
Nov	1.56		1.44	
Dec	1.56		1.41	
1 Month Avg.	**1.60**	**1.56**	**1.89**	**1.52**

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
cage-free contracting price is cartoned while cage-free negotiated price is loose



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.

TABLE 11: U.S. CORN AND SOYBEAN PLANTINGS, HARVEST, AND UTILIZATION (2014 to 2018)

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)
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	3,926
2016/17	94.0	86.7	15,148	83.5	82.7	4,296
2017/18	90.2	82.7	14,604	90.2	89.5	4,412
Projections February, 2019				**Projections** February, 2019		
2018/19+	89.1 *	81.7 *	14,420	89.2 *	88.1 *	4,544

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
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	4,516	1,901	105	42.1	2,166	4,214	302
2017/18	302	4,412	22	4,735	2,055	104	43.4	2,129	4,297	438
2018/19+	438	4,544	20	5,002	2,090	96	41.8	1,875	4,092	910

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
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	5,470	5,432	6,885	2,294	14,649	2,293
2017/18	2,293	14,609	36	16,939	5,304	5,605	7,056	2,438	14,799	2,140
2018/19+	2,140	14,420	40	16,600	5,375	5,575	7,040	2,450	14,865	1,735

+ (forecast February, 2019)

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

	Feed	Fuel	Food & Industrial *	Exports	Ending Stocks
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	31.3%	33.1%	8.6%	14.4%	12.6%
2018/19+	32.4%	33.6%	8.8%	14.8%	10.5%

*** excluding the use for fuel**

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

USDA AMS Market News	https://www.marketnews.usda.gov/mnp/ls-home
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 Cage-Free Shell Egg Report	https://www.ams.usda.gov/mnreports/pymcagefree.pdf

Maro Ibarburu, EIC Business Analyst
Iowa State University, Ames, IA
Phone (515) 294-8132
E-mail: maro@iastate.edu

Egg Industry Center

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