

U.S. Flock Trends and Projections

April 8, 2019



Compiled by
Maro Ibarburu

Sponsored in part by:



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.

U.S. EGG INDUSTRY STATISTICAL REPORT SUMMARY

* The February hatch (straight-run chicks) was 5.9 higher than February 2018. This projects forward to a 26.5 million pullet placement for July of 2019 which is 1.5 million higher than July of 2018 placement (25.0).

* Current (February average, 2019) U.S. table egg layer number (334.9 million) is 1.9 percent larger than last year's number at this time (328.6 million), and 2.2 million larger than last month (332.6 million).

* In February, Iowa led the nation with 55.9 million laying hens compared to 31.9 million in Ohio, 34.0 million in Indiana, and 25.5 million in Pennsylvania.

* The March 1st U.S. rate of lay was 79.4% which is 0.6% higher than the March 1st 2018 level. The total number of table eggs produced in February 2019 was 3.5% higher than the February 2018 production.

* The January 2019 number of eggs exported was 28% lower than last year (January 2018) and 18% lower than last month (December 2018). The January exports represented 2.4% of the number of eggs produced.

* Shell eggs broken for products in February 2019 totaled 6.365 million cases, 7.8% more than in February 2018 (5.902 million cases).

Monthly Highlights (Compared to February a year ago) (% change) - U.S.

	2018	2019	% Change
Hatch - Egg-Type Straight Run (thousands) (U.S.)	50,148	53,119	5.9
Table Egg Layers (millions) (U.S.)	328.6	334.9	1.9
Rate of lay (percent)	78.3	80.1	1.8
Molting (March 1, 2019) (percent in + out of a molt)	17.8	15.3	-14.0

Year-end layers (millions) - U.S.

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Million	285.2	286.8	290.1	298.6	308.2	312.9	297.7	320.0	327.9	331.6	341.0*

* preliminary value

SPECIAL NOTE:

In March 2019, USDA updated the number of U.S. table egg layers and egg production. The adjustment goes back to January 2017.

USDA also stopped reporting stats for Texas, Mississippi, Florida and Arkansas. As a consequence, EIC decided to stop reporting stats by region and replaced these tables with shell egg and egg products inventory and consumption.

TABLE OF CONTENTS

Table Name	Table #	Page	Sheet or Section
Egg Type: U.S. Eggs In Incubators and Straight Run Hatch	1	4	U.S. Volume
Average U.S. Table Egg Layers	2	4	U.S. Volume
U.S. Table Eggs and Rate of Lay	3	5	U.S. Volume
Induced Molt Percent - U.S. Totals (1st of Month)	4	6	U.S. Volume
Shell Eggs Broken Under Federal Inspection	5	6	U.S. Volume
Cage-Free Layers	6	7	U.S. Volume
Export of Table Eggs In the Shell In 2018	7	8	Trade
Export of Egg Products In 2018	8	8	Trade
Total Eggs Exported - 2018	9	8	Trade
Egg Inventory at the Beginning of the Month	10	9	Inventory
Consumption of Eggs per Person	11	10	Consumption
Table Egg Layers In Flocks 30,000 and Above In Leading States (Average)	12	11	Regional
Projected U.S. Egg-Type Hatchery Supply Flock - 2018	13	12	Projections
U.S. Pullets to be Housed Based Upon Hatch 5 Month Ago	14	12	Projections
Projected U.S. Table Egg Flock Less Than 70 Weeks of Age	15	13	Projections
First of the Month Projection Estimates of U.S. Table Egg Layers (millions)	16	14	Projection
Actual First of the Month (U.S. Flock Size) - 2018	17	15	Projected Flock
Projected First of the Month (U.S. Flock Size) - 2018	18	15	Projected Flock
2018 United States Flock Size Previous Projections	19	16	Previous Projections
Summary to Date	20	19	Final

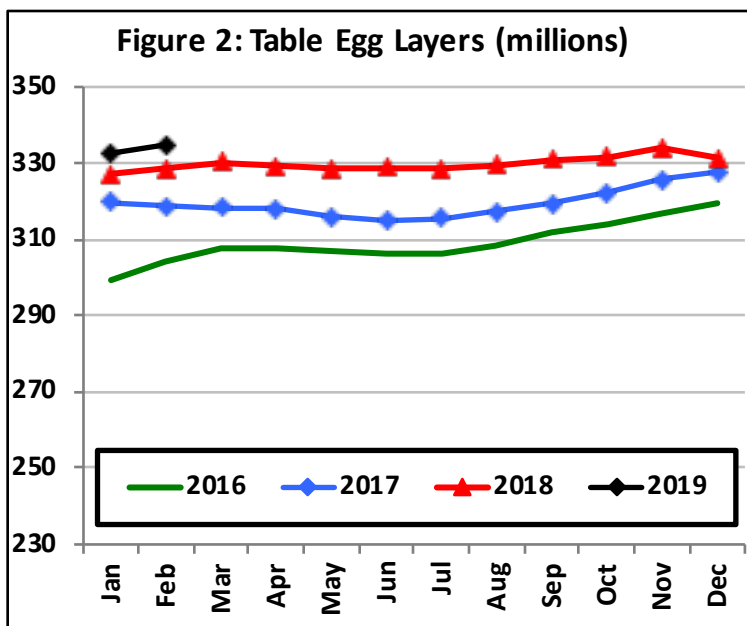
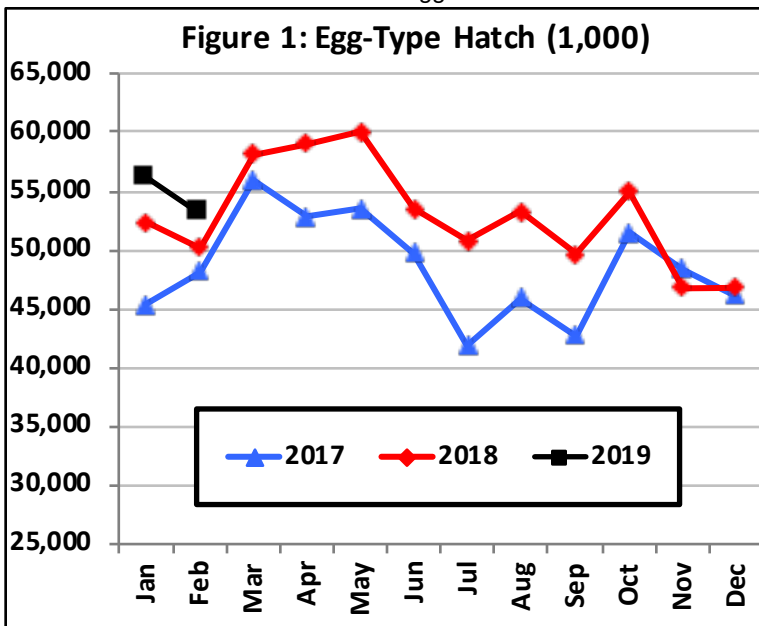
Figure Name	Figure #	Page	Sheet or Section
Egg-Type Hatch Straight Run by Month (1,000)	1	4	U.S. Volume
Table Egg Layers by Month (Millions)	2	4	U.S. Volume
Rate of Lay (Percent)	3	5	U.S. Volume
Monthly Percent Molted	4	5	U.S. Volume
Total Cage-Free and Conventional Layers (Millions)	5	7	U.S. Volume
Total inventory of eggs (shell + egg products)	6	9	Inventory
Consumption of shell eggs and egg products 12-month running sum (eggs/person)	7	10	Consumption
Leading States' Table Egg Layers In Flocks of 30,000 and Above (1988-2016)	8	11	Regional
Percent of U.S. Flock More Than 70 Weeks of Age by Month	9	13	Projections
U.S. Monthly Table-Egg Layers (2008-2018)	10	17	Trends
U.S. Table Eggs per Hen per Day by Month (2008-2018)	11	17	Trends
Monthly Percent of U.S. Flock Molted (2008-2018)	12	18	Trends
U.S. Per Capita Egg Consumption by Year (1913-2018)	13	18	Trends

EGG TYPE: EGGS IN INCUBATORS (on the 1st of the month) and STRAIGHT RUN HATCH (U.S.)

TABLE 1

EGG-TYPE Eggs in Incubators (thousands)				EGG-TYPE Straight Run Hatch (thousands)				
month	2018	2019	Change (%)	month	2017	2018	2019	Change %
Jan	46,750	52,153	11.6	Jan	45,367	52,313	56,219	7.5
Feb	51,216	55,001	7.4	Feb	48,127	50,148	53,119	5.9
Mar	56,120	53,365	-4.9	Mar	55,919	58,147		
Apr	55,990			Apr	52,762	58,986		
May	56,063			May	53,506	60,063		
Jun	50,523			Jun	49,722	53,486		
Jul	46,390			Jul	41,862	50,752		
Aug	46,678			Aug	45,861	53,207		
Sep	50,036			Sep	42,725	49,610		
Oct	51,647			Oct	51,495	54,960		
Nov	45,096			Nov	48,344	46,844		
Dec	50,858			Dec	46,080	46,779		
3 Month Avg.	51,362	53,506	4.2	2 Month Avg.	46,747	51,231	54,669	6.7
3 Month Total	154,086	160,519		2 Month Total	93,494	102,461	109,338	
12 Month Total	560,591			12 Month Total	581,770	635,295		

Source: USDA NASS Chickens and Eggs



AVERAGE U.S. TABLE EGG LAYERS (MILLIONS)

TABLE 2

month	TOTAL Table Egg Layers						% Change with respect to	
	2014	2015	2016	2017	2018	2019	last year	2014-2018
Jan	307.2	311.2	299.3	319.7	327.2	332.6	1.7	6.3
Feb	306.7	310.0	304.0	318.7	328.6	334.9	1.9	6.8
Mar	307.7	310.2	307.4	318.4	330.3			
Apr	308.3	305.9	307.4	317.9	329.3			
May	307.6	289.3	307.0	315.9	328.7			
Jun	307.0	276.9	306.5	314.9	328.8			
Jul	308.2	278.1	306.4	315.5	328.6			
Aug	309.6	279.7	308.6	317.3	329.4			
Sep	310.4	282.4	311.7	319.4	330.8			
Oct	310.7	285.6	313.6	322.2	331.6			
Nov	312.7	290.2	316.7	325.8	334.0			
Dec	313.8	295.6	319.5	327.7	331.3			
2 Month Avg.	306.9	310.6	301.7	319.2	327.9	333.7	1.8	6.5
Annual Avg.	309.2	292.9	309.0	319.5	329.9			

Source: USDA NASS Chickens and Eggs

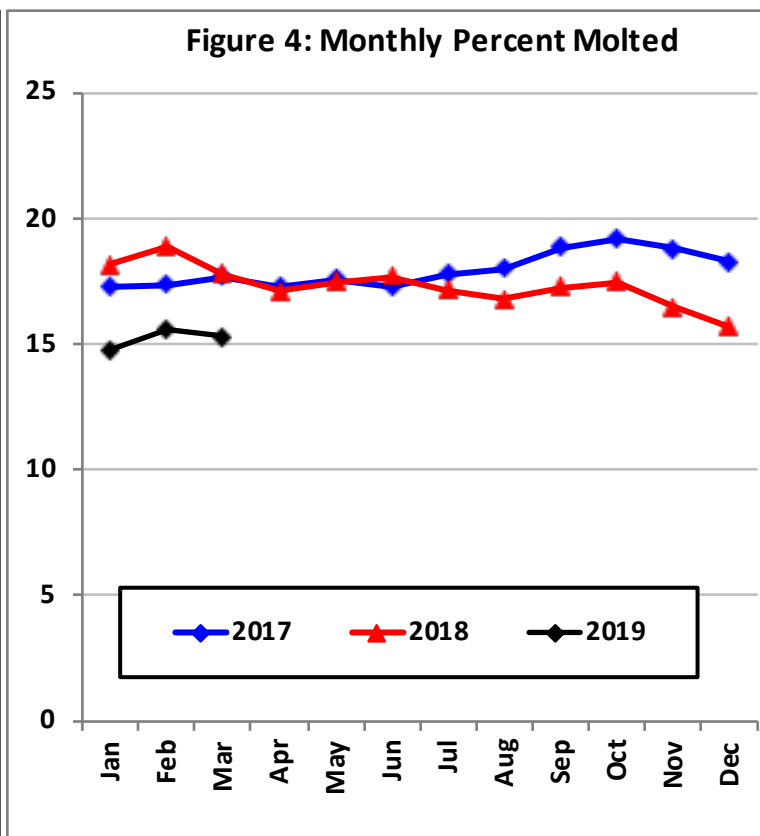
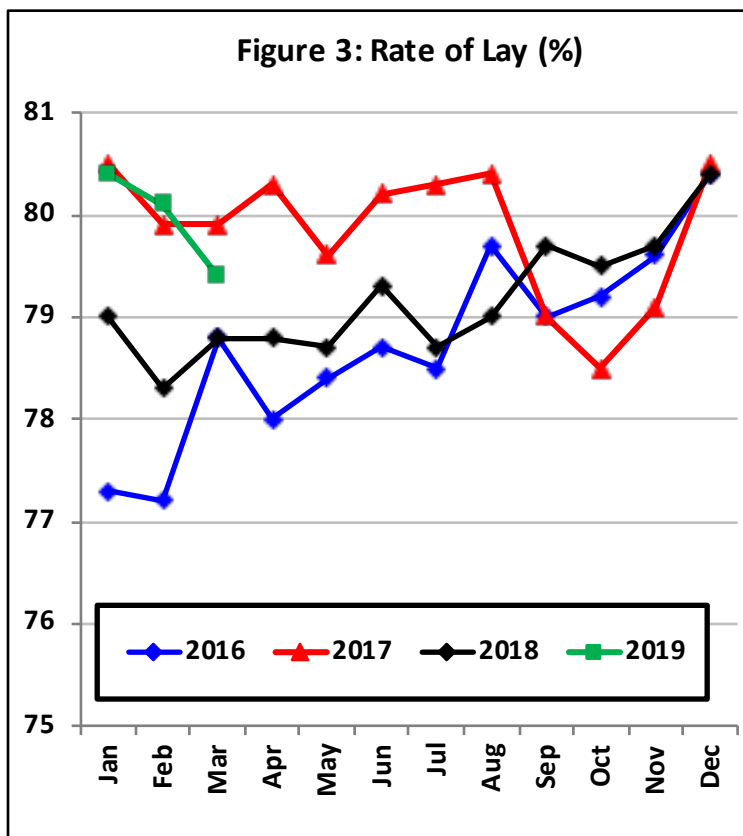
U.S. TABLE EGGS, AND RATE OF LAY on the 1st of EACH MONTH (ALL STATES)

TABLE 3

month	Table Eggs - human consumption (millions)						Rate of Lay (Table)	
	2015	2016	2017	2018	2019	Change (%)	2018	2019
Jan	7,545	7,168	7,948	7,983	8,275	3.7	79.0	80.4
Feb	6,726	6,878	7,130	7,227	7,480	3.5	78.3	80.1
Mar	7,566	7,475	7,908	8,070			78.8	79.4
Apr	7,252	7,213	7,627	7,785			78.8	
May	6,996	7,479	7,828	8,056			78.7	
Jun	6,464	7,228	7,583	7,798			79.3	
Jul	6,698	7,514	7,863	8,036			78.7	
Aug	6,729	7,597	7,843	8,106			79.0	
Sep	6,544	7,402	7,549	7,899			79.7	
Oct	6,837	7,724	7,873	8,185			79.5	
Nov	6,778	7,602	7,800	8,024			79.7	
Dec	7,125	7,969	8,106	8,259			80.4	
YTD Avg.	7,135	7,023	7,539	7,605	7,878	3.6	78.7	80.0
Annual Avg.	6,938	7,437	7,755	7,952			79.2	
Total	83,260	89,249	93,056	95,428				

Source: USDA NASS Chickens and Eggs

The rate of lay was changed from the monthly average to the rate of lay on the 1st of each month on November 2017.



INDUCED MOLT PERCENT - U.S. TOTALS (1ST OF MONTH)

TABLE 4

month	In a Molt		Completed a Molt		In a molt + Completed a Molt			Change
	2018	2019	2018	2019	2017	2018	2019	
Jan	1.8	1.5	16.4	13.3	17.3	18.2	14.8	-3.4
Feb	2.9	2.6	16.0	13.0	17.4	18.9	15.6	-3.3
Mar	1.8	1.5	16.0	13.8	17.7	17.8	15.3	-2.5
Apr	1.7		15.4		17.3	17.1		
May	3.1		14.4		17.6	17.5		
Jun	3.0		14.7		17.3	17.7		
Jul	2.2		15.0		17.8	17.2		
Aug	2.2		14.6		18.0	16.8		
Sep	2.7		14.6		18.9	17.3		
Oct	2.3		15.2		19.2	17.5		
Nov	1.6		14.9		18.8	16.5		
Dec	1.1		14.6		18.3	15.7		
3 Month Avg.	2.2	1.9	16.1	13.4	17.5	18.3	15.2	-3.1
12 Month Avg.	2.2		15.2		18.0	17.4		

Source: USDA NASS Chickens and Eggs

SHELL EGGS BROKEN UNDER FEDERAL INSPECTION (MILLION CASES)

TABLE 5

month	2014	2015	2016	2017	2018	2019	% Change with respect to last year 2014-2018	
Jan	5.865	6.634	5.639	6.540	6.482	7.018	8.3	12.6
Feb	5.325	5.746	5.484	6.192	5.904	6.365	7.8	11.1
Mar	6.086	6.030	6.308	6.601	6.218			
Apr	6.205	6.061	6.255	6.126	6.403			
May	6.514	5.533	6.576	6.547	6.922			
Jun	6.532	6.408	6.679	6.604	6.891			
Jul	6.618	5.641	6.474	6.376	6.770			
Aug	6.596	5.589	6.804	6.603	7.110			
Sep	6.566	5.583	6.539	6.126	6.793			
Oct	6.731	5.814	6.636	6.583	7.027			
Nov	6.086	5.350	6.499	6.296	6.593			
Dec	6.281	5.749	6.498	6.306	6.854			
2 Month Avg.	5.595	6.190	5.562	6.366	6.193	6.691	8.1	11.9
2 Month Total	11.191	12.380	11.123	12.732	12.386	13.383		
12 Month Total	75.405	70.138	76.391	76.901	79.965			

Source: USDA NASS Egg products - monthly

Million Cases Produced
% BROKEN

231.279	247.915	258.489	265.079	43.764
30.3	30.8	29.8	30.2	30.6

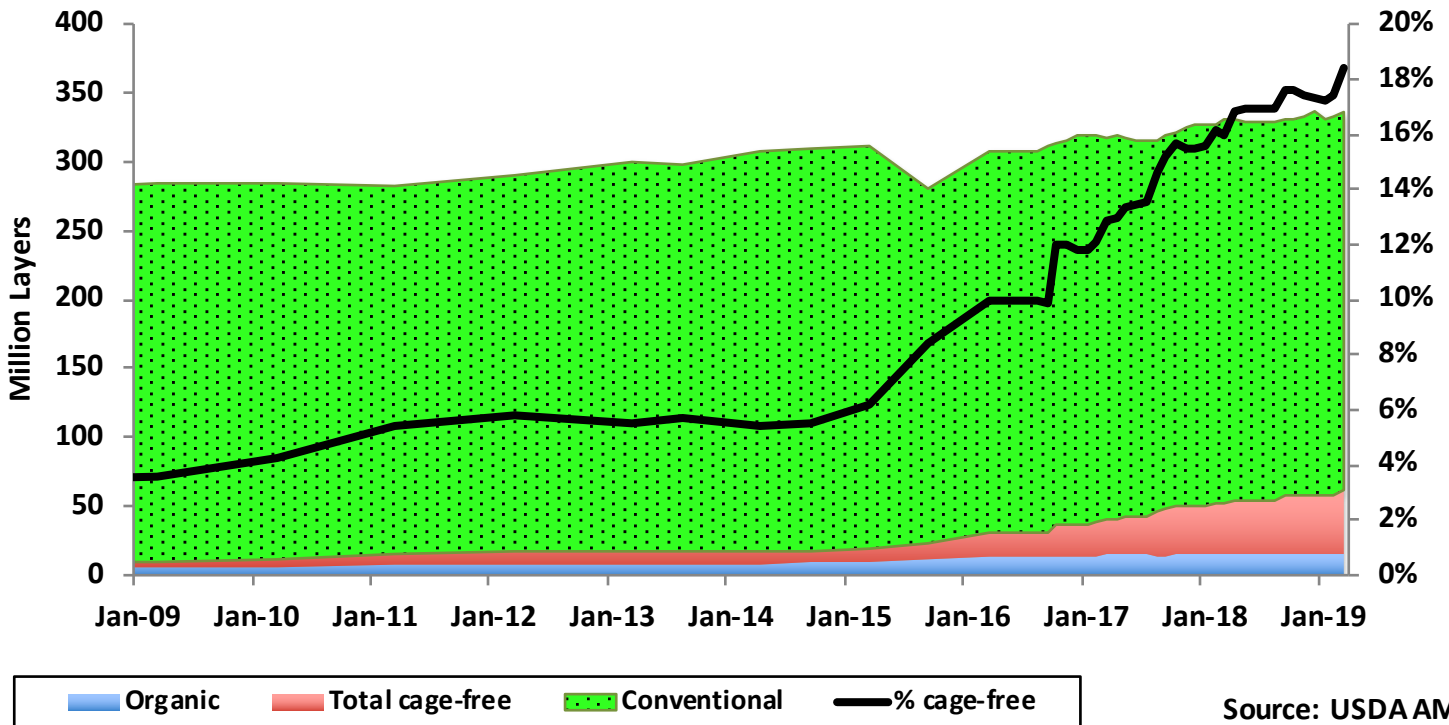
CAGE-FREE LAYERS (MILLIONS)

TABLE 6

	Non-Organic Cage-Free		Certified Organic		TOTAL Cage-Free Layers			Cage-Free % of U.S. Flock
	2018	2019	2018	2019	2018	2019	Change (%)	
January	35.7	41.5	14.6	15.7	50.2	57.2	14%	17.2%
February	36.9	41.6	15.0	15.7	51.9	57.3	10%	17.2%
March	36.9	46.8	15.0	15.0	51.9	61.9	19%	18.4%
April	39.0		15.6		54.5			
May	39.0		15.6		54.5			
June	39.1		15.6		54.7			
July	39.1		15.6		54.7			
August	39.1		15.6		54.7			
September	41.4		15.7		57.1			
October	41.5		15.7		57.2			
November	41.5		15.7		57.2			
December	41.5		15.7		57.2			
3 Month Avg.	36.5	43.3	14.8	15.5	51.3	58.8	15%	17.6%
12 Month Avg.	39.2		15.4		54.6			

Source: USDA AMS (Monthly USDA Cage-Free Shell Egg Report)

Figure 5: U.S. Cage-Free and Conventional Layers



Source: USDA AMS

EXPORT OF TABLE EGGS IN THE SHELL IN 2019 (Thousand cases- 30 doz)

TABLE 7

Month \ To	North America	Central America	Caribbean	European Union-28	East Asia	Southeast Asia	Middle East	Total 2019	Total 2018	% of U.S. Production
Jan	108.7	0.0	16.4	0.0	102.8	0.0	14.5	244.8	284.1	1.07
Feb									231.7	
Mar									246.7	
Apr									311.9	
May									324.1	
Jun									273.5	
Jul									273.3	
Aug									373.8	
Sep									363.2	
Oct									471.1	
Nov									314.4	
Dec									352.6	
11 Mo. Total	108.7	0.0	16.4	0.0	102.8	0.0	14.5	244.8	284.1	1.07
%	44.4	0.0	6.7	0.0	42.0	0.0	5.9			

Source: USDA Foreign Agric. Service from U.S. Dept. of Commerce, U.S. Census Bureau, Foreign Trade Stats

EXPORT OF EGG PRODUCTS IN 2019 (EQUIVALENT: thousand cases- 30 doz)

TABLE 8

Month \ To	North America	Central America	Caribbean	European Union-28	East Asia	Southeast Asia	Middle East	Total 2019	Total 2018	% of U.S. Production
Jan	135.7	14.2	10.7	11.1	105.5	8.7	4.0	297.5	471.5	1.29
Feb									511.4	
Mar									461.0	
Apr									493.7	
May									445.8	
Jun									354.6	
Jul									370.8	
Aug									346.3	
Sep									337.6	
Oct									306.0	
Nov									329.0	
Dec									310.8	
11 Mo. Total	135.7	14.2	10.7	11.1	105.5	8.7	4.0	297.5	4,427.7	1.29
%	45.6	4.8	3.6	3.7	35.5	2.9	1.4			

Note: Information has been converted from metric tonnes at a rate of 42 lbs. per case of liquid egg (edible + inedibles).

Source: USDA Economic Research Service from U.S. Dept. of Commerce, U.S. Census Bureau, Foreign Trade Stats.

TOTAL EGGS EXPORTED - 2019

TABLE 9

	Table Eggs Produced		Shell Eggs Exported		Egg Products Exported		Total Exported	
	(000) Cases		(000) Cases	% of U.S.	(000) Cases	% of U.S.	(000) Cases	% of U.S.
Jan	22,987		244.8	1.07	297.5	1.29	542.3	2.36
Feb								
Mar								
Apr								
May								
Jun								
Jul								
Aug								
Sep								
Oct								
Nov								
Dec								
Total/Av	22,987		244.8	1.07	297.5	1.29	542.3	2.36

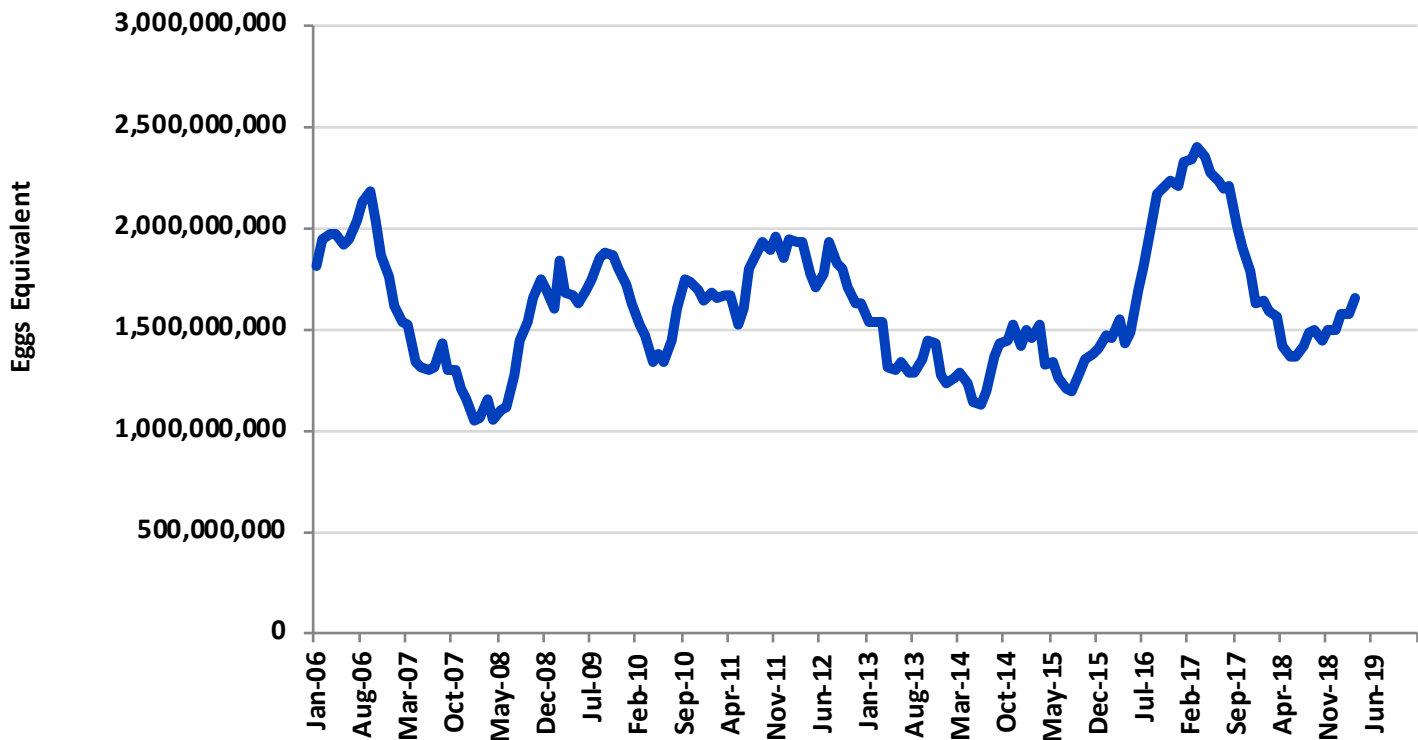
Egg Inventory at the Beginning of the Month

TABLE 10

month	Shell Eggs (eggs)			19 - 18	Egg Products (eggs equivalent)			19 - 18
	2017	2018	2019	% Change	2017	2018	2019	% Change
JAN	615,852,000	588,888,000	637,344,000	8%	1,706,699,734	1,047,787,517	943,088,370	-10%
FEB	586,944,000	527,652,000	547,956,000	4%	1,750,846,640	1,058,186,387	1,029,279,894	-3%
MAR	591,408,000	574,560,000	615,672,000	7%	1,809,179,277	984,697,550	1,037,736,100	5%
APR	599,292,000	557,604,000	725,364,000	30%	1,750,782,956	864,584,235		
MAY	567,792,000	613,836,000			1,710,773,296	745,529,874		
JUN	613,260,000	625,140,000			1,627,203,550	744,842,654		
JUL	554,688,000	576,972,000			1,643,523,618	836,130,516		
AUG	574,236,000	613,548,000			1,627,772,539	871,808,969		
SEP	520,488,000	619,488,000			1,486,338,595	882,482,876		
OCT	545,832,000	630,000,000			1,352,805,106	820,014,641		
NOV	573,012,000	643,176,000			1,215,492,003	858,493,818		
DEC	566,532,000	626,544,000			1,064,422,708	871,067,595		
3 Month Avg.	598,068,000	563,700,000	600,324,000	6%	1,755,575,217	1,030,223,818	1,003,368,121	-3%
12 Month Avg.	575,778,000	599,784,000			1,562,153,335	882,135,553		

Assumes: 12.5% drying yield for drying egg whites, 46.3% drying yield for drying egg yolks, 25% drying yield for drying whole egg, and 48.84 grams of edible egg per egg broken for further processing

Figure 6: Total inventory of eggs (shell + egg products)



CONSUMPTION of EGGS per PERSON

TABLE 11

month	Shell Eggs (eggs/person)			19 - 18	Egg Products (eggs/person)			19 - 18
	2017	2018	2019	Change	2017	2018	2019	Change
JAN	17.0	16.7	17.1	0.4	6.9	6.6	7.2	0.5
FEB	14.7	14.7			6.3	6.2		
MAR	16.6	17.2			7.1	6.8		
APR	16.3	15.9			6.5	6.9		
MAY	16.2	16.2			7.1	7.2		
JUN	15.7	15.7			6.9	7.0		
JUL	16.5	16.3			6.8	7.0		
AUG	16.4	16.2			7.3	7.5		
SEP	15.7	15.9			6.7	7.3		
OCT	16.0	16.5			7.1	7.3		
NOV	16.3	16.7			6.8	6.9		
DEC	17.0	17.0			6.6	7.0		
1 Month Sum	17.0	16.7	17.1	0.4	6.9	6.6	7.2	0.5
12 Month Sum	194.4	195.0			82.0	83.7		

USDA ERS is projecting a **1.0 eggs/person increase** in total consumption for 2019 with respect to 2018

Figure 7: Consumption of shell eggs and egg products 12-month running sum (eggs/person)

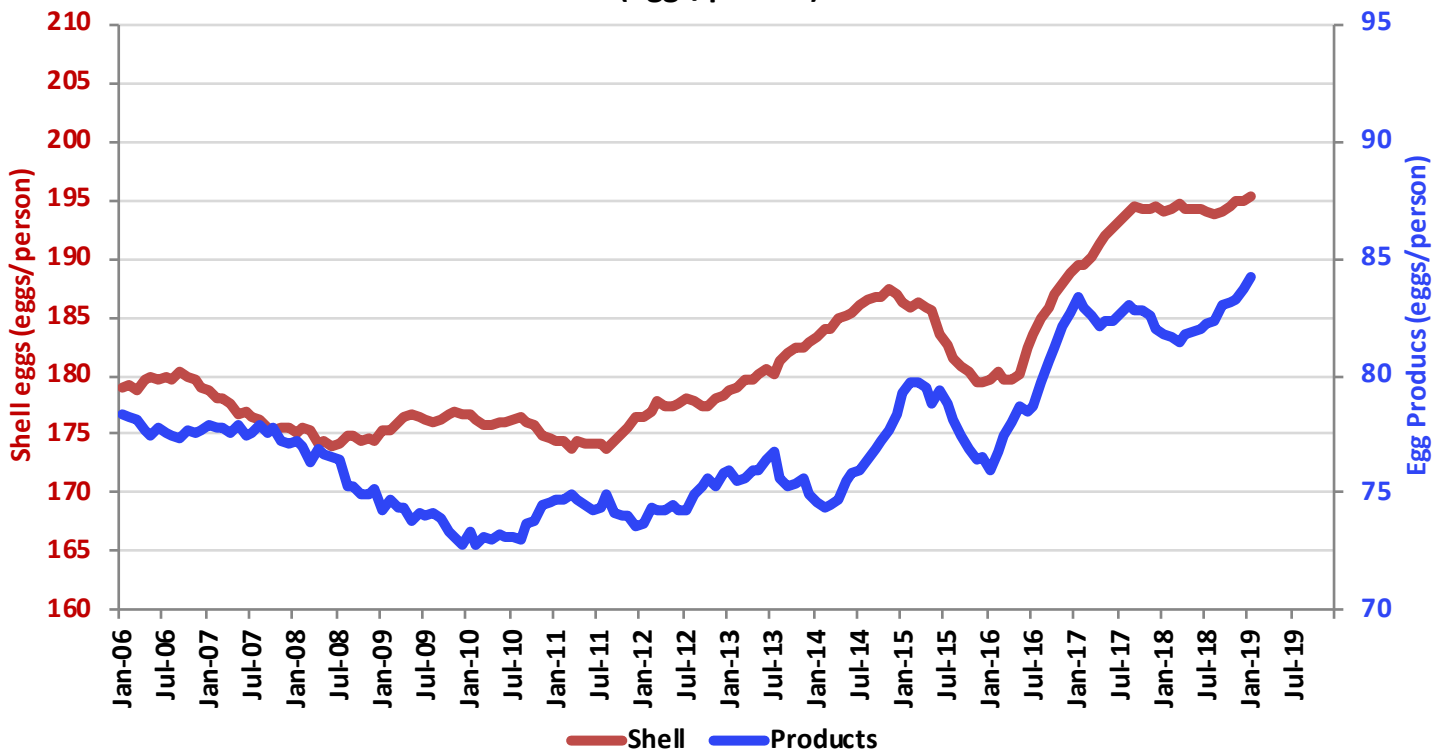


TABLE EGG LAYERS IN LEADING STATES - (LAYERS IN 30,000+ HEN FLOCKS) - 2019

TABLE 12

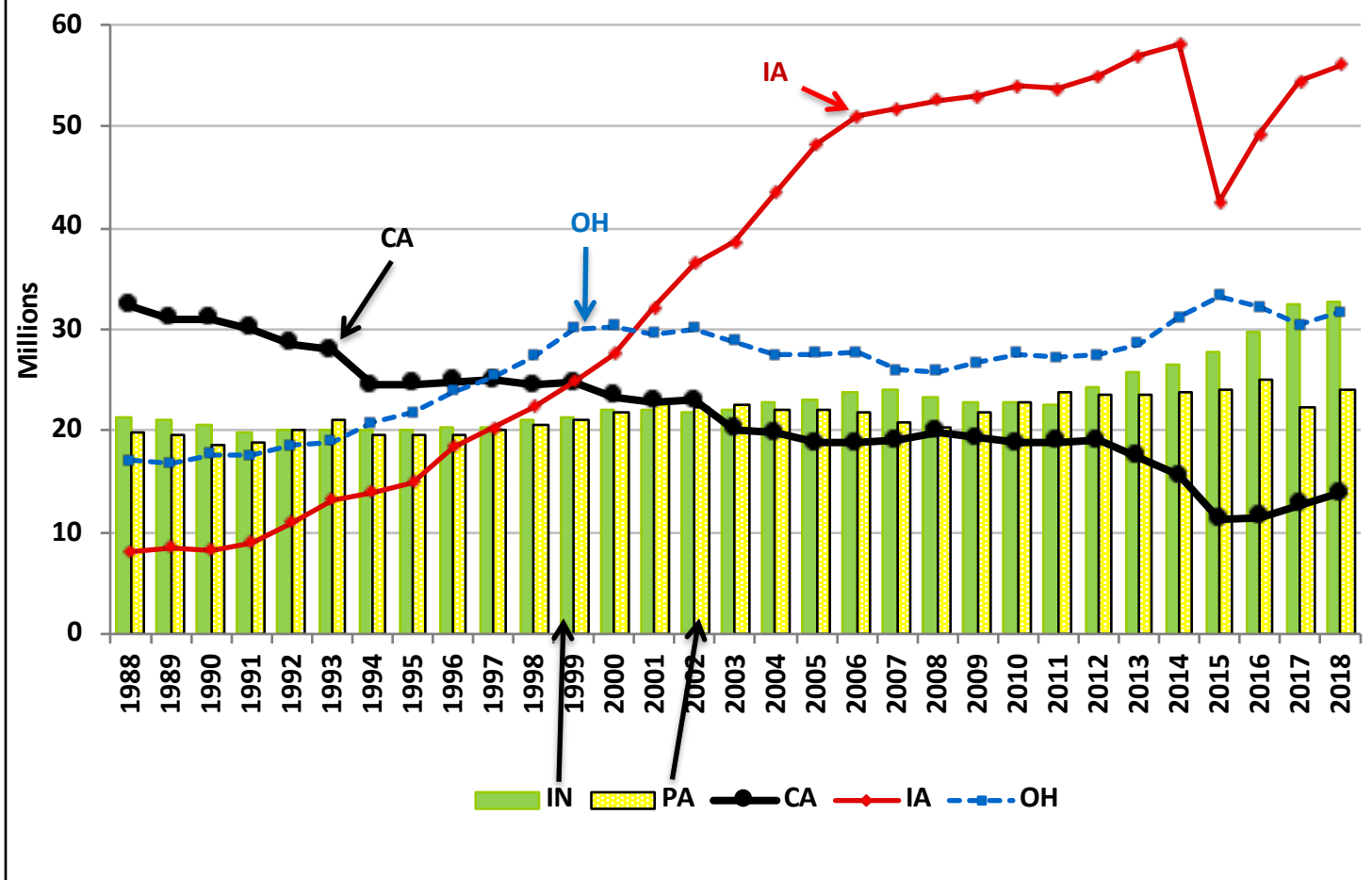
month	IA	OH	IN	PA	CA	U.S.
Feb-2018	54.87	31.68	31.86	26.10	13.61	313.88
	(Millions)					
Jan-2019	55.63	31.55	33.85	25.86	13.73	319.94
Feb-2019	55.88	32.31	34.19	25.52	13.05	319.38
Mar-2019						
Apr-2019						
May-2019						
Jun-2019						
Jul-2019						
Aug-2019						
Sep-2019						
Oct-2019						
Nov-2019						
Dec-2019						
2 Month Avg.	55.76	31.93	34.02	25.69	13.39	319.66

Source: USDA NASS Chickens and Eggs

In March 2019 USDA stopped reporting the number of table egg layers for Texas which was the 5th largest egg producing State then.

% of all U.S. table egg layers in flocks with 30,000 or more hens =	95.8%
---	-------

Figure 8: Leading States' Table Egg Layers in Flocks of 30,000 and Above (1988-2018)



PROJECTED U.S. EGG-TYPE HATCHERY SUPPLY FLOCK (Millions)

TABLE 13

month	2013	2014	2015	2016	2017	2018	2019
Jan	2.579	2.540	2.682	3.081	2.581	2.741	2.142
Feb	2.613	2.536	2.689	3.074	2.598	2.705	2.078
Mar	2.630	2.472	2.605	2.997	2.742	2.541	2.122
Apr	2.588	2.530	2.718	2.840	2.705	2.549	2.120
May	2.515	2.497	2.917	2.805	2.699	2.434	2.145
Jun	2.537	2.439	2.892	2.866	2.747	2.325	2.246
Jul	2.436	2.608	2.797	2.836	2.696	2.434	2.219
Aug	2.515	2.535	2.797	2.725	2.764	2.442	2.253
Sep	2.503	2.553	2.857	2.615	2.755	2.418	2.297
Oct	2.468	2.610	2.958	2.446	2.782	2.413	
Nov	2.555	2.619	2.937	2.566	2.685	2.386	
Dec	2.476	2.664	2.947	2.650	2.659	2.296	
9 month avg.	2.546	2.523	2.773	2.871	2.699	2.510	2.180
12 month avg.	2.535	2.550	2.816	2.792	2.701	2.474	

Source: USDA NASS Chickens and Eggs

Note: The hatchery supply flock estimates are made by using 7 to 18 months prior hatch minus 9% mortality

PULLETS TO BE HOUSED BASED UPON U.S. HATCH 5 MONTH AGO (Millions)
(47.5% of CHICKS PLACED multiplied by a 95% LIVABILITY FACTOR)

TABLE 14

month	2014	2015	2016	2017	2018	2019	2014 to '18 month avg.
Jan	17.5	17.9	21.3	19.5	20.7	24.0	19.4
Feb	17.8	18.4	21.5	18.9	18.0	20.9	18.9
Mar	19.2	20.2	22.7	19.6	23.2	24.8	21.0
Apr	18.9	16.5	20.7	18.8	21.8	21.1	19.3
May	18.6	18.2	21.1	20.6	20.8	21.1	19.9
Jun	19.4	18.0	20.9	19.8	22.8	24.6	20.2
Jul	20.6	20.7	27.1	24.0	25.1	26.5	23.5
Aug	20.2	21.4	25.7	25.2	26.2		23.8
Sep	20.9	21.4	23.1	23.8	26.6		23.2
Oct	22.4	21.8	25.9	24.1	27.1		24.3
Nov	20.0	21.3	26.0	22.4	24.1		22.8
Dec	19.2	19.3	18.8	18.9	22.9		19.8
7 month avg.	18.8	18.5	22.2	20.2	21.8	23.3	20.3
Annual Avg.	19.5	19.6	22.9	21.3	23.3		21.3
Total	234.6	235.1	274.7	255.8	279.4		255.9

Source: USDA NASS Chickens and Eggs

% Change to date **6.96**

Note: The number of pullets to be housed was reduced by 6 million based on the number reported as lost to avian influenza. We assumed the reduction as evenly spread during the period between May and September 2015 (assuming that the ages of affected birds was evenly distributed).

PROJECTED U.S. TABLE EGG FLOCK MORE THAN 70 WEEKS OF AGE (% of layers)

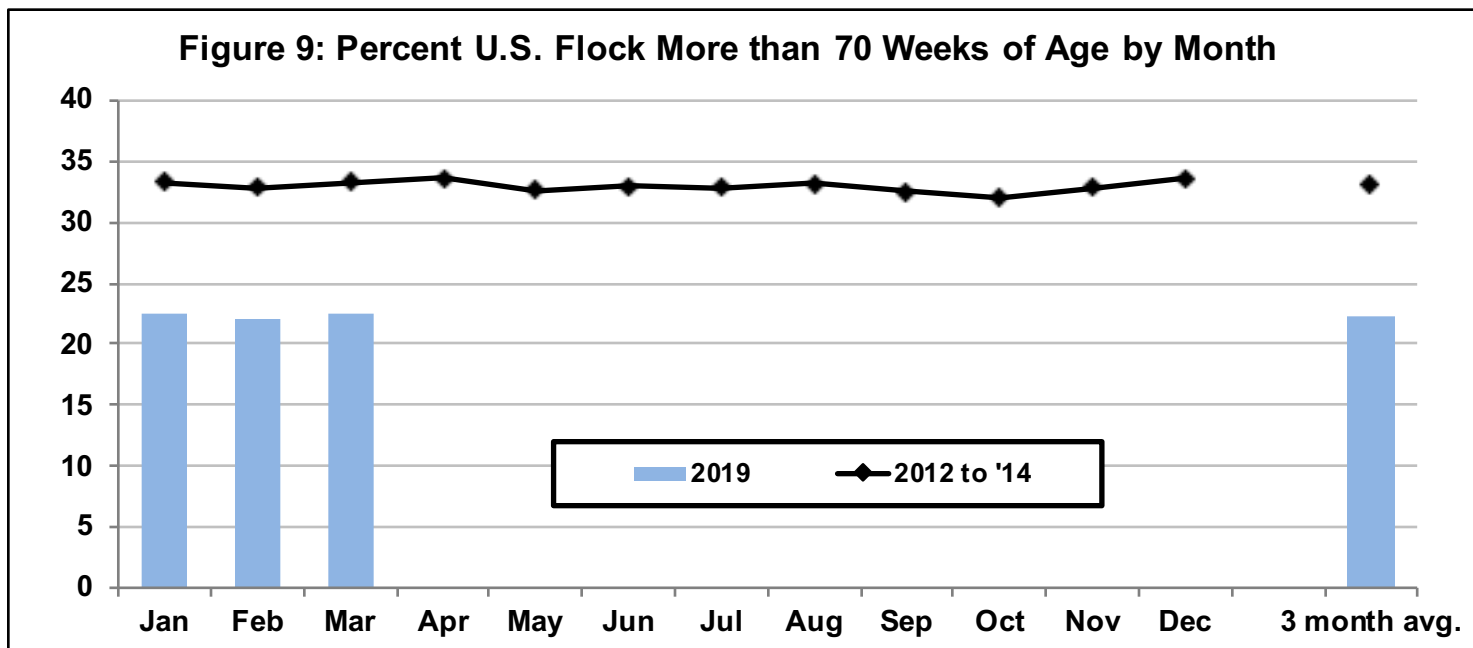
TABLE 15

	% of National Flock over 70 weeks of age (on the 1st of the month)						
	2014	2015	2016	2017	2018	2019	2012 to '14
Jan	33.1	32.2		24.3	29.4	22.5	33.3
Feb	31.8	31.1		24.5	27.8	22.1	32.9
Mar	31.8	32.0		24.9	28.3	22.6	33.3
Apr	32.5			25.4	28.1		33.6
May	32.2			26.2	27.3		32.7
Jun	32.2			27.0	28.0		33.0
Jul	32.4			26.3	27.4		32.9
Aug	33.4			27.2	26.5		33.2
Sep	32.5			28.3	25.6		32.5
Oct	32.1			27.6	24.2		32.0
Nov	31.5		21.4	28.6	23.8		32.9
Dec	32.8		23.4	29.3	23.3		33.6
3 month avg.	32.2	31.7		24.6	28.5	22.4	33.1
12 month avg.	32.4			26.6	26.6		33.0

Source: Egg Industry Center based on USDA NASS Chickens and Eggs data

Note: The number of layers younger than 70 weeks of age are estimated as the sum of the Egg-Type Chicks Hatched between 6 and 16 months before adjusted by a 47.5% of CHICKS PLACED multiplied by a 95% LIVABILITY FACTOR for pullets and a 98% average LIVABILITY FACTOR FOR LAYERS between 20 and 70 weeks of age.

Figure 9: Percent U.S. Flock More than 70 Weeks of Age by Month



FLOCK SIZE PROJECTION

The U.S. flock size is projected for the current year and the following year for each month. Projections start with the first of the month official USDA count and are then adjusted monthly. Adjustments are made considering the most recent:

1. Hatch data (projected 5-months into the future with mortality). Subsequent pullets added are estimated using the linear regression listed below for each month.
Added /Beginning ratio estimated as: $0.08748 - 0.00486 * \text{Price } 12-18_ \text{Jan} - 0.00665 * \text{Price } 12-18_ \text{Feb} - 0.00275 * \text{Price } 12-18_ \text{Mar} - 0.00632 * \text{Price } 12-18_ \text{Apr} - 0.00416 * \text{Price } 12-18_ \text{May} - 0.00294 * \text{Price } 12-18_ \text{Jun} + 0.0033 * \text{Price } 12-18_ \text{Jul} + 0.00364 * \text{Price } 12-18_ \text{Aug} + 0.00426 * \text{Price } 12-18_ \text{Sep} + 0.00459 * \text{Price } 12-18_ \text{Oct} - 0.00064 * \text{Price } 12-18_ \text{Nov} - 0.00574 * \text{Price } 12-18_ \text{Dec} - 0.00094 * \text{MOLT} - \text{previous } 12\text{-mo}$
 ... where "Egg Price 12-18 mo earlier" is the average price of Midwest Large eggs for the months 12 to 18 before the month we are trying to project
 ... where "MOLT - previous 12-mo" is the previous 12 months average of the percentage of layers molted
 Adjusted R²=0.72

2. All birds coming out of production by any reason are included in the "Slaughter, Died and Missing" category. This is estimated as Beginning count + Added - Ending count. Subsequent layers coming out of production are estimated using the linear regression listed below for each month.
Slaughter, Died & Missing/Beginning ratio estimated as: $= 0.01395 + 0.79519 * \text{Added /Beg. count} + 0.0039 * \text{Jan} - 0.0046 * \text{Feb} - 0.00214 * \text{Mar} + 0.00567 * \text{Apr} + 0.00251 * \text{May} - 0.00061 * \text{Jun} - 0.00096 * \text{Jul} - 0.00605 * \text{Aug} - 0.0022 * \text{Sep} - 0.00934 * \text{Oct} - 0.01192 * \text{Nov} + 0.01792 * \text{Shock_Sep} + 0.00923 * \text{Adj. Price } <0.80_ \text{Qtr } 4$
 ... where "Added /Beg. count " is the ratio between the pullets added and the beginning flock count for the month we are trying to project
 ... where "Shock_Sep" is a dummy variable to capture the losses experienced after the year 2010 SE recall
 ... where "Adj. Price <0.80 _ Qtr 4" is a dummy variable that takes the value one if the CPI adjusted Urner Barry midwest large price in the last quarter of the year is lower than 0.8 and zero otherwise
 Adjusted R²=0.60

First of the Month Projection Estimates of U.S. Table Egg Layers (millions)

TABLE 16

Actual	Actual	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
331.6	333.6	336.1	337.0	334.7	333.4	333.8	334.7	337.3	338.8	339.9	341.4

Project. Year end: **Dec 31, 2019 - 341.0**

Note: Actual values source = Chickens and Eggs Report - USDA NASS

Date calculated: 4/1/2019

2019 Bird Flow by Month

Table 17

ACTUAL FLOCK (million birds)				
month	Beginning Count	Pullets added ¹	Slaughter, Died & Missing	Ending count
Jan-19	331.6	24.0	22.0	333.6
Feb-19	333.6	20.9	18.4	336.1
Mar-19	336.1	24.8		
Apr-19		21.1		
May-19		21.1		
Jun-19		24.6		
Jul-19		26.5		
Aug-19				
Sep-19				
Oct-19				
Nov-19				
Dec-19				
Jan-20				
Feb-20				
Mar-20				
Apr-20				
May-20				
Jun-20				
Jul-20				
Aug-20				
Sep-20				
Oct-20				
Nov-20				
Dec-20				

¹ at 5 months of age

Table 18

PROJECTED FLOCK (million birds)				
month	Beginning Count	Pullets added ¹	Slaughter, Died & Missing	Ending count
Jan-19	331.6	24.0	22.0	333.6
Feb-19	333.6	20.9	18.4	336.1
Mar-19	336.1	24.8	23.9	337.0
Apr-19	337.0	21.1	23.5	334.7
May-19	334.7	21.1	22.3	333.4
Jun-19	333.4	24.6	24.1	333.8
Jul-19	333.8	26.5	25.7	334.7
Aug-19	334.7	25.8	23.2	337.3
Sep-19	337.3	26.0	24.4	338.8
Oct-19	338.8	26.1	25.0	339.9
Nov-19	339.9	24.1	22.5	341.4
Dec-19	341.4	22.0	22.4	341.0
Jan-20	341.0	22.4	24.0	339.4
Feb-20	339.4			
Mar-20				
Apr-20				
May-20				
Jun-20				
Jul-20				
Aug-20				
Sep-20				
Oct-20				
Nov-20				
Dec-20				

¹ at 5 months of age

Actual number

In March 2019, USDA updated the number of table egg layers in the U.S. The adjustment goes back to January 2017.

2019 U.S. Flock Size: EIC Projections and USDA Reported Numbers Table 19

EIC projected	USDA preliminary	USDA actual count
---------------	------------------	-------------------

For March 2019

Number of U.S. table egg layers (million) on the 1st of each month

Month & Year	Month when the Layer Number was Reported by USDA (highlighted) or Projected by EIC											
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Jan-18		331.6										
Feb-18		329.5	333.6									
Mar-18		330.7	336.1									
Apr-18		332.0	337.0									
May-18		329.8	334.7									
Jun-18		328.6	333.4									
Jul-18		329.1	333.8									
Aug-18		329.9	334.7									
Sep-18		332.5	337.3									
Oct-18		333.7	338.8									
Nov-18		337.1	339.9									
Dec-18		341.1	341.4									
Jan-19		341.3	341.0									
Feb-19			339.4									
Mar-19												
Apr-19												
May-19												
Jun-19												
Jul-19												
Aug-19												
Sep-19												
Oct-19												
Nov-19												
Dec-19												

THIS PAGE HELPS VISUALIZE CHANGES IN FLOCK PROJECTIONS AS THE YEAR EVOLVES

Figure 10: U.S. Monthly Table-Egg Layers (2009-2019)

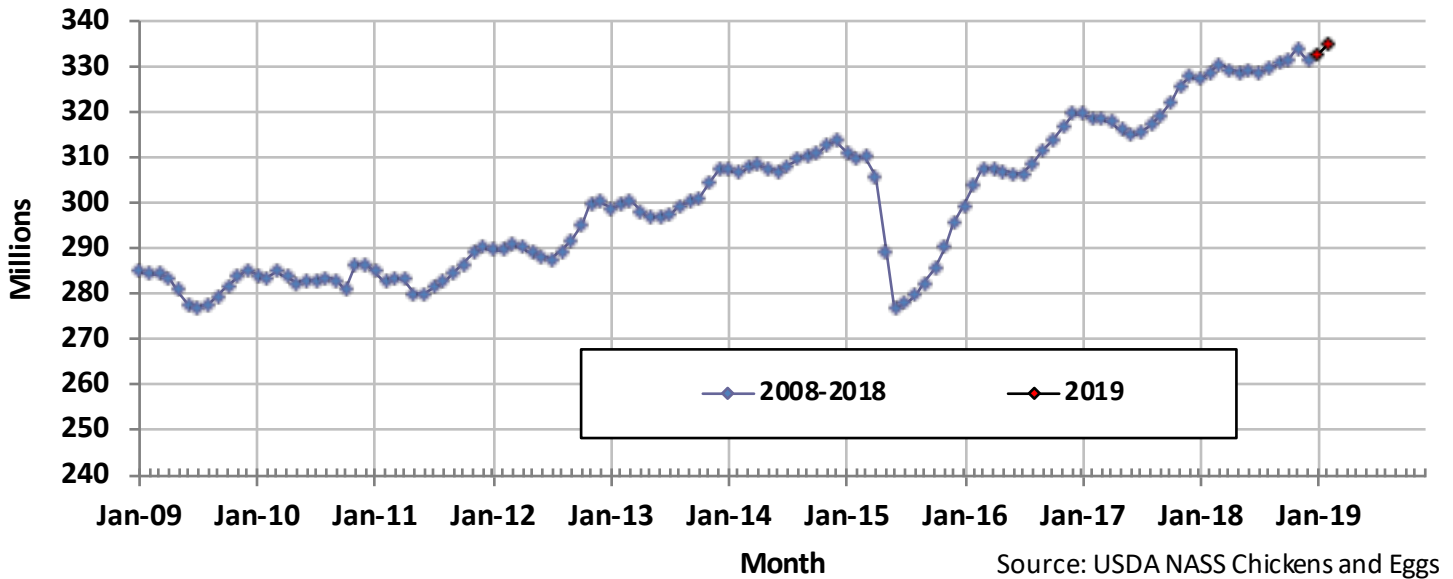


Figure 11: U.S. Table Eggs per Hundred Hens per Day by Month (2009-2019)

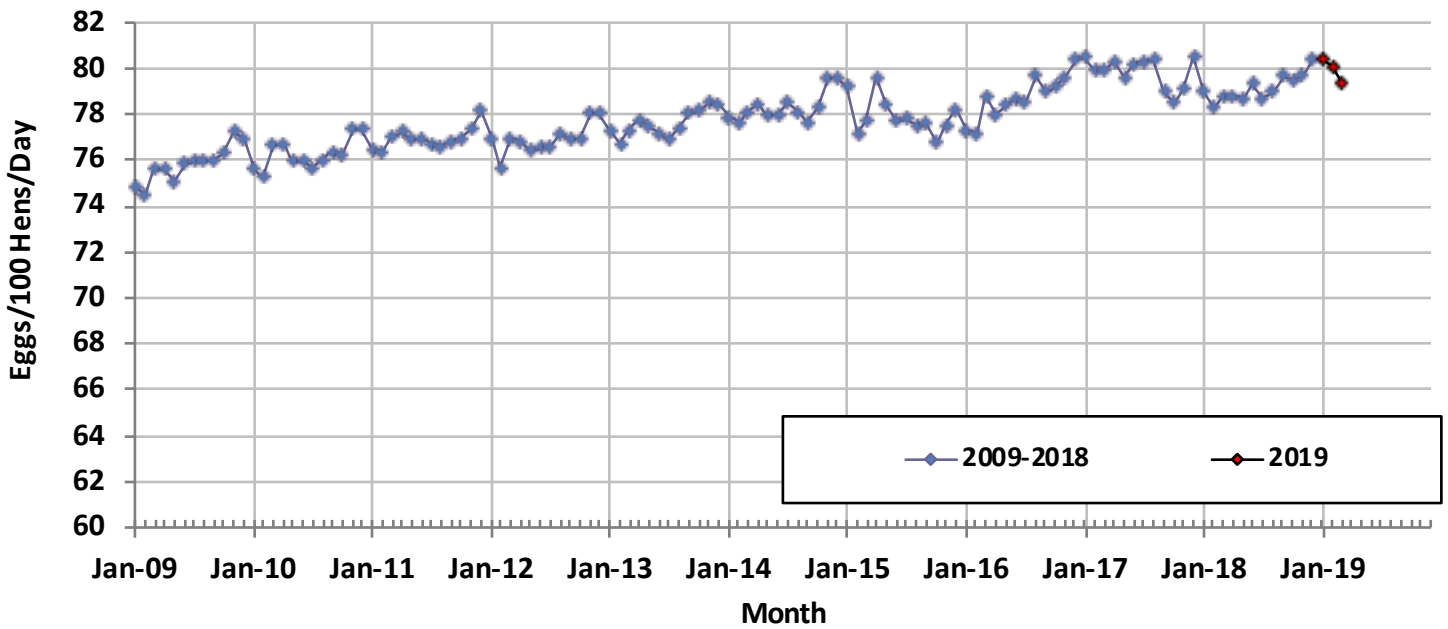
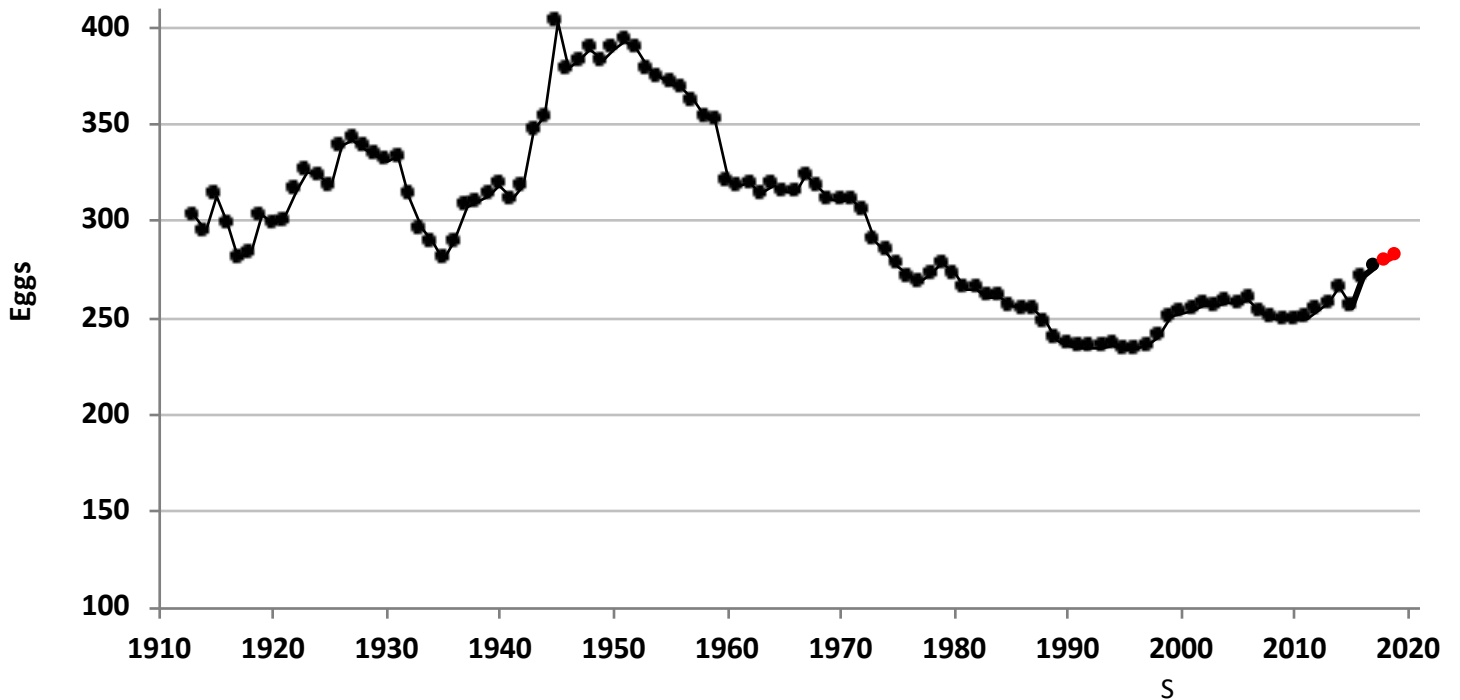


Figure 12: Monthly Percent of U.S. Flock Molted (2009-2019)



Figure 13: U.S. Per Capita Egg Consumption by Year (1913-2019)



SUMMARY TO DATE

Table 20

		2018	2019	% Change
HATCH of EGG-TYPE STRAIGHT RUN (THOUSANDS) (U.S.) (Total)	Jan to Feb	51,231	54,669	6.7
TABLE-EGG LAYERS (MILLIONS) (U.S.)	(Avg) Jan to Feb	327.9	333.7	1.8
TABLE EGGS (MILLIONS/MONTH) (U.S.)	(Avg) Jan to Feb	7,605	7,878	3.6
RATE OF LAY (%)	Jan to Feb	78.7	80.0	1.3
U.S. TABLE EGG AVG. CASES/WEEK (THOUSANDS)	Jan to Feb	1,805	1,869	3.6
AVG MONTHLY CASES OF EGGS BROKEN (MILLION) (U.S.)	Jan to Feb	6.193	6.691	8.1
		2016	2017	Difference
PERCENT OF U.S. FLOCK IN or POST MOLT	(Avg.) Jan to Mar	18.3	15.2	-3.1
AVERAGE PULLETS ADDED/MONTH (MILLIONS) (U.S.)	Jan to Jul	21.8	23.3	1.5

Note: U.S. cost of production and egg prices are published in another Egg Industry Center report. Contact Maro Ibarburu at maro@iastate.edu to be placed on the mailing list to receive monthly copies of these reports.

Webpages of some of the sources of information,

Access these sites by clicking on the blue addresses below:

- USDA NASS Chickens and Eggs <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1028>
- USDA NASS Poultry Slaughter <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1131>
- USDA NASS Egg Products <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1057>
- USDA ERS Livestock and Meat Trade Data. <http://www.ers.usda.gov/data/MeatTrade/BroilerTurkeyMonthly.htm>
- USDA FAS <http://www.fas.usda.gov/gats/ExpressQuery1.aspx>
- USDA NASS Cold Storage <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1034>
- USDA AMS Poultry Market News and Analysis <http://marketnews.usda.gov/portal/py>
- USDA AMS Monthly 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

