

U.S. Flock Trends and Projections

April 5, 2018



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 4.3% higher than February 2017. This projects forward to a 25.2 million pullet placement for July of 2018 which is 1.0 million higher than July of 2017 placement (24.2).

* Current (February average, 2018) U.S. table egg layer number (322.5 million) is 1.7 percent larger than last year's number at this time (317.3 million), and 1.1 million larger than last month (321.4 million).

* In February, Iowa led the nation with 54.4 million laying hens compared to 31.3 million in Ohio, 31.0 million in Indiana, and 24.9 million in Pennsylvania. California (with 13.6 million layers) lost it's 5th position to Texas with 17.8 million layers.

* The March 1st U.S. rate of lay was 78.8% which is 1.1% lower than March 1st 2017 level. The total number of table eggs produced in February 2018 was similar to the February 2017 production.

* The February 2018 number of eggs exported was 7% higher than last year (February 2017) and 2% lower than last month (January 2018). The February exports represented 3.6% of the number of eggs produced.

* Shell eggs broken for products in February 2018 totaled 5.919 million cases, 4.4% less than in February 2017 (6.192 million cases).

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

	2016	2017	% Change
Hatch - Egg-Type Straight Run (thousands) (U.S.)	48,456	50,523	4.3
Table Egg Layers (millions) (U.S.)	317.3	322.5	1.7
Rate of lay (percent)	79.8	78.3	-1.5
Molting (March 1, 2018) (percent in + out of a molt)	17.6	17.7	0.6

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

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Million	285.6	285.2	286.8	290.1	298.6	308.2	311.3	291.1	318.6	322.0	331.5*

* preliminary value

SPECIAL NOTE:

Data for the previous month may be changed by the USDA to reflect updates following late submissions by responders.



TABLE OF CONTENTS

Table Name	Table #	Page	Sheet or Section
Egg Type: U.S. Eggs In Incubators and Straight Run Hatch	1	3	U.S. Volume
Average U.S. Table Egg Layers	2	3	U.S. Volume
U.S. Table Eggs and Rate of Lay	3	4	U.S. Volume
Induced Molt Percent - U.S. Totals (1st of Month)	4	5	U.S. Volume
Shell Eggs Broken Under Federal Inspection	5	5	U.S. Volume
Per Capita Egg Consumption by Quarter	6	6	U.S. Volume
Cage-Free Layers	7	6	U.S. Volume
Export of Table Eggs In the Shell In 2018	8	7	Trade
Export of Egg Products In 2018	9	7	Trade
Total Eggs Exported - 2018	10	7	Trade
Table Egg Layers In Flocks 30,000 and Above by Region - 2018	11	8	Regional
Table Egg Layers In Flocks 30,000 and Above In Leading States (Average) - 2018	12	9	Regional
Total molt (in-molt plus post-molt) by region - 2018	13	10	Regional
Projected U.S. Egg-Type Hatchery Supply Flock - 2018	14	11	Projections
U.S. Pullets to be Housed Based Upon Hatch 5 Month Ago	15	11	Projections
Projected U.S. Table Egg Flock Less Than 70 Weeks of Age	16	12	Projections
First of the Month Projection Estimates of U.S. Table Egg Layers (millions)	17	13	Projection
Actual First of the Month (U.S. Flock Size) - 2018	18	14	Projected Flock
Projected First of the Month (U.S. Flock Size) - 2018	19	14	Projected Flock
2018 United States Flock Size Previous Projections	20	15	Previous Projections
Summary to Date	21	18	Final

Figure Name	Figure #	Page	Sheet or Section
Egg-Type Hatch Straight Run by Month (1,000)	1	3	U.S. Volume
Table Egg Layers by Month (Millions)	2	3	U.S. Volume
Rate of Lay (Percent)	3	4	U.S. Volume
Monthly Percent Molted	4	4	U.S. Volume
Total Cage-Free and Conventional Layers (Millions)	5	6	U.S. Volume
Leading States' Table Egg Layers In Flocks of 30,000 and Above (1988-2016)	6	9	Regional
Percent of layers with molt completed by region	7	10	Regional
Percent of U.S. Flock More Than 70 Weeks of Age by Month	8	12	Projections
U.S. Monthly Table-Egg Layers (2008-2018)	9	16	Trends
U.S. Table Eggs per Hen per Day by Month (2008-2018)	10	16	Trends
Monthly Percent of U.S. Flock Molted (2008-2018)	11	17	Trends
U.S. Per Capita Egg Consumption by Year (1913-2018)	12	17	Trends

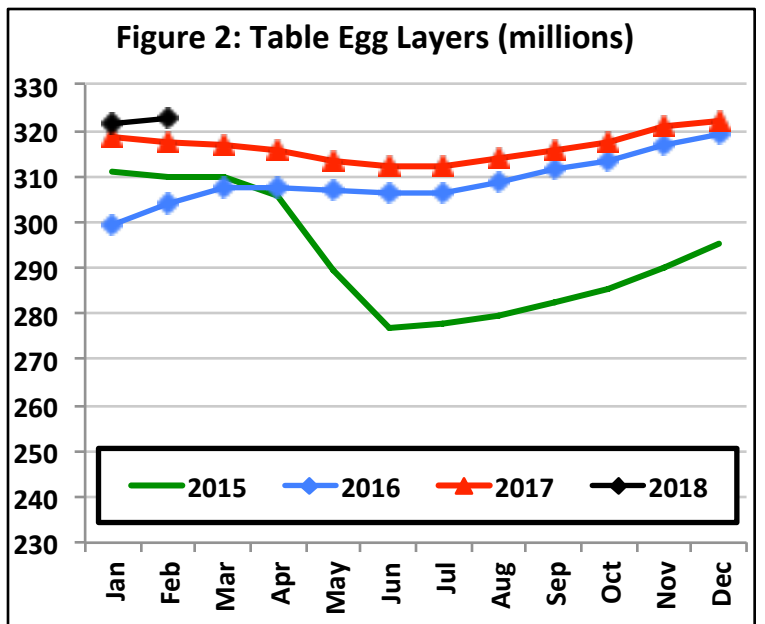
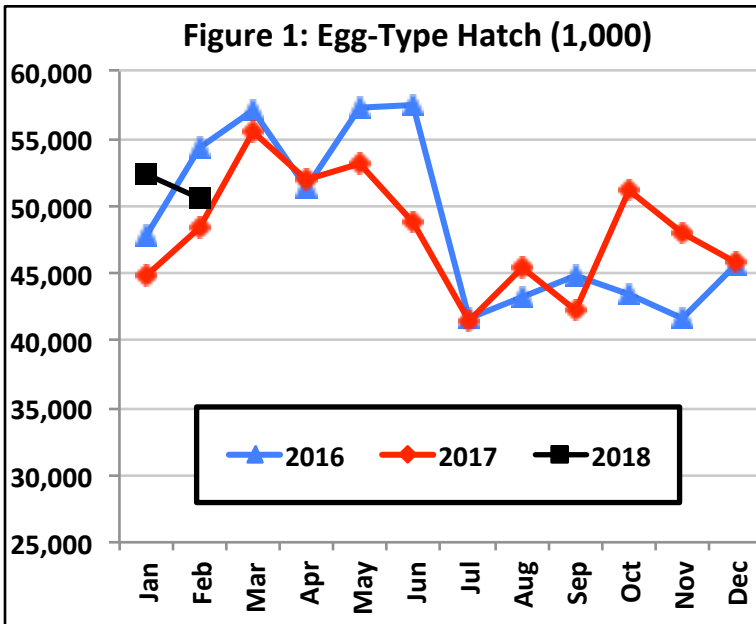


EGG TYPE: EGGS IN INCUBATORS (on the 1st of the month) and STRAIGHT RUN HATCH (U.S.)

TABLE 1

EGG-TYPE Eggs in Incubators (thousands)				EGG-TYPE Straight Run Hatch (thousands)				
month	2017	2018	Change (%)	month	2016	2017	2018	Change %
Jan	39,741	46,750	17.6	Jan	47,775	44,906	52,313	16.5
Feb	48,152	51,216	6.4	Feb	54,289	48,456	50,523	4.3
Mar	52,142	55,864	7.1	Mar	57,055	55,457		
Apr	51,078			Apr	51,266	52,025		
May	47,517			May	57,306	53,073		
Jun	46,556			Jun	57,562	48,828		
Jul	41,218			Jul	41,609	41,463		
Aug	40,123			Aug	43,258	45,439		
Sep	40,068			Sep	44,892	42,271		
Oct	46,262			Oct	43,344	51,239		
Nov	44,949			Nov	41,648	47,999		
Dec	46,495			Dec	45,633	45,846		
3 Month Avg.	46,678	51,277	9.9	2 Month Avg.	51,032	46,681	51,418	10.1
3 Month Total	140,035	153,830		2 Month Total	102,064	93,362	102,836	
12 Month Total	560,591			12 Month Total	585,637	577,002		

Source: USDA NASS Chickens and Eggs

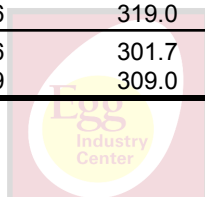


AVERAGE U.S. TABLE EGG LAYERS (MILLIONS)

TABLE 2

month	TOTAL Table Egg Layers						% Change with respect to	
	2013	2014	2015	2016	2017	2018	last year	2012-2016
Jan	298.7	307.2	311.2	299.3	318.5	321.4	0.9	4.7
Feb	299.7	306.7	310.0	304.0	317.3	322.5	1.7	4.9
Mar	300.4	307.7	310.2	307.4	316.7			
Apr	298.1	308.3	305.9	307.4	315.8			
May	296.6	307.6	289.3	307.0	313.5			
Jun	296.9	307.0	276.9	306.5	312.2			
Jul	297.4	308.2	278.1	306.4	312.4			
Aug	299.4	309.6	279.7	308.6	313.8			
Sep	300.1	310.4	282.4	311.7	315.5			
Oct	301.1	310.7	285.6	313.6	317.8			
Nov	304.5	312.7	290.2	316.7	320.7			
Dec	307.1	313.8	295.6	319.0	322.1			
2 Month Avg.	299.2	306.9	310.6	301.7	317.9	322.0	1.3	4.8
Annual Avg.	300.0	309.2	292.9	309.0	316.3			

Source: USDA NASS Chickens and Eggs



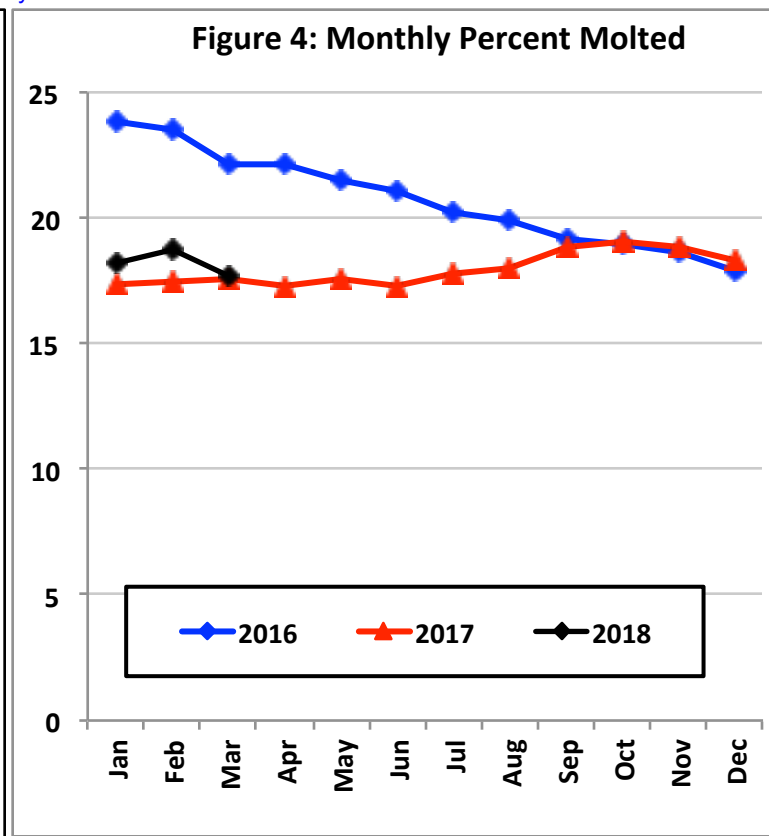
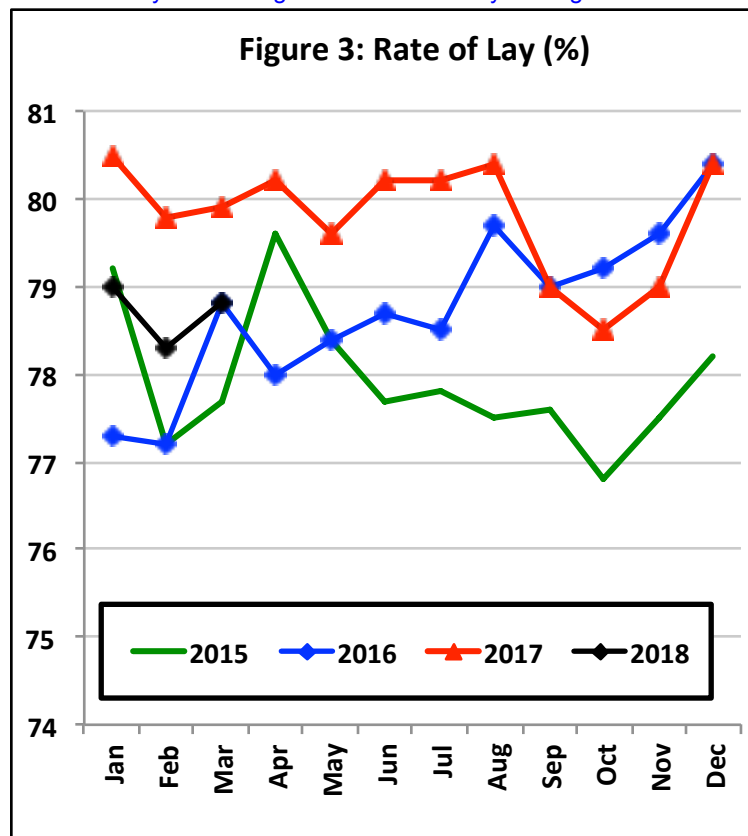
U.S. TABLE EGGS, AND RATE OF LAY on the 1st of EACH MONTH (ALL STATES)

TABLE 3

month	Table Eggs - human consumption (millions)						Rate of Lay (Table)	
	2014	2015	2016	2017	2018	Change (%)	2017	2018
Jan	7,417	7,545	7,168	7,916	7,842	-0.9	80.5	79.0
Feb	6,667	6,726	6,878	7,096	7,097	0.0	79.8	78.3
Mar	7,449	7,566	7,475	7,862			79.9	78.8
Apr	7,256	7,252	7,213	7,573			80.2	
May	7,433	6,996	7,479	7,765			79.6	
Jun	7,185	6,464	7,228	7,514			80.2	
Jul	7,501	6,698	7,514	7,782			80.2	
Aug	7,497	6,729	7,597	7,755			80.4	
Sep	7,230	6,544	7,402	7,457			79.0	
Oct	7,539	6,837	7,724	7,763			78.5	
Nov	7,465	6,778	7,602	7,676			79.0	
Dec	7,746	7,125	7,954	7,964			80.4	
YTD Avg.	7,042	7,135	7,023	7,506	7,470	-0.5	80.1	78.7
Annual Avg.	7,365	6,938	7,436	7,677			79.8	
Total	88,385	83,260	89,235	92,122				

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
	2017	2018	2017	2018	2016	2017	2018	
Jan	1.7	1.9	15.7	16.3	23.8	17.4	18.2	0.8
Feb	2.2	2.9	15.3	15.8	23.5	17.5	18.7	1.2
Mar	2.4	1.5	15.2	16.2	22.1	17.6	17.7	0.1
Apr	1.7		15.6		22.1	17.3		
May	2.7		14.9		21.5	17.6		
Jun	2.4		14.9		21.1	17.3		
Jul	2.4		15.4		20.2	17.8		
Aug	2.5		15.5		19.9	18.0		
Sep	3.5		15.4		19.2	18.9		
Oct	2.9		16.2		19.0	19.1		
Nov	2.0		16.8		18.6	18.8		
Dec	1.2		17.1		17.9	18.3		
3 Month Avg.	2.1	2.1	15.4	16.1	23.1	17.5	18.2	0.7
12 Month Avg.	2.3		15.7		20.7	18.0		

Source: USDA NASS Chickens and Eggs

SHELL EGGS BROKEN UNDER FEDERAL INSPECTION (MILLION CASES)

TABLE 5

month	2013	2014	2015	2016	2017	2018	% Change with respect to last year 2013-2017	
Jan	5.765	5.865	6.634	5.639	6.540	6.482	-0.9	6.5
Feb	5.374	5.325	5.746	5.484	6.192	5.919	-4.4	5.2
Mar	5.831	6.086	6.030	6.308	6.601			
Apr	5.950	6.205	6.061	6.255	6.126			
May	5.820	6.514	5.533	6.576	6.547			
Jun	6.118	6.532	6.408	6.679	6.604			
Jul	6.266	6.618	5.641	6.474	6.376			
Aug	6.200	6.596	5.589	6.804	6.603			
Sep	6.040	6.566	5.583	6.539	6.126			
Oct	6.289	6.731	5.814	6.636	6.583			
Nov	5.738	6.086	5.350	6.499	6.296			
Dec	5.745	6.281	5.749	6.498	6.306			
2 Month Avg.	5.569	5.595	6.190	5.562	6.366	6.200	-2.6	5.9
2 Month Total	11.139	11.191	12.380	11.123	12.732	12.401		
12 Month Total	71.136	75.405	70.138	76.391	76.901			

Source: USDA NASS Egg products - monthly

Million Cases Produced
% BROKEN

245.515	231.279	247.874	255.895	41.498
30.7	30.3	30.8	30.1	29.9



PER CAPITA EGG CONSUMPTION BY QUARTER

TABLE 6

QUARTER	2011	2012	2013	2014	2015	2016	2017	2018*
1	61.3	63.2	64.2	65.6	65.7	67.6	68.7	68.2
2	61.5	62.2	63.3	66.2	62.9	67.5	68.6	68.6
3	62.8	63.3	64.6	67.2	61.9	68.8	68.9	69.5
4	64.3	65.6	66.1	68.5	65.7	71.1	69.5	71.2
Total	249.9	254.3	258.2	267.5	256.2	274.9	275.7	277.6

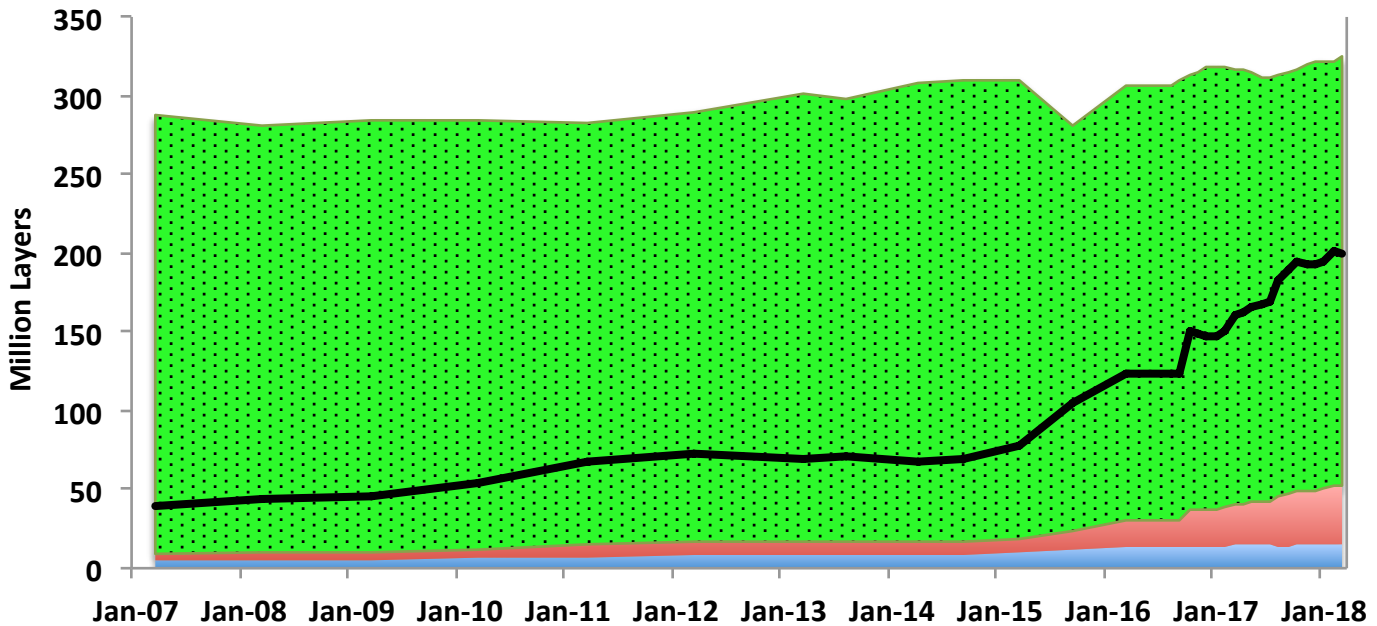
Change from previous year

4.4	3.9	9.3	-11.3	18.7	0.8	1.9
-----	-----	-----	-------	------	-----	-----

Source: USDA ERS Livestock and Meat Trade Data.

* Estimates for 2018 (3/2018)

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



Source: USDA AMS

CAGE-FREE LAYERS (MILLIONS)

TABLE 7

	Non-Organic Cage-Free		Certified Organic		TOTAL Cage-Free Layers			Cage-Free % of U.S. Flock
	2017	2018	2017	2018	2017	2018	Change (%)	
January	23.5	35.7	14.1	14.6	37.6	50.2	34%	15.6%
February	24.4	36.9	14.1	15.0	38.5	51.9	35%	16.2%
March	26.1	36.9	14.5	15.0	40.6	51.9	28%	16.0%
April	26.6		14.6		41.2			
May	27.3		14.6		41.9			
June	27.3		14.6		41.9			
July	27.5		14.6		42.1			
August	31.7		14.1		45.8			
September	33.5		14.3		47.8			
October	34.7		14.7		49.4			
November	34.7		14.7		49.4			
December	35.0		14.7		49.7			

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

Note: the number of layers represent the last month with data (sometimes the estimate is from a couple of months before).



EXPORT OF TABLE EGGS IN THE SHELL IN 2018 (Thousand cases- 30 doz)

TABLE 8

Month \ To	North America	Central America	Caribbean	European Union-28	East Asia	Southeast Asia	Middle East	Total 2018	Total 2017	% of U.S. Production
Jan	111.0	0.2	18.8	0.0	125.8	0.0	24.1	284.1	193.1	1.30
Feb	84.2	0.2	26.9	0.0	91.3	0.0	24.3	231.7	273.9	1.18
Mar									253.5	
Apr									270.7	
May									273.6	
Jun									252.2	
Jul									292.9	
Aug									340.9	
Sep									396.8	
Oct									382.4	
Nov									285.2	
Dec									375.9	
2 Mo. Total	195.2	0.5	45.8	0.0	217.1	0.0	48.4	515.8	467.0	1.24
%	37.8	0.1	8.9	0.0	42.1	0.0	9.4			

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

EXPORT OF EGG PRODUCTS IN 2018 (EQUIVALENT: thousand cases- 30 doz)

TABLE 9

Month \ To	North America	Central America	Caribbean	European Union-28	East Asia	Southeast Asia	Middle East	Total 2018	Total 2017	% of U.S. Production
Jan	92.3	10.5	7.1	64.7	230.2	21.0	8.9	442.1	334.0	2.03
Feb	145.7	3.8	5.4	63.1	223.9	6.2	5.2	478.5	387.5	2.43
Mar									501.7	
Apr									464.3	
May									438.8	
Jun									421.3	
Jul									363.9	
Aug									465.2	
Sep									434.7	
Oct									496.2	
Nov									562.5	
Dec									398.7	
2 Mo. Total	238.0	14.3	12.5	127.8	454.1	27.2	14.1	920.7	721.4	2.23
%	25.9	1.6	1.4	13.9	49.3	3.0	1.5			

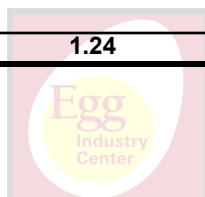
Note: Information has been converted from metric tonnes at a rate of 42 lbs. per case of liquid egg (edible + inedibles).

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

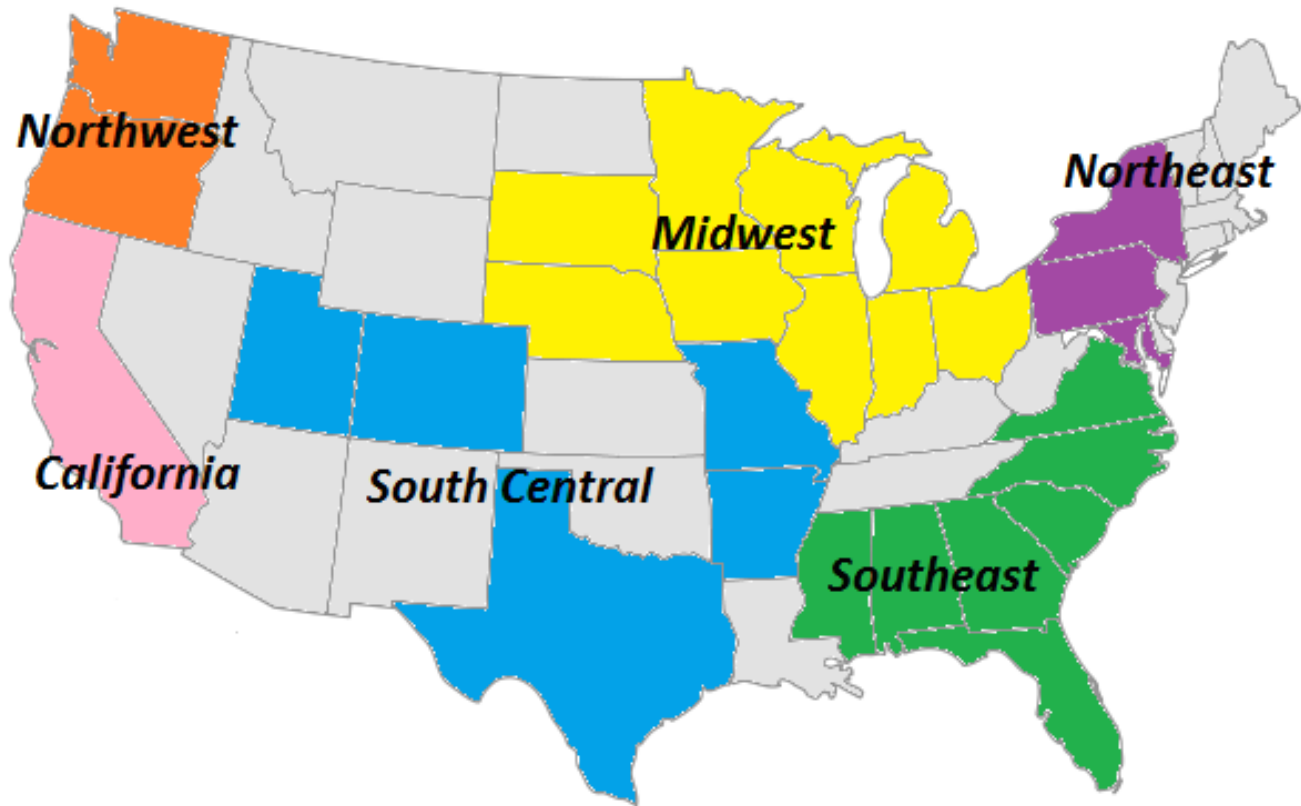
TOTAL EGGS EXPORTED - 2018

TABLE 10

	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	21,783		284.1	1.30	442.1	2.03	726.2	3.33
Feb	19,715		231.7	1.18	478.5	2.43	710.3	3.60
Mar								
Apr								
May								
Jun								
Jul								
Aug								
Sep								
Oct								
Nov								
Dec								
Total/Av	41,498		515.8	1.24	920.7	2.22	1,436.5	3.46



Map of U.S. Regions, as defined by Urner Barry, and the location of information used in this



Notes

The grey shaded States are the ones where there is no data available about the layers in flocks with 30,000 or more hens.
 Northwest is the sum of OR and WA
 South Central is the sum of AR, UT, CO, MO and TX
 Northeast is the sum of MD, NY and PA
 Southeast is the sum of AL, FL, GA, MS, NC, SC and VA
 Midwest is the sum of IA, IL, IN, MI, MN, NE, OH, WI, and SD
 California is the state of California only

TABLE EGG LAYERS IN FLOCKS OF 30,000 AND ABOVE BY REGION (Million) - 2018

TABLE 11

month	Northeast	Southeast	South Central	Midwest	Northwest	California	U.S. Total
Jan	34.0	30.0	38.1	161.6	9.3	13.7	309.1
Feb	34.0	29.7	38.5	162.9	9.2	13.6	307.8
Mar							
Apr							
May							
Jun							
Jul							
Aug							
Sep							
Oct							
Nov							
Dec							
2 Month Avg.	34.0	29.9	38.3	162.2	9.2	13.7	308.5
% of total	11.0	9.7	12.4	52.6	3.0	4.4	

Source: USDA NASS Chickens and Eggs



TABLE EGG LAYERS IN LEADING STATES - (LAYERS IN 30,000+ HEN FLOCKS) - 2018

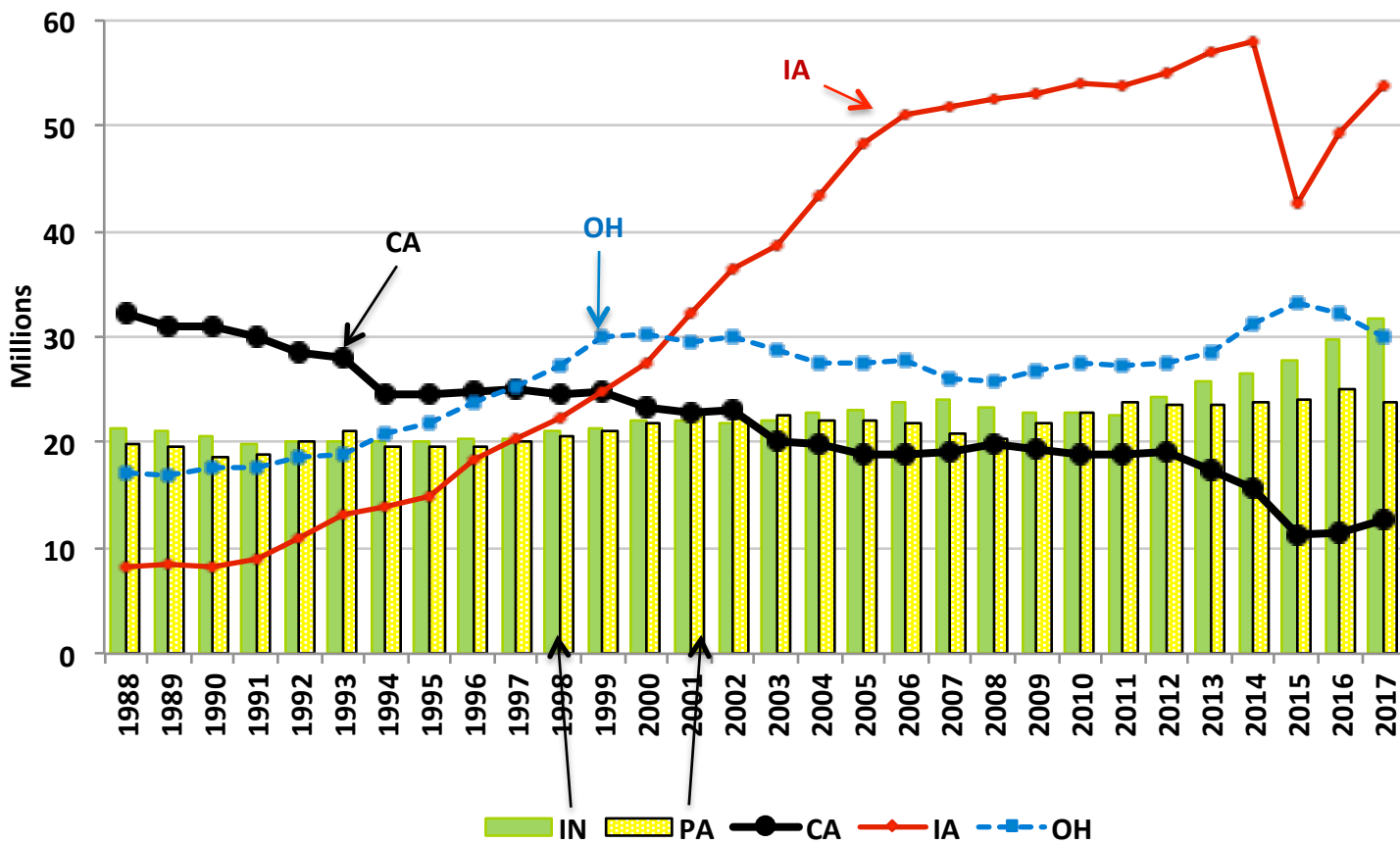
TABLE 12

month	IA	OH	IN	PA	CA	TX	U.S.
Feb-2017	54.39	29.74	31.40	23.34	11.72	17.30	307.84
(million layers)							
Jan-2018	54.18	30.91	31.23	24.92	13.72	17.72	311.66
Feb-2018	54.43	31.32	31.05	24.93	13.64	17.77	312.78
Mar-2018							
Apr-2018							
May-2018							
Jun-2018							
Jul-2018							
Aug-2018							
Sep-2018							
Oct-2018							
Nov-2018							
Dec-2018							
2 Month Avg.	54.30	31.11	31.14	24.92	13.68	17.75	312.22

Source: USDA NASS Chickens and Eggs

% of all U.S. table egg layers in flocks with 30,000 or more hens = 97.0%

Figure 6: Leading States' Table Egg Layers in Flocks of 30,000 and Above (1988-2017)



TOTAL MOLT (in-molt plus post-molt) BY REGION (Simple average of reporting States, %) - 2018

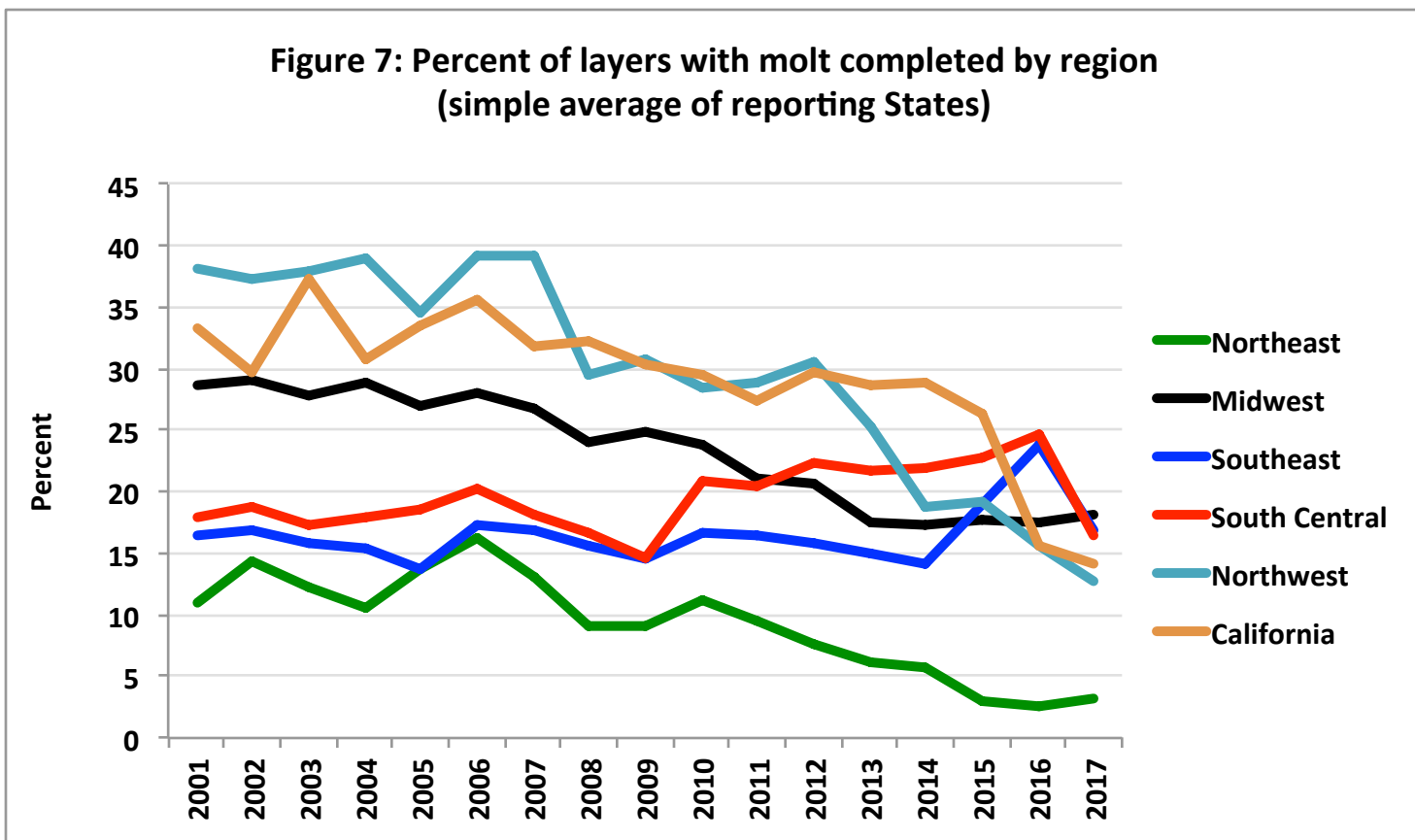
TABLE 13

month	Northeast	Southeast	South Central	Midwest	Northwest	California	U.S. Avg
Jan	3.7	16.9	15.1	18.4	12.0	15.0	18.2
Feb	3.2	17.9	17.6	18.6	13.0	15.0	18.7
Mar	3.0	16.1	16.5	17.3	13.3	12.5	17.7
Apr							
May							
Jun							
Jul							
Aug							
Sep							
Oct							
Nov							
Dec							
3 Month Avg.	3.3	17.0	16.4	18.1	12.8	14.2	18.2
year 2016 avg.	3.2	26.5	27.2	20.2	18.8	18.5	20.8

Source: USDA NASS Chickens and Eggs

Note: average molt is estimated as the simple average of the reported States

Figure 7: Percent of layers with molt completed by region (simple average of reporting States)



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

TABLE 14

month	2012	2013	2014	2015	2016	2017	2018
Jan	2.657	2.579	2.540	2.682	3.081	2.581	2.741
Feb	2.672	2.613	2.536	2.689	3.074	2.598	2.768
Mar	2.731	2.630	2.472	2.605	2.997	2.742	2.604
Apr	2.732	2.588	2.530	2.718	2.840	2.705	2.613
May	2.819	2.515	2.497	2.917	2.805	2.699	2.498
Jun	2.778	2.537	2.439	2.892	2.866	2.747	2.389
Jul	2.791	2.436	2.608	2.797	2.836	2.696	2.498
Aug	2.830	2.515	2.535	2.797	2.725	2.764	2.506
Sep	2.825	2.503	2.553	2.857	2.615	2.755	2.482
Oct	2.786	2.468	2.610	2.958	2.446	2.782	
Nov	2.649	2.555	2.619	2.937	2.566	2.685	
Dec	2.745	2.476	2.664	2.947	2.650	2.659	
9 month avg.	2.751	2.552	2.520	2.762	2.903	2.691	2.577
12 month avg.	2.751	2.535	2.550	2.816	2.792	2.701	

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)

TABLE 15

(47.5% of CHICKS PLACED multiplied by a 95% LIVABILITY FACTOR)

month	2013	2014	2015	2016	2017	2018	2013 to '17 month avg.
Jan	19.1	17.5	17.9	21.3	19.5	20.5	19.1
Feb	16.1	17.8	18.4	21.5	18.9	17.8	18.5
Mar	17.1	19.2	20.2	22.7	19.6	23.1	19.7
Apr	16.5	18.9	16.5	20.7	18.8	21.7	18.3
May	18.5	18.6	18.2	21.1	20.6	20.7	19.4
Jun	19.1	19.4	18.0	20.9	19.6	22.8	19.4
Jul	21.1	20.6	20.7	27.1	24.2	25.2	22.7
Aug	19.7	20.2	21.4	25.7	25.0		22.4
Sep	20.8	20.9	21.4	23.1	23.5		22.0
Oct	22.6	22.4	21.8	25.9	23.9		23.3
Nov	19.1	20.0	21.3	26.0	22.0		21.7
Dec	18.0	19.2	19.3	18.8	18.7		18.8
7 month avg.	18.2	18.8	18.5	22.2	20.2	21.7	19.6
Annual Avg.	19.0	19.5	19.6	22.9	21.2		20.4
Total	227.7	234.6	235.1	274.7	254.4		245.3

Source: USDA NASS Chickens and Eggs

% Change to date

7.56

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)

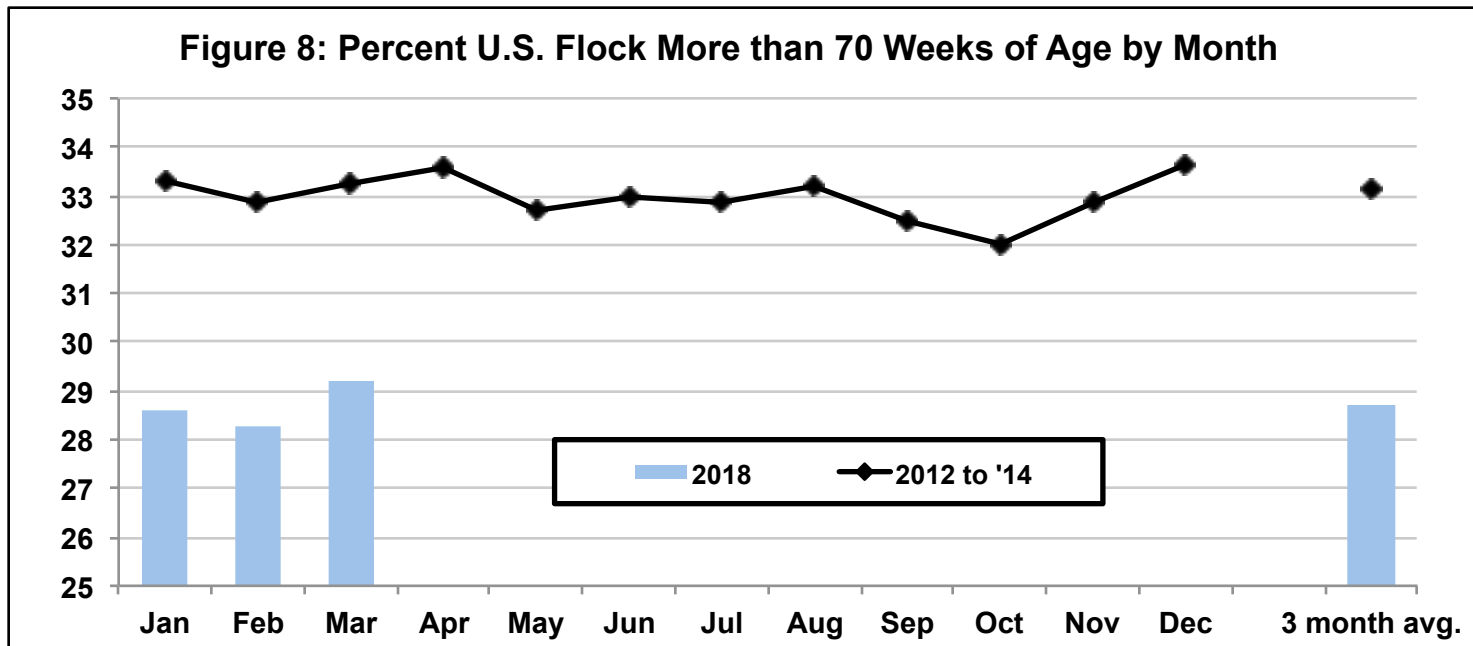
TABLE 16

	% of National Flock over 70 weeks of age (on the 1st of the month)						
	2013	2014	2015	2016	2017	2018	2012 to '14
Jan	34.1	33.1	32.2		22.5	28.6	33.3
Feb	34.1	31.8	31.1		23.1	28.3	32.9
Mar	34.9	31.8	32.0		23.5	29.2	33.3
Apr	34.9	32.5			23.9		33.6
May	33.5	32.2			24.1		32.7
Jun	33.8	32.2			23.8		33.0
Jul	33.7	32.4			25.1		32.9
Aug	33.7	33.4			26.5		33.2
Sep	32.7	32.5			26.4		32.5
Oct	31.4	32.1			27.4		32.0
Nov	32.6	31.5		22.7	28.8		32.9
Dec	33.2	32.8		21.8	28.4		33.6
3 month avg.	34.4	32.2	31.7			28.7	33.1
12 month avg.	33.6	32.4	31.7				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 8: 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:

- 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: $0.0643 + 0.00415 * \text{Price } 12-18_ \text{Jan} + 0.00149 * \text{Price } 12-18_ \text{Feb} + 0.00439 * \text{Price } 12-18_ \text{Mar} + 0.00203 * \text{Price } 12-18_ \text{Apr} + 0.00465 * \text{Price } 12-18_ \text{May} + 0.00601 * \text{Price } 12-18_ \text{Jun} + 0.0115 * \text{Price } 12-18_ \text{Jul} + 0.01208 * \text{Price } 12-18_ \text{Aug} + 0.01238 * \text{Price } 12-18_ \text{Sep} + 0.01298 * \text{Price } 12-18_ \text{Oct} + 0.00766 * \text{Price } 12-18_ \text{Nov} + 0.00231 * \text{Price } 12-18_ \text{Dec} - 0.0004 * \text{"MOLT - previous 12-mo"}$

... 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=0.68

- 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: $0.678 * \text{Added /Beg. count} + 0.00347 * \text{Jan} - 0.0027 * \text{Feb} - 0.00078 * \text{Mar} + 0.00739 * \text{Apr} + 0.00357 * \text{May} + 0.0015 * \text{Jun} + 0.00063 * \text{Jul} - 0.00443 * \text{Aug} - 0.00214 * \text{Sep} - 0.00555 * \text{Oct} - 0.011 * \text{Nov} + 0.02112 * \text{Shock_ Sep} + 0.00270 * \text{"CPI adjusted Shell \$ under 0.65"}$

... 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 "CPI adjusted Shell \$ under 0.65" is a dummy variable that takes the value 1 if the Midwest Large White egg price adjusted by CPI is under 65 cents/dozen (equal to almost 84 cents in January 2017). CPI is the consumer price index of all food and beverages with base on the year 2005.

Adjusted R²=0.53

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

TABLE 17

Actual	Actual	Actual	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018	2018
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
322.0	320.8	324.3	325.6	323.0	321.3	321.0	322.7	323.9	325.5	327.4	331.5

Project. Year end: **Dec, 2018 - 331.5**

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



Date calculated: 4/1/2018

2018 Bird Flow by Month

Table 18

ACTUAL FLOCK (million birds)				
month	Beginning Count	Pullets added ¹	Slaughter, Died & Missing	Ending count
Jan-17	322.0	20.5	21.7	320.8
Feb-17	320.8	17.8	14.3	324.3
Mar-17	324.3	23.1		
Apr-17		21.7		
May-17		20.7		
Jun-17		22.8		
Jul-17		25.2		
Aug-17				
Sep-17				
Oct-17				
Nov-17				
Dec-17				
Jan-18				
Feb-18				
Mar-18				
Apr-18				
May-18				
Jun-18				
Jul-18				
Aug-18				
Sep-18				
Oct-18				
Nov-18				
Dec-18				

¹ at 5 months of age

Table 19

PROJECTED FLOCK (million birds)				
month	Beginning Count	Pullets added ¹	Slaughter, Died & Missing	Ending count
Jan-17	322.0	20.5	21.7	320.8
Feb-17	320.8	17.8	14.3	324.3
Mar-17	324.3	23.1	21.8	325.6
Apr-17	325.6	21.7	24.3	323.0
May-17	323.0	20.7	22.4	321.3
Jun-17	321.3	22.8	23.1	321.0
Jul-17	321.0	25.2	23.6	322.7
Aug-17	322.7	21.7	20.5	323.9
Sep-17	323.9	22.2	20.7	325.5
Oct-17	325.5	22.8	20.8	327.4
Nov-17	327.4	21.5	17.4	331.5
Dec-17	331.5	19.9	20.0	331.5
Jan-18	331.5	20.8	21.7	330.5
Feb-18	330.5			
Mar-18				
Apr-18				
May-18				
Jun-18				
Jul-18				
Aug-18				
Sep-18				
Oct-18				
Nov-18				
Dec-18				

¹ at 5 months of age

Actual number



2018 U.S. Flock Size: EIC Projections and USDA Reported Numbers

Table 20

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

For March 2018

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-17	321.4	322.0										
Feb-17	320.7	320.3	320.8									
Mar-17	320.1	320.6	324.3									
Apr-17	321.6	322.1	325.6									
May-17	319.0	319.5	323.0									
Jun-17	317.5	318.0	321.3									
Jul-17	316.3	317.8	321.0									
Aug-17	316.7	318.2	322.7									
Sep-17	318.8	319.4	323.9									
Oct-17	320.3	320.9	325.5									
Nov-17	323.0	323.6	327.4									
Dec-17	326.3	327.7	331.5									
Jan-18		327.7	331.5									
Feb-18			330.5									
Mar-18												
Apr-18												
May-18												
Jun-18												
Jul-18												
Aug-18												
Sep-18												
Oct-18												
Nov-18												
Dec-18												

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



Figure 9: U.S. Monthly Table-Egg Layers (2008-2018)

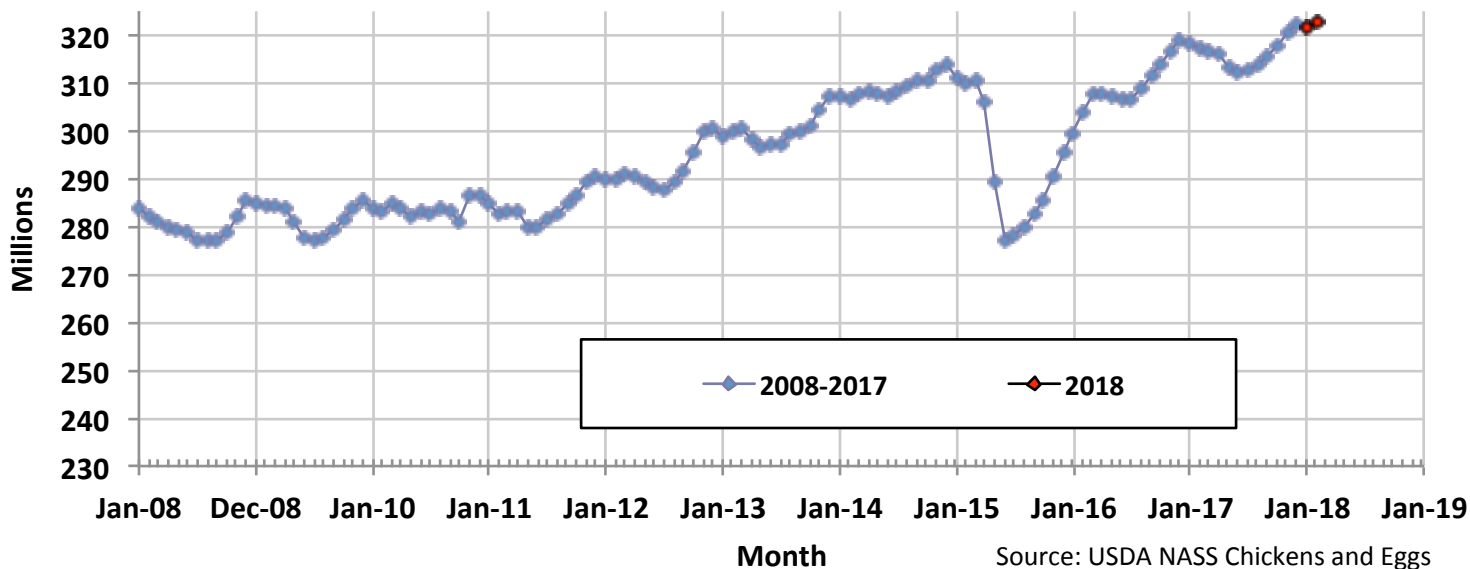


Figure 10: U.S. Table Eggs per Hundred Hens per Day by Month (2008-2018)



Figure 11: Monthly Percent of U.S. Flock Molted (2008-2018)

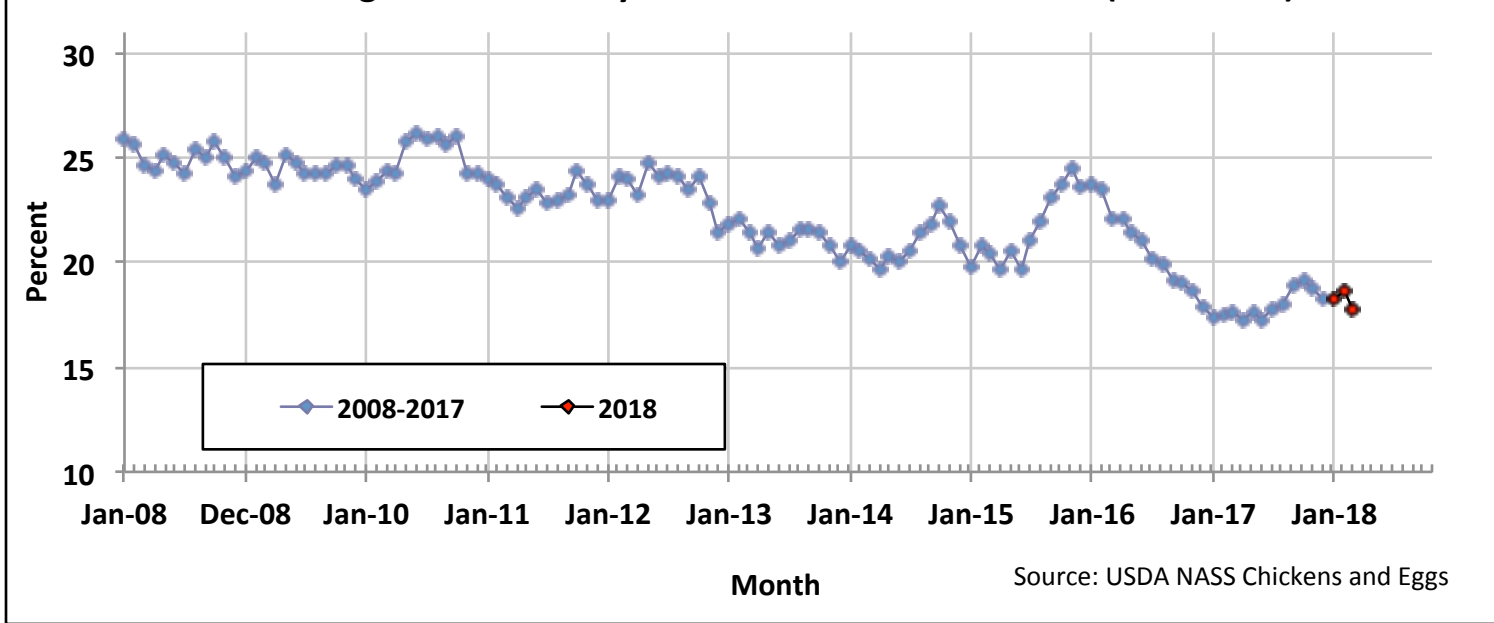
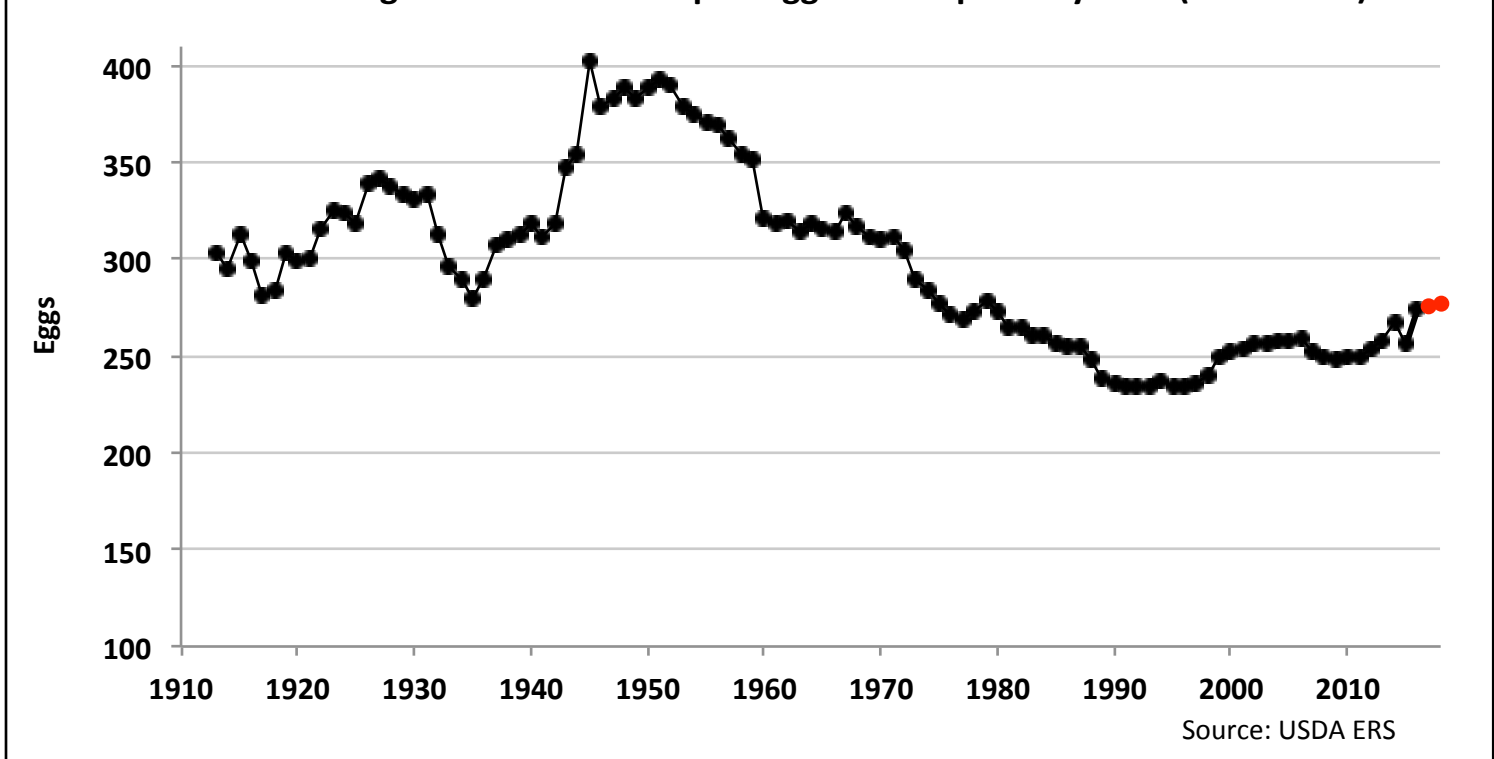


Figure 12: U.S. Per Capita Egg Consumption by Year (1913-2018)



SUMMARY TO DATE

Table 21

		2017	2018	% Change
HATCH of EGG-TYPE STRAIGHT RUN (THOUSANDS) (U.S.) (Total)	Jan to Feb	46,681	51,418	10.1
TABLE-EGG LAYERS (MILLIONS) (U.S.) (Avg.)	Jan to Feb	317.9	322.0	1.3
TABLE EGGS (MILLIONS/MONTH) (U.S.) (Avg.)	Jan to Feb	7,506	7,470	-0.5
RATE OF LAY (%) (Avg.)	Jan to Feb	80.1	78.7	-1.4
U.S. TABLE EGG AVG. CASES/WEEK (THOUSANDS)	Jan to Feb	1,781	1,772	-0.5
AVG MONTHLY CASES OF EGGS BROKEN (MILLION) (U.S.)	Jan to Feb	6.366	6.200	-2.6
		2016	2017	Difference
PERCENT OF U.S. FLOCK IN or POST MOLT (Avg.)	Jan to Mar	17.5	18.2	0.7
AVVERAGE PULLETS ADDED/MONTH (MILLIONS) (U.S.)	Jan to Jul	20.2	21.7	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.

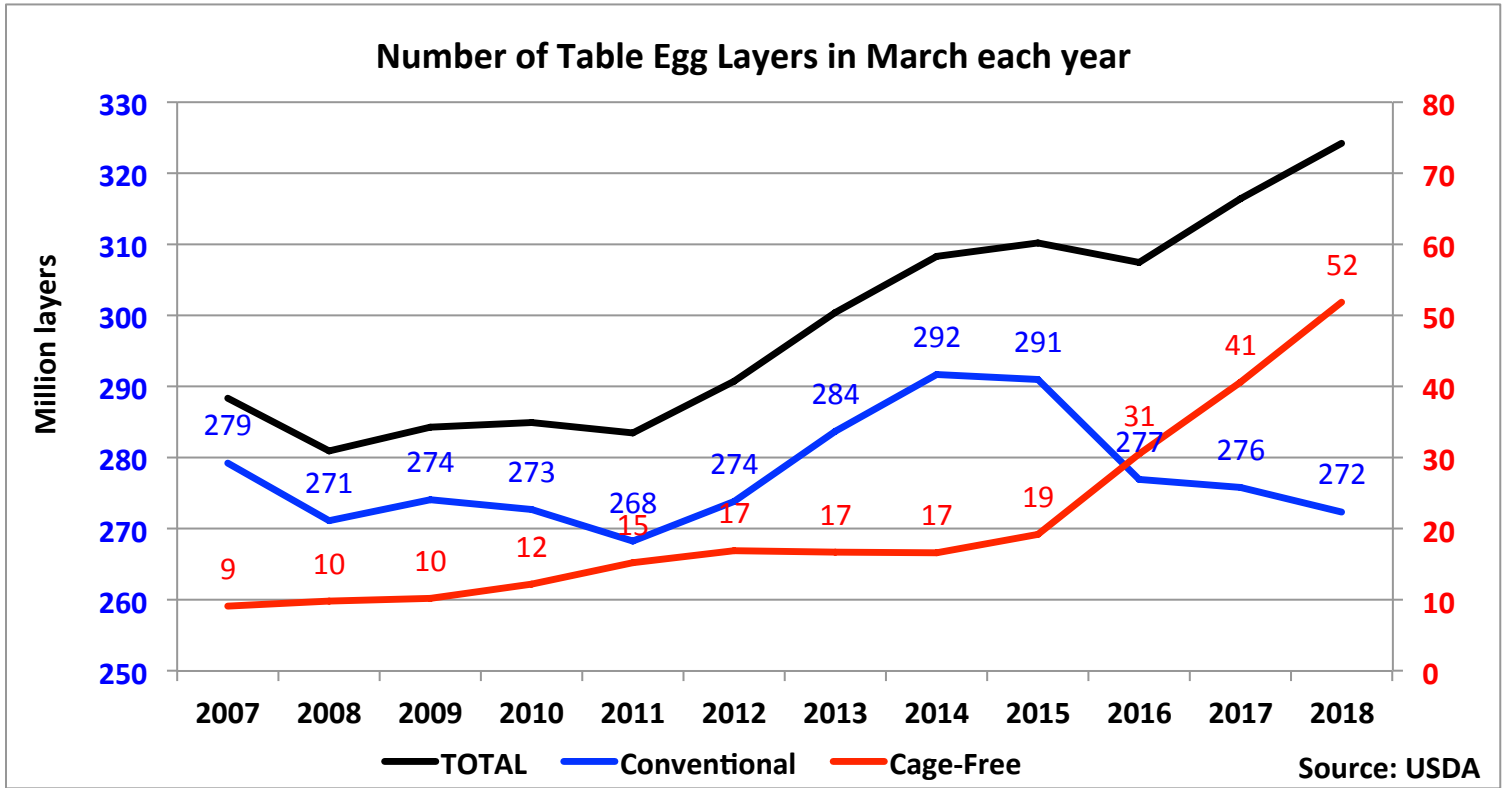
Webpages of some of the sources of information,

Access these sites by clicking on the blue addresses below:

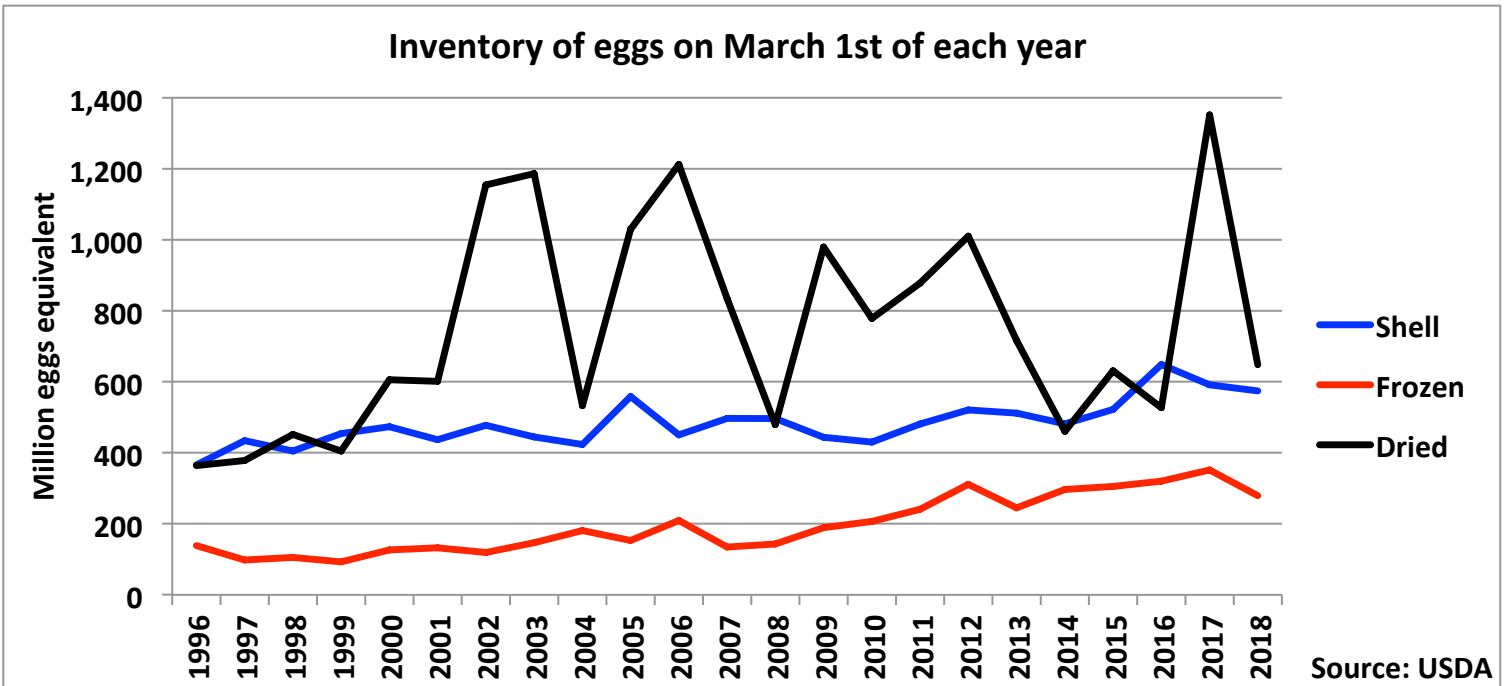
- USDA NASS Chickens and Eggs <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1028>
- USDA NASS Poultry Slaughter <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1131>
- USDA NASS Egg Products <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1057>
- 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





The growth of the layer flock in the last years is explained by the growth in the cage-free flock. The conventional flock decreased by 19 million layers from March 2015 (291 million) to March 2018 (272 million). During the same time the cage-free flock increased by 33 million layers (from 19 million to 52 million).



Note: shell egg inventory on 1st of March was assumed to be equal to the inventory on the 1st Monday of the March. Most of the variation in the inventory from one year to the next is explained by fluctuation in dried egg inventory.

