

U.S. Flock Trends and Projections

August 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.

U.S. EGG INDUSTRY STATISTICAL REPORT SUMMARY

* The June hatch (straight-run chicks) was 14.9% lower than in 2016. This projects forward to a 22.1 million pullet placement for November of 2017 which is 3.9 million smaller than November of 2016 placement (26.0).

* Current (June average, 2017) U.S. table egg layer number (310.7 million) is 1.4 percent larger than last year's number at this time (306.5 million), and down 1.6 million compared to last month (312.3 million).

* In June, Iowa led the nation with 53.4 million laying hens compared to 31.3 million in Indiana, 29.2 million in Ohio, and 25.4 million in Pennsylvania. California (with 11.3 million layers) lost it's 5th position to Texas with 16.9 million layers.

* The June U.S. rate of lay was estimated to be 80.2% which is 1.5% higher than June 2016 level. The total number of table eggs produced in June 2017 was 3.4% higher than the June 2016 production.

* The June 2017 number of eggs exported was 38% higher than last year (June 2016) and 5% lower than last month (May 2017). The June exports represented 3.2% of the number of eggs produced.

* Shell eggs broken for products in June 2017 totaled 6.599 million cases, 1.2% less than in June 2016 (6.679 million cases).

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

| | 2016 | 2017 | % Change |
|---|--------|--------|----------|
| Hatch - Egg-Type Straight Run (thousands) (U.S.) | 57,562 | 48,986 | -14.9 |
| Table Egg Layers (millions) (U.S.) | 306.5 | 310.7 | 1.4 |
| Rate of lay (percent) | 78.6 | 80.2 | 1.5 |
| Molting (June 1, 2017) (percent in + out of a molt) | 20.2 | 17.7 | -12.4 |

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

| Year | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Million | 284.7 | 285.6 | 285.2 | 286.8 | 290.1 | 298.6 | 308.2 | 311.3 | 291.1 | 318.6 | 323.5* |

* estimated value

SPECIAL NOTE:

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



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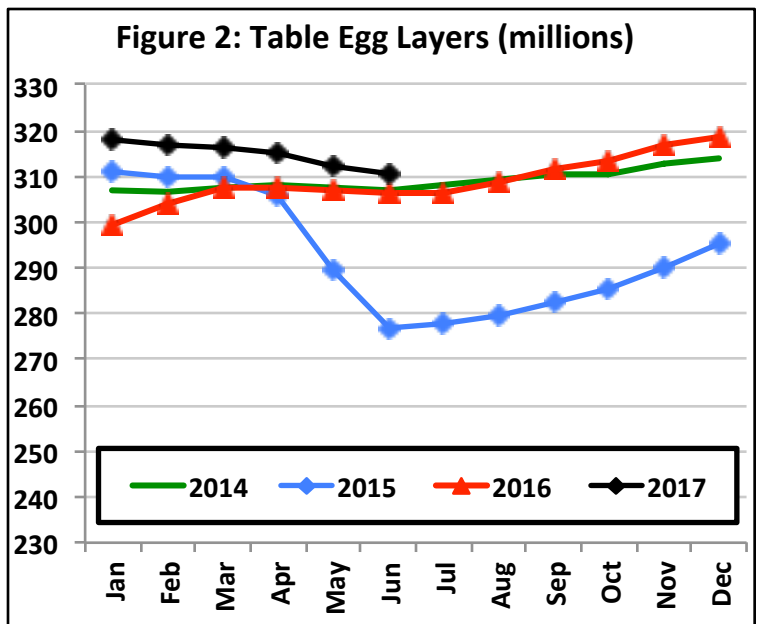
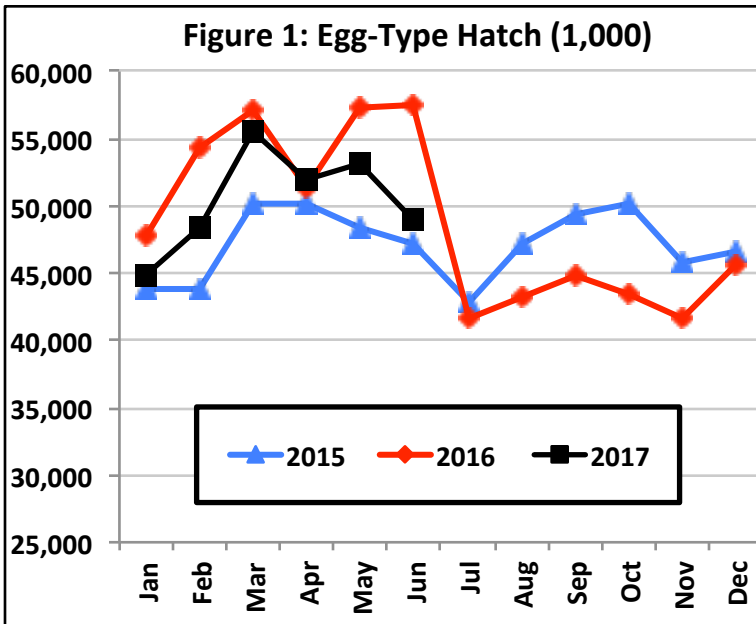


EGG TYPE: EGGS IN INCUBATORS (on the 1st of the month) and STRAIGHT RUN HATCH (U.S.)

TABLE 1

| EGG-TYPE Eggs in Incubators (thousands) | | | | EGG-TYPE Straight Run Hatch (thousands) | | | | |
|---|----------------|----------------|-------------|---|----------------|----------------|----------------|-------------|
| month | 2016 | 2017 | Change (%) | month | 2015 | 2016 | 2017 | Change % |
| Jan | 47,950 | 39,741 | -17.1 | Jan | 43,868 | 47,775 | 44,906 | -6.0 |
| Feb | 52,007 | 48,152 | -7.4 | Feb | 43,774 | 54,289 | 48,456 | -10.7 |
| Mar | 55,105 | 52,142 | -5.4 | Mar | 50,187 | 57,055 | 55,457 | -2.8 |
| Apr | 52,062 | 51,078 | -1.9 | Apr | 50,193 | 51,266 | 52,025 | 1.5 |
| May | 52,257 | 47,517 | -9.1 | May | 48,315 | 57,306 | 53,073 | -7.4 |
| Jun | 54,050 | 46,556 | -13.9 | Jun | 47,212 | 57,562 | 48,986 | -14.9 |
| Jul | 44,077 | 41,528 | -5.8 | Jul | 42,790 | 41,609 | | |
| Aug | 37,677 | | | Aug | 47,131 | 43,258 | | |
| Sep | 42,826 | | | Sep | 49,391 | 44,892 | | |
| Oct | 39,979 | | | Oct | 50,194 | 43,344 | | |
| Nov | 41,090 | | | Nov | 45,848 | 41,648 | | |
| Dec | 45,460 | | | Dec | 46,679 | 45,633 | | |
| 7 Month Avg. | 51,073 | 46,673 | -8.6 | 6 Month Avg. | 47,258 | 54,209 | 50,484 | -6.9 |
| 7 Month Total | 357,508 | 326,714 | | 6 Month Total | 283,549 | 325,253 | 302,903 | |
| 12 Month Total | 560,591 | | | 12 Month Total | 565,582 | 585,637 | | |

Source: USDA NASS Chickens and Eggs

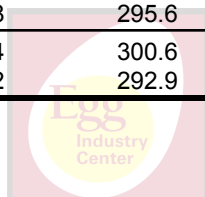


AVERAGE U.S. TABLE EGG LAYERS (MILLIONS)

TABLE 2

| month | TOTAL Table Egg Layers | | | | | | % Change with respect to | |
|---------------------|------------------------|--------------|--------------|--------------|--------------|--------------|--------------------------|------------|
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | last year | 2012-2016 |
| Jan | 289.6 | 298.7 | 307.2 | 311.2 | 299.3 | 318.1 | 6.3 | 5.6 |
| Feb | 289.7 | 299.7 | 306.7 | 310.0 | 304.0 | 316.8 | 4.2 | 4.9 |
| Mar | 290.7 | 300.4 | 307.7 | 310.2 | 307.4 | 316.1 | 2.8 | 4.2 |
| Apr | 290.2 | 298.1 | 308.3 | 305.9 | 307.4 | 314.9 | 2.4 | 4.3 |
| May | 289.2 | 296.6 | 307.6 | 289.3 | 307.0 | 312.3 | 1.7 | 4.8 |
| Jun | 288.3 | 296.9 | 307.0 | 276.9 | 306.5 | 310.7 | 1.4 | 5.3 |
| Jul | 287.7 | 297.4 | 308.2 | 278.1 | 306.4 | | | |
| Aug | 289.3 | 299.4 | 309.6 | 279.7 | 308.6 | | | |
| Sep | 291.8 | 300.1 | 310.4 | 282.4 | 311.7 | | | |
| Oct | 295.3 | 301.1 | 310.7 | 285.6 | 313.6 | | | |
| Nov | 299.8 | 304.5 | 312.7 | 290.2 | 316.7 | | | |
| Dec | 300.2 | 307.1 | 313.8 | 295.6 | 318.8 | | | |
| 6 Month Avg. | 289.6 | 298.4 | 307.4 | 300.6 | 305.3 | 314.8 | 3.1 | 4.8 |
| Annual Avg. | 291.8 | 300.0 | 309.2 | 292.9 | 309.0 | | | |

Source: USDA NASS Chickens and Eggs

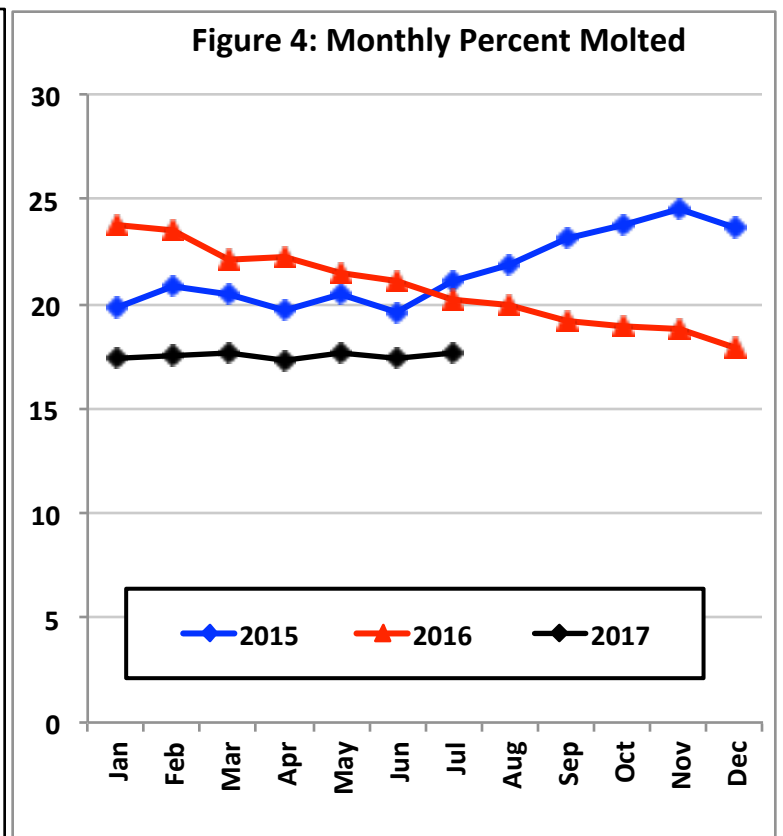
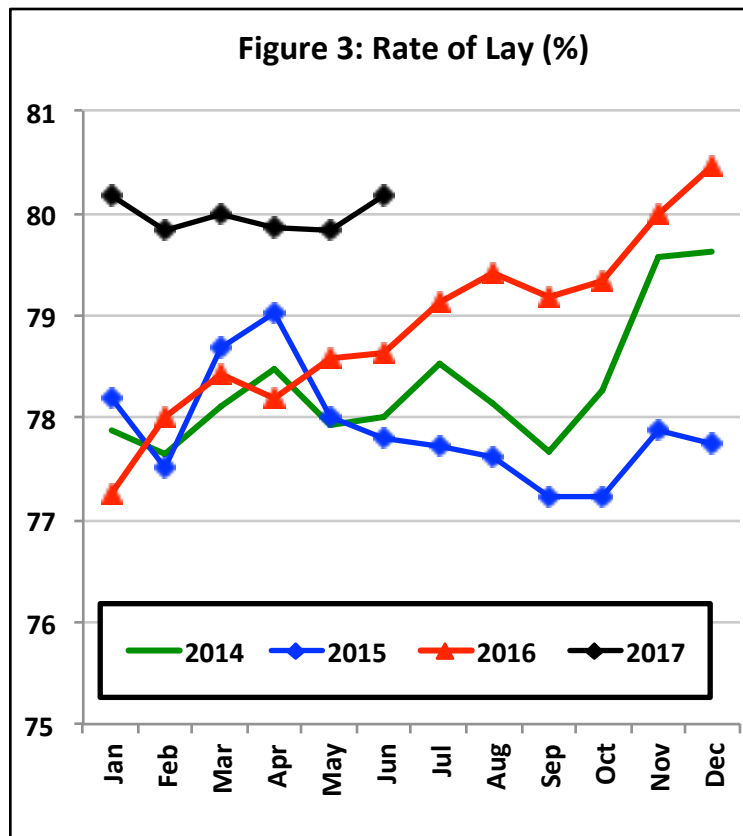


U.S. TABLE EGGS AND RATE OF LAY (ALL STATES)

TABLE 3

| month | Table Eggs - human consumption (millions) | | | | | | Rate of Lay (Table) | |
|---------------------|---|--------|--------|--------|-------|------------|---------------------|------|
| | 2013 | 2014 | 2015 | 2016 | 2017 | Change (%) | 2016 | 2017 |
| Jan | 7,160 | 7,417 | 7,545 | 7,168 | 7,904 | 10.3 | 77.3 | 80.2 |
| Feb | 6,437 | 6,667 | 6,726 | 6,878 | 7,080 | 2.9 | 78.0 | 79.8 |
| Mar | 7,198 | 7,449 | 7,566 | 7,475 | 7,842 | 4.9 | 78.4 | 80.0 |
| Apr | 6,954 | 7,256 | 7,252 | 7,213 | 7,546 | 4.6 | 78.2 | 79.9 |
| May | 7,124 | 7,433 | 6,996 | 7,479 | 7,731 | 3.4 | 78.6 | 79.8 |
| Jun | 6,878 | 7,185 | 6,464 | 7,228 | 7,473 | 3.4 | 78.6 | 80.2 |
| Jul | 7,085 | 7,501 | 6,698 | 7,514 | | | 79.1 | |
| Aug | 7,186 | 7,497 | 6,729 | 7,597 | | | 79.4 | |
| Sep | 7,028 | 7,230 | 6,544 | 7,402 | | | 79.2 | |
| Oct | 7,300 | 7,539 | 6,837 | 7,712 | | | 79.3 | |
| Nov | 7,172 | 7,465 | 6,778 | 7,602 | | | 80.0 | |
| Dec | 7,471 | 7,746 | 7,125 | 7,950 | | | 80.5 | |
| 6 Month Avg. | 6,959 | 7,235 | 7,092 | 7,240 | 7,596 | 4.9 | 78.2 | 80.0 |
| Annual Avg. | 7,083 | 7,365 | 6,938 | 7,435 | | | 78.9 | |
| Total | 84,993 | 88,385 | 83,260 | 89,219 | | | | |

Source: USDA NASS Chickens and Eggs



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 |
|----------------------|-----------|------|------------------|------|------------------------------|------|------|--------|
| | 2016 | 2017 | 2016 | 2017 | 2015 | 2016 | 2017 | |
| Jan | 2.5 | 1.7 | 21.3 | 15.7 | 19.8 | 23.8 | 17.4 | -6.4 |
| Feb | 3.0 | 2.2 | 20.5 | 15.3 | 20.8 | 23.5 | 17.5 | -6.0 |
| Mar | 1.5 | 2.4 | 20.6 | 15.3 | 20.4 | 22.1 | 17.7 | -4.4 |
| Apr | 3.0 | 1.7 | 19.2 | 15.6 | 19.7 | 22.2 | 17.3 | -4.9 |
| May | 2.8 | 2.7 | 18.7 | 15.0 | 20.5 | 21.5 | 17.7 | -3.8 |
| Jun | 2.9 | 2.4 | 18.2 | 15.0 | 19.6 | 21.1 | 17.4 | -3.7 |
| Jul | 2.6 | 2.3 | 17.6 | 15.4 | 21.1 | 20.2 | 17.7 | -2.5 |
| Aug | 2.6 | | 17.3 | | 21.9 | 19.9 | | |
| Sep | 2.7 | | 16.5 | | 23.1 | 19.2 | | |
| Oct | 2.1 | | 16.8 | | 23.8 | 18.9 | | |
| Nov | 2.3 | | 16.5 | | 24.5 | 18.8 | | |
| Dec | 1.5 | | 16.4 | | 23.6 | 17.9 | | |
| 7 Month Avg. | 2.6 | 2.2 | 19.4 | 15.3 | 20.3 | 22.1 | 17.5 | -4.5 |
| 12 Month Avg. | 2.5 | | 18.3 | | 21.6 | 20.8 | | |

Source: USDA NASS Chickens and Eggs

SHELL EGGS BROKEN UNDER FEDERAL INSPECTION (MILLION CASES)

TABLE 5

| month | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | % Change with respect to | |
|-----------------------|--------|--------|--------|--------|--------|--------|--------------------------|-----------|
| | | | | | | | last year | 2012-2016 |
| Jan | 5.666 | 5.765 | 5.865 | 6.634 | 5.639 | 6.540 | 16.0 | 10.6 |
| Feb | 5.524 | 5.374 | 5.325 | 5.746 | 5.484 | 6.192 | 12.9 | 12.8 |
| Mar | 5.715 | 5.831 | 6.086 | 6.030 | 6.308 | 6.601 | 4.6 | 10.1 |
| Apr | 5.634 | 5.950 | 6.205 | 6.061 | 6.255 | 6.126 | -2.1 | 1.8 |
| May | 6.057 | 5.820 | 6.514 | 5.533 | 6.576 | 6.547 | -0.4 | 7.3 |
| Jun | 5.955 | 6.118 | 6.532 | 6.408 | 6.679 | 6.599 | -1.2 | 4.1 |
| Jul | 5.748 | 6.266 | 6.618 | 5.641 | 6.474 | | | |
| Aug | 6.523 | 6.200 | 6.596 | 5.589 | 6.804 | | | |
| Sep | 6.005 | 6.040 | 6.566 | 5.583 | 6.539 | | | |
| Oct | 6.109 | 6.289 | 6.731 | 5.814 | 6.636 | | | |
| Nov | 5.577 | 5.738 | 6.086 | 5.350 | 6.499 | | | |
| Dec | 5.964 | 5.745 | 6.281 | 5.749 | 6.498 | | | |
| 6 Month Avg. | 5.758 | 5.810 | 6.088 | 6.069 | 6.157 | 6.434 | 4.5 | 7.7 |
| 6 Month Total | 34.551 | 34.858 | 36.528 | 36.412 | 36.942 | 38.605 | | |
| 12 Month Total | 70.477 | 71.136 | 75.405 | 70.138 | 76.391 | | | |

Source: USDA NASS Egg products - monthly

Million Cases Produced
% BROKEN

| | | | | |
|---------|---------|---------|---------|---------|
| 236.092 | 245.515 | 231.279 | 247.832 | 126.597 |
| 30.1 | 30.7 | 30.3 | 30.8 | 30.5 |



PER CAPITA EGG CONSUMPTION BY QUARTER

TABLE 6

| QUARTER | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017* |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 1 | 61.8 | 61.3 | 63.2 | 64.2 | 65.6 | 65.7 | 67.5 | 68.3 |
| 2 | 61.9 | 61.5 | 62.2 | 63.3 | 66.2 | 62.9 | 67.4 | 68.0 |
| 3 | 62.5 | 62.8 | 63.3 | 64.6 | 67.2 | 61.9 | 68.8 | 68.6 |
| 4 | 63.1 | 64.3 | 65.6 | 66.1 | 68.5 | 65.7 | 71.0 | 69.9 |
| Total | 249.3 | 249.9 | 254.3 | 258.2 | 267.5 | 256.3 | 274.7 | 274.9 |

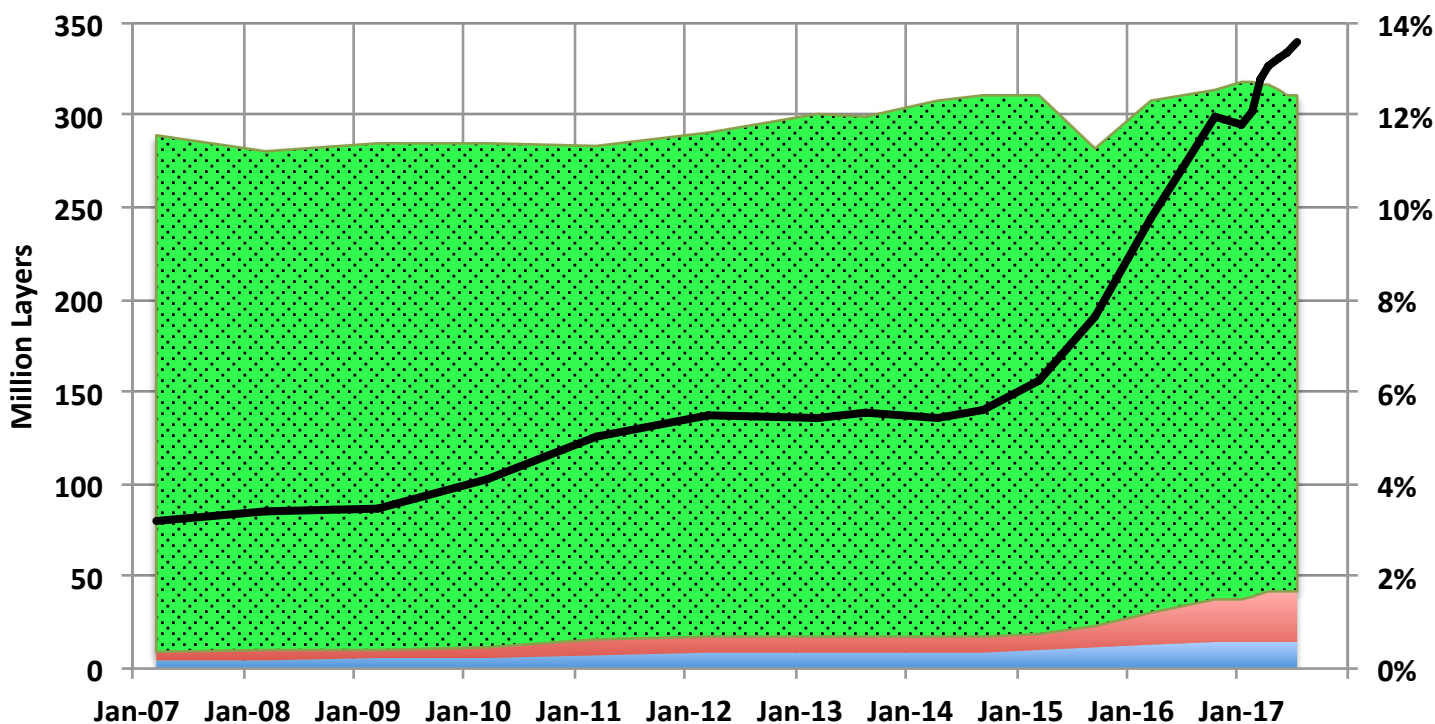
Change from previous year

| | | | | | | |
|-----|-----|-----|-----|-------|------|-----|
| 0.6 | 4.4 | 3.9 | 9.3 | -11.2 | 18.4 | 0.2 |
|-----|-----|-----|-----|-------|------|-----|

Source: USDA ERS Livestock and Meat Trade Data.

* Estimates for 2017 (4/2017)

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



Organic Total cage-free Conventional % cage-free

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 |
|---------|-----------------------|------|-------------------|------|------------------------|------|------------|---------------------------|
| | 2016 | 2017 | 2016 | 2017 | 2016 | 2017 | Change (%) | |
| January | 12.2 | 23.5 | 11.4 | 14.1 | 23.6 | 37.6 | 59% | 11.8% |
| April | 17.0 | 26.6 | 13.5 | 14.6 | 30.5 | 41.2 | 35% | 13.0% |
| July | 17.0 | | 13.5 | | 30.5 | | | |
| October | 23.5 | | 14.1 | | 37.6 | | | |

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 2017 (Thousand cases- 30 doz)

TABLE 8

| Month \ To | North America | Central America | Caribbean | European Union-28 | East Asia | Southeast Asia | Middle East | Total 2017 | Total 2016 | % of U.S. Production |
|--------------------|---------------|-----------------|--------------|-------------------|--------------|----------------|--------------|----------------|----------------|----------------------|
| Jan | 29.1 | 0.4 | 30.7 | 0.0 | 85.5 | 0.0 | 44.0 | 193.1 | 272.3 | 0.88 |
| Feb | 55.5 | 0.2 | 72.7 | 0.0 | 90.6 | 0.0 | 49.1 | 273.9 | 298.0 | 1.39 |
| Mar | 62.2 | 0.4 | 35.0 | 0.1 | 82.0 | 0.0 | 60.3 | 253.5 | 409.7 | 1.16 |
| Apr | 96.2 | 0.3 | 65.7 | 0.0 | 74.7 | 0.0 | 24.2 | 270.7 | 335.2 | 1.29 |
| May | 100.9 | 0.5 | 54.1 | 0.0 | 88.4 | 0.0 | 21.7 | 273.6 | 267.3 | 1.27 |
| Jun | 70.7 | 0.9 | 75.3 | 0.0 | 71.8 | 0.0 | 24.2 | 252.2 | 243.6 | 1.22 |
| Jul | | | | | | | | | 283.1 | |
| Aug | | | | | | | | | 296.0 | |
| Sep | | | | | | | | | 411.0 | |
| Oct | | | | | | | | | 330.6 | |
| Nov | | | | | | | | | 292.7 | |
| Dec | | | | | | | | | 340.2 | |
| 6 Mo. Total | 414.6 | 2.7 | 333.5 | 0.1 | 493.0 | 0.0 | 223.4 | 1,517.0 | 1,826.0 | 1.20 |
| % | 27.3 | 0.2 | 22.0 | 0.0 | 32.5 | 0.0 | 14.7 | | | |

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

EXPORT OF EGG PRODUCTS IN 2017 (EQUIVALENT: thousand cases- 30 doz)

TABLE 9

| Month \ To | North America | Central America | Caribbean | European Union-28 | East Asia | Southeast Asia | Middle East | Total 2017 | Total 2016 | % of U.S. Production |
|--------------------|---------------|-----------------|-------------|-------------------|----------------|----------------|--------------|----------------|----------------|----------------------|
| Jan | 86.1 | 10.9 | 9.3 | 71.8 | 139.0 | 2.1 | 4.6 | 334.0 | 169.9 | 1.52 |
| Feb | 77.3 | 0.7 | 10.3 | 106.1 | 144.9 | 19.3 | 9.3 | 387.5 | 162.8 | 1.97 |
| Mar | 116.5 | 0.7 | 12.3 | 102.1 | 233.4 | 15.4 | 10.7 | 501.7 | 291.3 | 2.30 |
| Apr | 80.7 | 0.5 | 11.0 | 76.1 | 202.4 | 19.9 | 64.3 | 464.3 | 233.8 | 2.22 |
| May | 109.6 | 13.1 | 11.8 | 55.2 | 162.2 | 23.1 | 46.4 | 438.8 | 221.8 | 2.04 |
| Jun | 113.9 | 7.1 | 6.2 | 45.2 | 212.1 | 16.0 | 7.5 | 421.3 | 244.5 | 2.03 |
| Jul | | | | | | | | | 236.7 | |
| Aug | | | | | | | | | 286.9 | |
| Sep | | | | | | | | | 355.1 | |
| Oct | | | | | | | | | 366.9 | |
| Nov | | | | | | | | | 400.9 | |
| Dec | | | | | | | | | 409.1 | |
| 6 Mo. Total | 584.1 | 33.0 | 61.0 | 456.6 | 1,094.0 | 95.7 | 142.8 | 2,547.5 | 1,324.0 | 2.01 |
| % | 22.9 | 1.3 | 2.4 | 17.9 | 42.9 | 3.8 | 5.6 | | | |

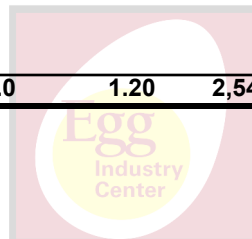
Note: Information has been converted from metric tonnes at a rate of 42 lbs. per case of liquid egg (edible + inedibles).

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

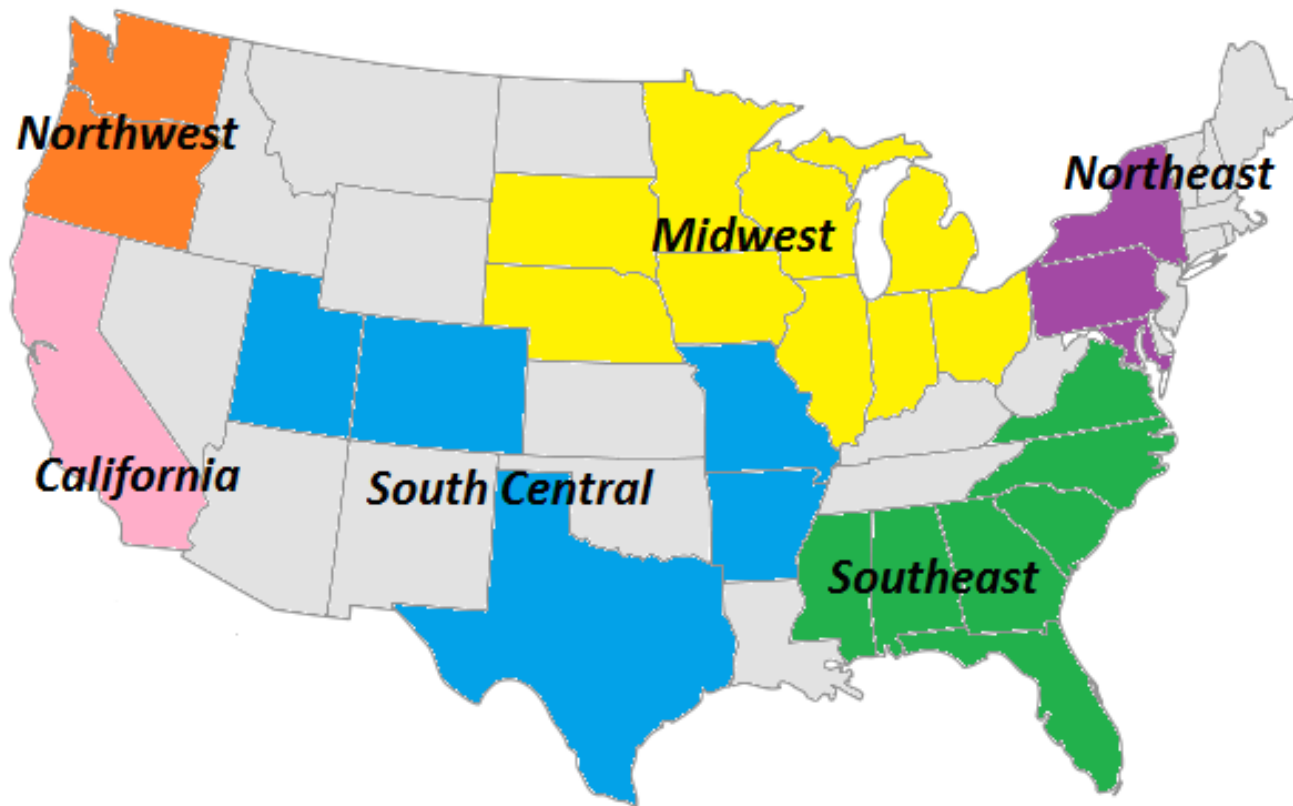
TOTAL EGGS EXPORTED - 2017

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 | 21,954 | | 193.1 | 0.88 | 334.0 | 1.52 | 527.1 | 2.40 |
| Feb | 19,666 | | 273.9 | 1.39 | 387.5 | 1.97 | 661.4 | 3.36 |
| Mar | 21,783 | | 253.5 | 1.16 | 501.7 | 2.30 | 755.2 | 3.47 |
| Apr | 20,961 | | 270.7 | 1.29 | 464.3 | 2.22 | 735.0 | 3.51 |
| May | 21,469 | | 273.6 | 1.27 | 438.8 | 2.04 | 712.3 | 3.32 |
| Jun | 20,758 | | 252.2 | 1.22 | 421.3 | 2.03 | 673.5 | 3.24 |
| Jul | | | | | | | | |
| Aug | | | | | | | | |
| Sep | | | | | | | | |
| Oct | | | | | | | | |
| Nov | | | | | | | | |
| Dec | | | | | | | | |
| Total/Av | 126,591 | | 1,517.0 | 1.20 | 2,547.5 | 2.01 | 4,064.5 | 3.21 |



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) - 2017

TABLE 11

| month | Northeast | Southeast | South Central | Midwest | Northwest | California | U.S. Total |
|---------------------|-----------|-----------|---------------|---------|-----------|------------|------------|
| Jan | 33.3 | 31.4 | 38.1 | 161.4 | 9.4 | 11.7 | 308.7 |
| Feb | 33.3 | 31.1 | 38.0 | 160.9 | 9.2 | 11.6 | 307.4 |
| Mar | 33.4 | 30.8 | 37.8 | 160.4 | 9.1 | 11.7 | 306.7 |
| Apr | 33.6 | 30.4 | 37.3 | 159.7 | 9.1 | 11.8 | 305.5 |
| May | 33.6 | 29.6 | 36.8 | 158.7 | 9.1 | 11.6 | 302.9 |
| Jun | 33.4 | 29.3 | 36.4 | 158.3 | 9.0 | 11.3 | 301.2 |
| Jul | | | | | | | |
| Aug | | | | | | | |
| Sep | | | | | | | |
| Oct | | | | | | | |
| Nov | | | | | | | |
| Dec | | | | | | | |
| 6 Month Avg. | 33.5 | 30.4 | 37.4 | 159.9 | 9.2 | 11.6 | 305.4 |
| % of total | 11.0 | 10.0 | 12.2 | 52.4 | 3.0 | 3.8 | |

Source: USDA NASS Chickens and Eggs



TABLE EGG LAYERS IN LEADING STATES - (LAYERS IN 30,000+ HEN FLOCKS) - 2017

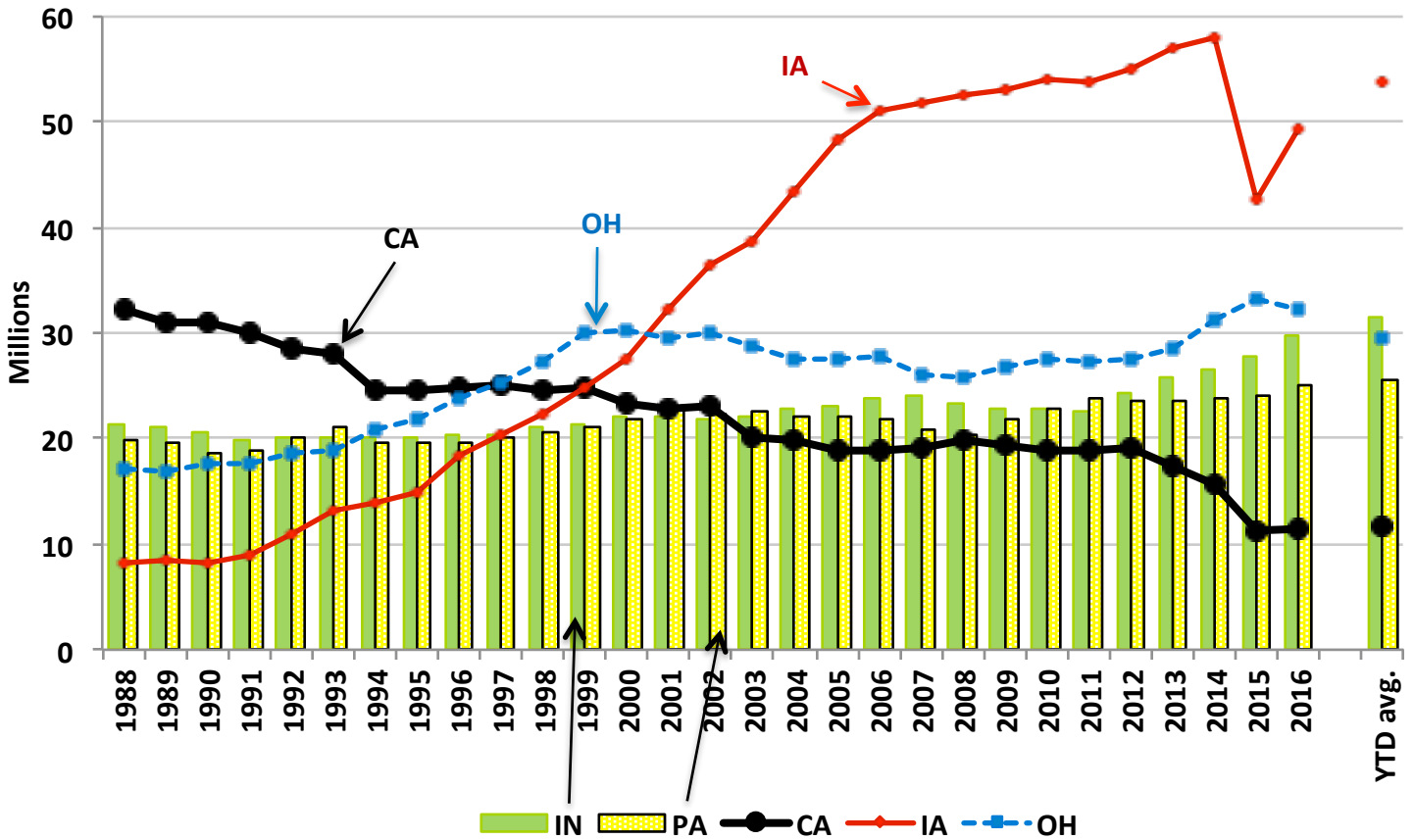
TABLE 12

| month | IA | OH | IN | PA | CA | TX | U.S. |
|---------------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| Jun-2016 | 49.92 | 31.96 | 29.24 | 24.95 | 11.56 | 16.17 | 296.94 |
| | | | (Millions) | | | | |
| Jan-2017 | 54.21 | 30.17 | 31.61 | 25.40 | 11.70 | 17.09 | 308.69 |
| Feb-2017 | 54.39 | 29.74 | 31.40 | 25.20 | 11.60 | 17.30 | 307.39 |
| Mar-2017 | 54.05 | 29.72 | 31.65 | 25.38 | 11.66 | 17.45 | 306.73 |
| Apr-2017 | 53.41 | 29.67 | 31.97 | 25.67 | 11.82 | 17.33 | 305.50 |
| May-2017 | 53.04 | 29.27 | 31.62 | 25.70 | 11.65 | 17.02 | 302.90 |
| Jun-2017 | 53.37 | 29.17 | 31.27 | 25.43 | 11.32 | 16.94 | 301.24 |
| Jul-2017 | | | | | | | |
| Aug-2017 | | | | | | | |
| Sep-2017 | | | | | | | |
| Oct-2017 | | | | | | | |
| Nov-2017 | | | | | | | |
| Dec-2017 | | | | | | | |
| 6 Month Avg. | 53.75 | 29.62 | 31.58 | 25.46 | 11.62 | 17.19 | 305.41 |

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, %) - 2011

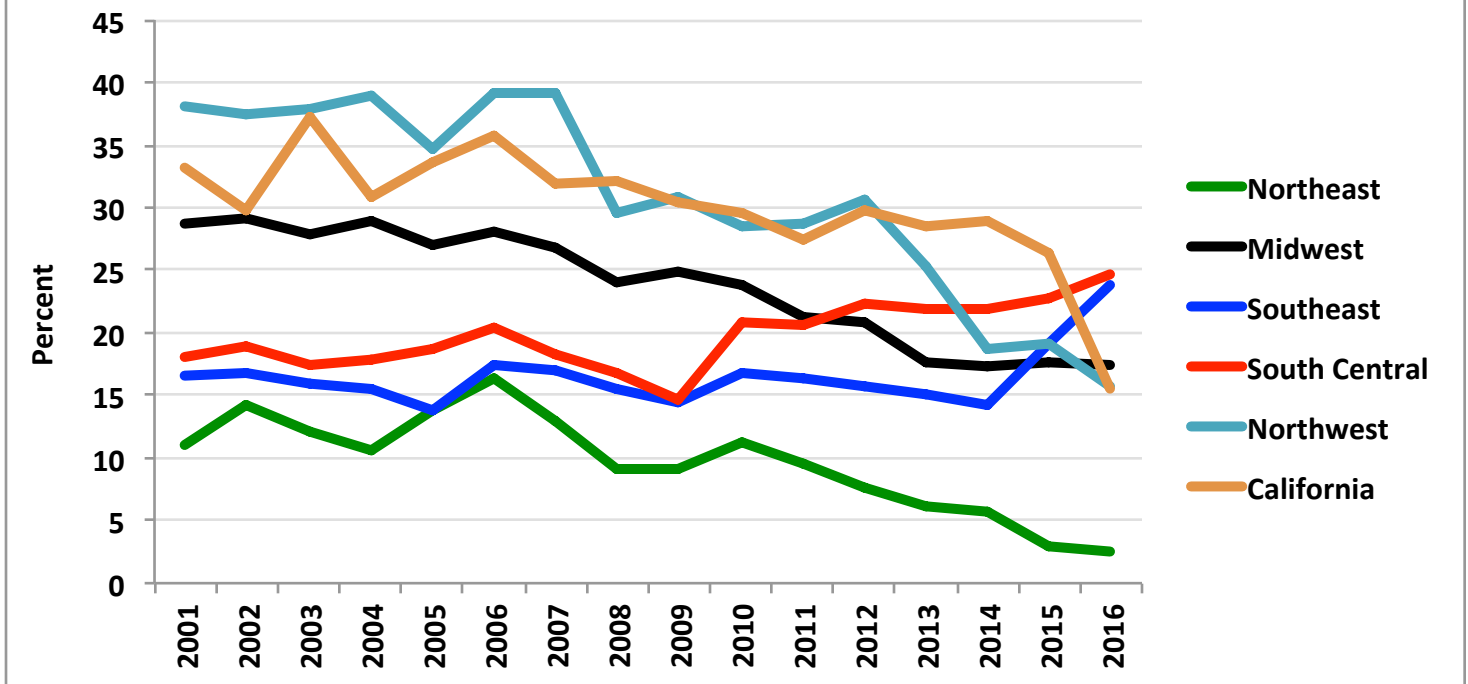
TABLE 13

| month | Northeast | Southeast | South Central | Midwest | Northwest | California | U.S. Avg |
|-----------------------|------------|-------------|---------------|-------------|-------------|-------------|-------------|
| Jan | 3.2 | 26.7 | 24.6 | 11.6 | 14.0 | 18.5 | 17.2 |
| Feb | 3.2 | 25.6 | 23.7 | 12.3 | 15.3 | 19.0 | 17.5 |
| Mar | 2.8 | 24.9 | 23.5 | 12.4 | 17.0 | 20.0 | 17.7 |
| Apr | 2.5 | 23.4 | 23.4 | 12.1 | 15.8 | 17.0 | 17.3 |
| May | 2.3 | 24.2 | 23.7 | 11.4 | 14.0 | 19.0 | 17.7 |
| Jun | 2.2 | 23.8 | 24.3 | 10.8 | 13.0 | 20.5 | 17.4 |
| Jul | 2.5 | 24.1 | 23.9 | 11.3 | 13.8 | 20.0 | 17.7 |
| Aug | | | | | | | |
| Sep | | | | | | | |
| Oct | | | | | | | |
| Nov | | | | | | | |
| Dec | | | | | | | |
| 7 Month Avg. | 2.7 | 24.7 | 23.9 | 11.7 | 14.7 | 19.1 | 17.5 |
| 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 | 2.480 | 2.741 |
| Feb | 2.672 | 2.613 | 2.536 | 2.689 | 3.074 | 2.497 | |
| Mar | 2.731 | 2.630 | 2.472 | 2.605 | 2.997 | 2.641 | |
| Apr | 2.732 | 2.588 | 2.530 | 2.718 | 2.840 | 2.604 | |
| May | 2.819 | 2.515 | 2.497 | 2.917 | 2.805 | 2.598 | |
| Jun | 2.778 | 2.537 | 2.439 | 2.892 | 2.866 | 2.646 | |
| Jul | 2.791 | 2.436 | 2.608 | 2.797 | 2.836 | 2.595 | |
| Aug | 2.830 | 2.515 | 2.535 | 2.797 | 2.725 | 2.663 | |
| Sep | 2.825 | 2.503 | 2.553 | 2.857 | 2.615 | 2.654 | |
| Oct | 2.786 | 2.468 | 2.610 | 2.958 | 2.446 | 2.681 | |
| Nov | 2.649 | 2.555 | 2.619 | 2.937 | 2.465 | 2.685 | |
| Dec | 2.745 | 2.476 | 2.664 | 2.947 | 2.549 | 2.659 | |
| 1 month avg. | 2.657 | 2.579 | 2.540 | 2.682 | 3.081 | 2.480 | 2.741 |
| 12 month avg. | 2.751 | 2.535 | 2.550 | 2.816 | 2.775 | 2.617 | |

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 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2012 to '16 month avg. |
|----------------------|-------|-------|-------|-------|-------|------|------------------------|
| Jan | 18.7 | 19.1 | 17.5 | 17.9 | 21.3 | 19.5 | 18.9 |
| Feb | 17.4 | 16.1 | 17.8 | 18.4 | 21.5 | 18.9 | 18.2 |
| Mar | 17.0 | 17.1 | 19.2 | 20.2 | 22.7 | 19.6 | 19.2 |
| Apr | 16.9 | 16.5 | 18.9 | 16.5 | 20.7 | 18.8 | 17.9 |
| May | 17.6 | 18.5 | 18.6 | 18.2 | 21.1 | 20.6 | 18.8 |
| Jun | 18.0 | 19.1 | 19.4 | 18.0 | 20.9 | 19.6 | 19.1 |
| Jul | 19.5 | 21.1 | 20.6 | 20.7 | 27.1 | 24.2 | 21.8 |
| Aug | 19.4 | 19.7 | 20.2 | 21.4 | 25.7 | 25.0 | 21.3 |
| Sep | 19.5 | 20.8 | 20.9 | 21.4 | 23.1 | 23.5 | 21.2 |
| Oct | 20.1 | 22.6 | 22.4 | 21.8 | 25.9 | 23.9 | 22.6 |
| Nov | 17.5 | 19.1 | 20.0 | 21.3 | 26.0 | 22.1 | 20.8 |
| Dec | 16.2 | 18.0 | 19.2 | 19.3 | 18.8 | | 18.3 |
| 11 month avg. | 18.3 | 19.1 | 19.6 | 19.6 | 23.3 | 21.4 | 20.0 |
| Annual Avg. | 18.2 | 19.0 | 19.5 | 19.6 | 22.9 | | 19.8 |
| Total | 218.0 | 227.7 | 234.6 | 235.1 | 274.7 | | 238.0 |

Source: USDA NASS Chickens and Eggs

% Change to date

-7.89

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).



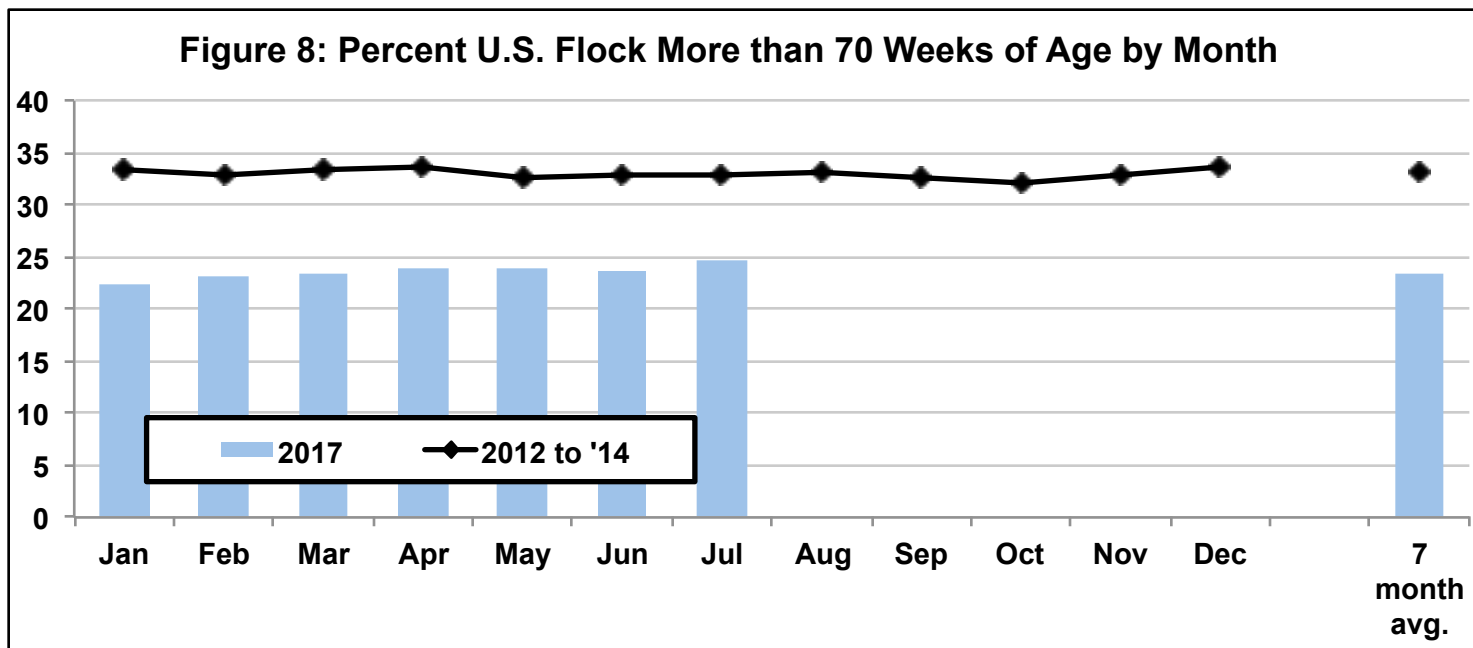
PROJECTED U.S. TABLE EGG FLOCK MORE THAN 70 WEEKS OF AGE (% of layers)

TABLE 16

| | % of National Flock over 70 weeks of age (on the 1st of the month) | | | | | | | 2012 to '14 |
|----------------------|--|------|------|------|------|------|------|-------------|
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | | |
| Jan | 32.7 | 34.1 | 33.1 | 32.2 | | 22.4 | 33.3 | |
| Feb | 32.7 | 34.1 | 31.8 | 31.1 | | 23.0 | 32.9 | |
| Mar | 33.0 | 34.9 | 31.8 | 32.0 | | 23.4 | 33.3 | |
| Apr | 33.4 | 34.9 | 32.5 | | | 23.8 | 33.6 | |
| May | 32.4 | 33.5 | 32.2 | | | 23.8 | 32.7 | |
| Jun | 32.8 | 33.8 | 32.2 | | | 23.6 | 33.0 | |
| Jul | 32.5 | 33.7 | 32.4 | | | 24.7 | 32.9 | |
| Aug | 32.5 | 33.7 | 33.4 | | | | 33.2 | |
| Sep | 32.3 | 32.7 | 32.5 | | | | 32.5 | |
| Oct | 32.5 | 31.4 | 32.1 | | | | 32.0 | |
| Nov | 34.4 | 32.6 | 31.5 | | 22.7 | | 32.9 | |
| Dec | 34.9 | 33.2 | 32.8 | | 21.8 | | 33.6 | |
| 7 month avg. | 32.8 | 34.1 | 32.3 | | | 23.5 | 33.1 | |
| 12 month avg. | 33.0 | 33.6 | 32.4 | | | | 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.



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: $0.06485 + 0.00447 * \text{Price } 12-18_ \text{Jan} + 0.00263 * \text{Price } 12-18_ \text{Feb} + 0.00539 * \text{Price } 12-18_ \text{Mar} + 0.00211 * \text{Price } 12-18_ \text{Apr} + 0.0051 * \text{Price } 12-18_ \text{May} + 0.00731 * \text{Price } 12-18_ \text{Jun} + 0.01306 * \text{Price } 12-18_ \text{Jul} + 0.01388 * \text{Price } 12-18_ \text{Aug} + 0.01266 * \text{Price } 12-18_ \text{Sep} + 0.01361 * \text{Price } 12-18_ \text{Oct} + 0.00939 * \text{Price } 12-18_ \text{Nov} + 0.00256 * \text{Price } 12-18_ \text{Dec} + 0.00853 * \text{"Post Shock HPAI 6-12 mo"} - 0.00045 * \text{"MOLT - previous 12-mo"}$

... 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 "Post Shock HPAI 6-12 mo" is a dummy variable to account for the higher than normal replacement rate observed 6 to 12 months after the HPAI outbreak

... where "MOLT - previous 12-mo" is the previous 12 months average of the percentage of layers molted

Adjusted R²=0.78

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: $0.02855 + 0.50512 * \text{Added /Beg. count} + 0.00446 * \text{Jan} - 0.00313 * \text{Feb} + 0.00129 * \text{Mar} + 0.00766 * \text{Apr} + 0.00457 * \text{May} + 0.00278 * \text{Jun} + 0.0029 * \text{Jul} - 0.00163 * \text{Aug} - 0.00076 * \text{Sep} - 0.00207 * \text{Oct} - 0.00935 * \text{Nov} + 0.01546 * \text{Shock_Apr} + 0.07849 * \text{Shock_May} + 0.02372 * \text{Shock_Sep} + 0.00306 * \text{"CPI adjusted Shell \$ under 0.65"}$

... 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_Apr" and "Shock_May" are dummy variables to capture the losses experienced in April and May 2015 as a result of HPAI outbreak.

... 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=0.76

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

TABLE 17

| Actual | Actual | Actual | Actual | Actual | Actual | Projected | Projected | Projected | Projected | Projected | Projected |
|--------|--------|--------|--------|--------|--------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2017 | 2017 | 2017 | 2017 | 2017 | 2017 | 2017 | 2017 | 2017 | 2017 | 2017 | 2017 |
| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| 318.6 | 317.6 | 316.0 | 316.3 | 313.5 | 311.1 | 310.2 | 312.4 | 315.4 | 317.3 | 319.8 | 323.6 |

Project. Year end: **Dec, 2017 - 323.5**

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

Note: there is a lot of uncertainty still around the flock projection given that the exports are still a lot lower than in 2013-2014 and the very low prices egg producers are facing.

The flock projection model was adjusted after the change of historical values reported by USDA NASS.



Date calculated: 8/1/2017

2017 Bird Flow by Month

Table 18

| ACTUAL FLOCK (million birds) | | | | |
|------------------------------|-----------------|----------------------------|---------------------------|--------------|
| month | Beginning Count | Pullets added ¹ | Slaughter, Died & Missing | Ending count |
| Jan-17 | 318.6 | 19.5 | 20.5 | 317.6 |
| Feb-17 | 317.6 | 18.9 | 20.5 | 316.0 |
| Mar-17 | 316.0 | 19.6 | 19.3 | 316.3 |
| Apr-17 | 316.3 | 18.8 | 21.5 | 313.5 |
| May-17 | 313.5 | 20.6 | 23.0 | 311.1 |
| Jun-17 | 311.1 | 19.6 | 20.6 | 310.2 |
| Jul-17 | 310.2 | 24.2 | | |
| Aug-17 | | 25.0 | | |
| Sep-17 | | 23.5 | | |
| Oct-17 | | 23.9 | | |
| Nov-17 | | 22.1 | | |
| 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 | 318.6 | 19.8 | 20.8 | 317.6 |
| Feb-17 | 317.6 | 19.3 | 20.9 | 316.0 |
| Mar-17 | 316.0 | 19.9 | 19.6 | 316.3 |
| Apr-17 | 316.3 | 19.1 | 21.8 | 313.5 |
| May-17 | 313.5 | 20.6 | 23.0 | 311.1 |
| Jun-17 | 311.1 | 19.6 | 20.6 | 310.2 |
| Jul-17 | 310.2 | 24.2 | 22.0 | 312.4 |
| Aug-17 | 312.4 | 25.0 | 22.0 | 315.4 |
| Sep-17 | 315.4 | 23.5 | 21.6 | 317.3 |
| Oct-17 | 317.3 | 23.9 | 21.5 | 319.8 |
| Nov-17 | 319.8 | 22.1 | 18.3 | 323.6 |
| Dec-17 | 323.6 | 18.6 | 18.6 | 323.5 |
| Jan-18 | 323.5 | 19.1 | 20.3 | 322.3 |
| Feb-18 | 322.3 | 18.5 | 18.5 | 322.3 |
| Mar-18 | 322.3 | 19.3 | 20.4 | 321.3 |
| Apr-18 | 321.3 | 18.4 | 21.9 | 317.7 |
| May-18 | 317.7 | 19.0 | 21.1 | 315.6 |
| Jun-18 | 315.6 | | | |
| Jul-18 | | | | |
| Aug-18 | | | | |
| Sep-18 | | | | |
| Oct-18 | | | | |
| Nov-18 | | | | |
| Dec-18 | | | | |

¹ at 5 months of age

Actual number



2017 United States Flock Size Projections

Table 20

| For July 2017 | USDA preliminary | | Estimated number of U.S. table egg layers (million) on the 1 st of each month | | | | | | | | | |
|---------------------|------------------|-------|--|-------|-------|-------|-------|-----|------|-----|-----|-----|
| | Actual count | | Month Number of Layers Projected for 2017/2018 | | | | | | | | | |
| Estimated for Month | Jan | Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec |
| Jan-17 | 314.0 | 318.6 | | | | | | | | | | |
| Feb-17 | 313.4 | 318.1 | 317.6 | | | | | | | | | |
| Mar-17 | 314.9 | 318.6 | 316.5 | 316.0 | | | | | | | | |
| Apr-17 | 315.3 | 318.0 | 315.9 | 316.3 | 316.3 | | | | | | | |
| May-17 | 312.3 | 314.9 | 313.0 | 313.4 | 313.5 | 313.5 | | | | | | |
| Jun-17 | 311.2 | 313.7 | 311.8 | 312.2 | 312.3 | 311.2 | 311.1 | | | | | |
| Jul-17 | 309.7 | 312.3 | 310.8 | 311.2 | 311.3 | 310.2 | 310.2 | | | | | |
| Aug-17 | 308.8 | 311.9 | 312.0 | 312.4 | 312.5 | 311.5 | 312.4 | | | | | |
| Sep-17 | 310.2 | 312.9 | 312.9 | 315.5 | 315.7 | 315.5 | 315.4 | | | | | |
| Oct-17 | 311.0 | 313.3 | 313.3 | 315.9 | 317.4 | 317.4 | 317.3 | | | | | |
| Nov-17 | 312.6 | 314.2 | 314.2 | 316.8 | 318.3 | 319.8 | 319.8 | | | | | |
| Dec-17 | 316.0 | 317.8 | 317.8 | 320.5 | 322.0 | 323.5 | 323.6 | | | | | |
| Jan-18 | | 317.8 | 317.7 | 320.4 | 321.9 | 323.5 | 323.5 | | | | | |
| Feb-18 | | | 315.6 | 318.2 | 320.7 | 322.3 | 322.3 | | | | | |
| Mar-18 | | | | 318.2 | 320.7 | 323.2 | 322.3 | | | | | |
| Apr-18 | | | | | 320.7 | 323.2 | 321.3 | | | | | |
| May-18 | | | | | | 319.6 | 317.7 | | | | | |
| Jun-18 | | | | | | | 315.6 | | | | | |
| Jul-18 | | | | | | | | | | | | |
| Aug-18 | | | | | | | | | | | | |
| Sep-18 | | | | | | | | | | | | |
| Oct-18 | | | | | | | | | | | | |
| Nov-18 | | | | | | | | | | | | |
| Dec-18 | | | | | | | | | | | | |

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

Note: the January projections were made before the USDA Chickens and Eggs Report figures were adjusted.



Figure 9: U.S. Monthly Table-Egg Layers (2007-2017)

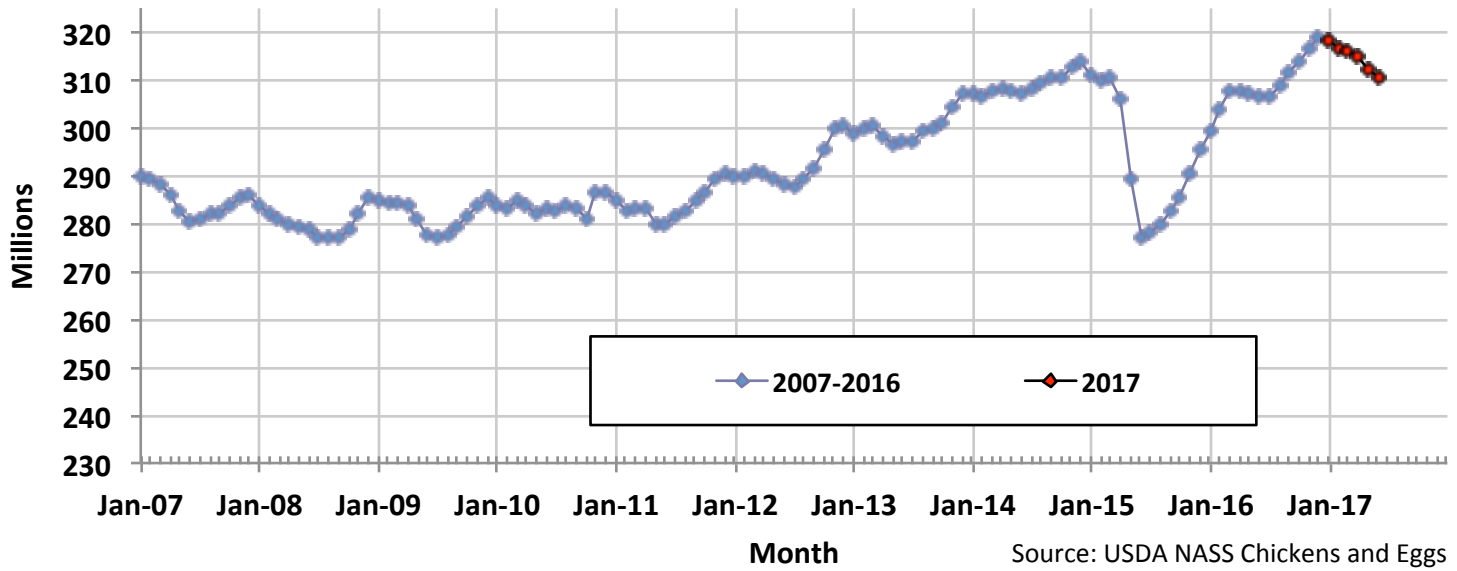


Figure 10: U.S. Table Eggs per Hundred Hens per Day by Month (2007-2017)

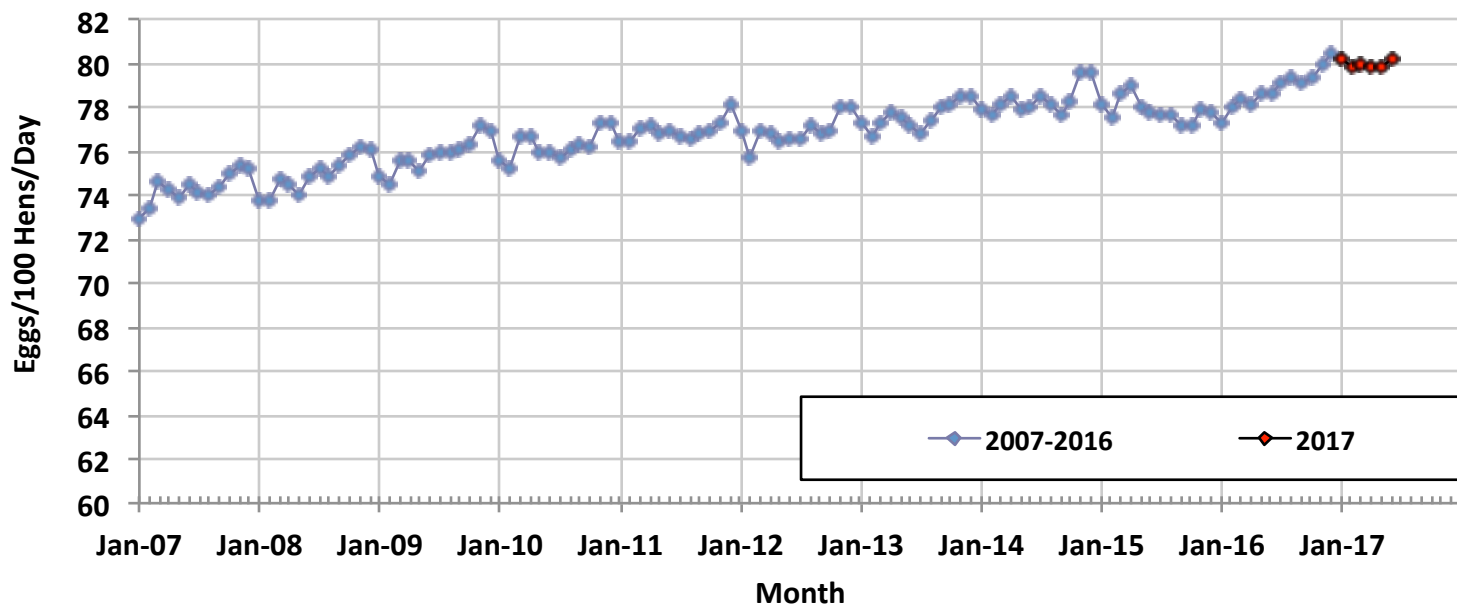


Figure 11: Monthly Percent of U.S. Flock Molted (2007-2017)



SUMMARY TO DATE

Table 21

| | | | 2016 | 2017 | % Change |
|---|--------|------------|-------------|-------------|-------------------|
| HATCH of EGG-TYPE STRAIGHT RUN (THOUSANDS) (U.S.) (Total) | | Jan to Jun | 54,209 | 50,484 | -6.9 |
| TABLE-EGG LAYERS (MILLIONS) (U.S.) | (Avg.) | Jan to Jun | 305.3 | 314.8 | 3.1 |
| TABLE EGGS (MILLIONS/MONTH) (U.S.) | (Avg.) | Jan to Jun | 7,240 | 7,596 | 4.9 |
| RATE OF LAY (%) | (Avg.) | Jan to Jun | 78.2 | 80.0 | 1.8 |
| U.S. TABLE EGG AVG. CASES/WEEK (THOUSANDS) | | Jan to Jun | 1,680 | 1,763 | 4.9 |
| AVG MONTHLY CASES OF EGGS BROKEN (MILLION) (U.S.) | | Jan to Jun | 6.157 | 6.434 | 4.5 |
| | | | 2016 | 2017 | Difference |
| PERCENT OF U.S. FLOCK IN or POST MOLT | (Avg.) | Jan to Jul | 22.1 | 17.5 | -4.5 |
| AVVERAGE PULLETS ADDED/MONTH (MILLIONS) (U.S.) | | Jan to Nov | 23.3 | 21.4 | -1.8 |

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>

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