U.S. Flock Trends and Projections

March 11, 2019



Compiled by

Maro Ibarburu

Sponsored in part by:



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 January hatch (straight-run chicks) was 3.8% lower than January 2018. This projects forward to a 23.7 million pullet placement for June of 2019 which is 0.9 million higher than June of 2018 placement (22.8).
- * Current (January average, 2019) U.S. table egg layer number (330.6 million) is 2.8 percent larger than last year's number at this time (321.4 million), and 0.7 million smaller than last month (331.3 million).
- * In January, Iowa led the nation with 55.6 million laying hens compared to 31.5 million in Ohio, 33.9 million in Indiana, and 25.8 million in Pennsylvania. California (with 13.7 million layers) lost it's 5th position to Texas with 17.7 million layers.
- * The February 1st U.S. rate of lay was 80.2% which is 1.9% higher than the February 1st 2018 level. The total number of table eggs produced in January 2019 was 4.9% higher than the January 2018 production.
- * The December 2018 number of eggs exported was 17% lower than last year (December 2017) and 3% higher than last month (November 2018). The December exports represented 2.8% of the number of eggs produced. The year 2018 total number of eggs exported was 2% higher than in 2017.
- * Shell eggs broken for products in January 2019 totaled 7.030 million cases, 8.5% more than in January 2018 (6.482 million cases).

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

| | 2018 | 2019 | % Change |
|---|--------|--------|----------|
| Hatch - Egg-Type Straight Run (thousands) (U.S.) | 52,313 | 54,276 | 3.8 |
| Table Egg Layers (millions) (U.S.) | 321.4 | 330.6 | 2.8 |
| Rate of lay (percent) | 79.0 | 80.4 | 1.4 |
| Molting (February 1, 2019) (percent in + out of a molt) | 18.7 | 15.5 | -17.1 |

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

| I | 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 | 318.9 | 322.0 | 331.6 | 341.3* |

^{*} 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: EGG

| PE: EGGS | IN INCUBATOR | RS (on the 1s | t of the month) | and STRAIGHT R | UN HATCH (U. | S.) | _ | TABLE 1 |
|----------|----------------|---------------|-----------------|----------------|--------------|----------------|---------------|----------|
| EGG-TYP | E Eggs in Incu | bators (thous | ands) | E(| GG-TYPE Stra | ight Run Hatcl | n (thousands) | |
| onth | 2018 | 2019 | Change (%) | month | 2017 | 2018 | 2019 | Change % |
|) | 46,750 | 52,153 | 11.6 | Jan | 44,906 | 52,313 | 54,276 | 3.8 |
|) | 51,216 | 56,882 | 11.1 | Feb | 48,456 | 50,148 | | |
| r | 56,120 | | | Mar | 55,457 | 58,147 | | |
| | 55,990 | | | Apr | 52,025 | 58,986 | | |
| / | 56,063 | | | May | 53,073 | 60,063 | | |
| | 50,523 | | | Jun | 48,828 | 53,486 | | |
| | 46,390 | | | Jul | 41,463 | 50,752 | | |
|] | 46,678 | | | Aug | 45,439 | 53,207 | | |
|) | 50,036 | | | Sep | 42,271 | 49,610 | | |
| | 51,647 | | | Oct | 51,239 | 54,960 | | |
| 1 | 45,096 | | | Nov | 47,999 | 46,844 | | |
| ; | 50,837 | | | Dec | 45,846 | 46,779 | | |
| nth Avg. | 48,983 | 54,518 | 11.3 | 1 Month Avg. | 44,906 | 52,313 | 54,276 | 3.8 |
| | | | | | | | | |

1 Month Total

12 Month Total

44,906

577,002

Source: USDA NASS Chickens and Eggs

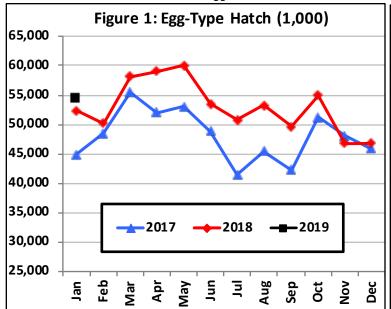
97,966

560,591

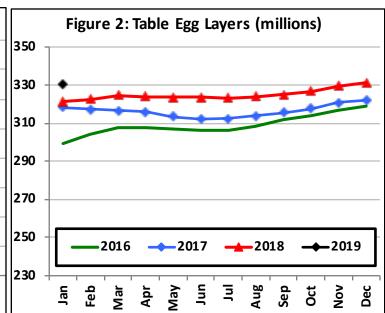
month Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec 2 Month Avg.

2 Month Total

12 Month Total



109,035



52,313

635,295

54,276

TABLE 2 **TOTAL Table Egg Layers** % Change with respect to 2014 2015 2016 2017 2018 2019 2014-2018 month last year 307.2 311.2 299.3 318.5 321.4 330.6 2.8 6.1 Jan Feb 306.7 310.0 304.0 317.3 322.7 307.7 310.2 307.4 316.7 324.5 Mar 308.3 305.9 307.4 315.8 324.1 Apr 307.6 289.3 307.0 313.5 323.5 May 307.0 276.9 306.5 312.2 323.5 Jun Jul 308.2 278.1 306.4 312.4 323.2 279.7 308.6 313.8 323.8 309.6 Aug 282.4 311.7 315.5 324.9 Sep 310.4 Oct 310.7 285.6 313.6 317.8 326.6 320.7 Nov 312.7 290.2 316.7 329.6 Dec 313.8 295.6 319.0 322.1 331.3 2.8 307.2 321.4 311.2 299.3 318.5 330.6 6.1 1 Month Avg. 292.9 Annual Avg. 309.2 309.0 316.3 324.9

Source: USDA NASS Chickens and Eggs

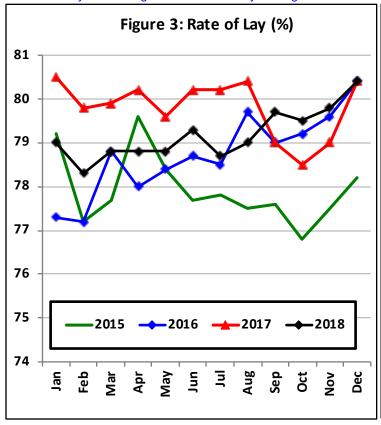


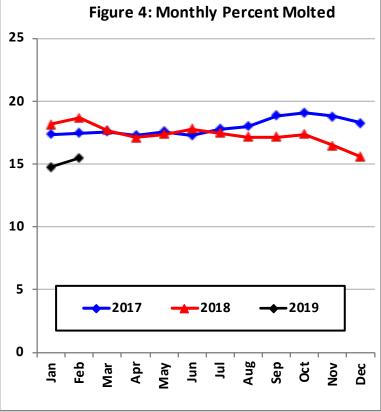
U.S. TABLE EGGS, AND RATE OF LAY on the 1st of EACH MONTH (ALL STATES)

| | | Table E | | Rate of Lay (Table) | | | | |
|-------------|--------|---------|--------|---------------------|-------|------------|------|------|
| month | 2015 | 2016 | 2017 | 2018 | 2019 | Change (%) | 2018 | 2019 |
| Jan | 7,545 | 7,168 | 7,916 | 7,842 | 8,228 | 4.9 | 79.0 | 80.4 |
| Feb | 6,726 | 6,878 | 7,096 | 7,100 | | | 78.3 | 80.2 |
| Mar | 7,566 | 7,475 | 7,862 | 7,932 | | | 78.8 | |
| Apr | 7,252 | 7,213 | 7,573 | 7,665 | | | 78.8 | |
| May | 6,996 | 7,479 | 7,765 | 7,933 | | | 78.8 | |
| Jun | 6,464 | 7,228 | 7,514 | 7,670 | | | 79.3 | |
| Jul | 6,698 | 7,514 | 7,782 | 7,901 | | | 78.7 | |
| Aug | 6,729 | 7,597 | 7,755 | 7,968 | | | 79.0 | |
| Sep | 6,544 | 7,402 | 7,457 | 7,760 | | | 79.7 | |
| Oct | 6,837 | 7,724 | 7,763 | 8,067 | | | 79.5 | |
| Nov | 6,778 | 7,602 | 7,676 | 7,923 | | | 79.8 | |
| Dec | 7,125 | 7,954 | 7,964 | 8,259 | | | 80.4 | |
| YTD Avg. | 7,545 | 7,168 | 7,916 | 7,842 | 8,228 | 4.9 | 78.7 | 80.3 |
| Annual Avg. | 6,938 | 7,436 | 7,677 | 7,835 | | | 79.2 | |
| Total | 83,260 | 89,235 | 92,122 | 94,018 | | | | |

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

| | In a | Molt | Complete | ed a Molt | | In a molt + Cor | npleted a Molt | |
|---------------|------|------|----------|-----------|------|-----------------|----------------|--------|
| month | 2018 | 2019 | 2018 | 2019 | 2017 | 2018 | 2019 | Change |
| Jan | 1.9 | 1.5 | 16.3 | 13.3 | 17.4 | 18.2 | 14.8 | -3.4 |
| Feb | 2.9 | 2.7 | 15.8 | 12.8 | 17.5 | 18.7 | 15.5 | -3.2 |
| Mar | 1.8 | | 15.9 | | 17.6 | 17.7 | | |
| Apr | 1.8 | | 15.3 | | 17.3 | 17.1 | | |
| May | 3.1 | | 14.3 | | 17.6 | 17.4 | | |
| Jun | 3.0 | | 14.8 | | 17.3 | 17.8 | | |
| Jul | 2.3 | | 15.2 | | 17.8 | 17.5 | | |
| Aug | 2.3 | | 14.9 | | 18.0 | 17.2 | | |
| Sep | 2.6 | | 14.6 | | 18.9 | 17.2 | | |
| Oct | 2.2 | | 15.2 | | 19.1 | 17.4 | | |
| Nov | 1.5 | | 15.0 | | 18.8 | 16.5 | | |
| Dec | 1.2 | | 14.4 | | 18.3 | 15.6 | | |
| 2 Month Avg. | 2.4 | 2.1 | 16.1 | 13.1 | 17.5 | 18.5 | 15.2 | -3.3 |
| 12 Month Avg. | 2.2 | | 15.1 | | 18.0 | 17.4 | | |

Source: USDA NASS Chickens and Eggs

SHELL EGGS BROKEN UNDER FEDERAL INSPECTION (MILLION CASES)

TABLE 5

| | | | | | | | % Change w | ith respect to |
|----------------|--------|--------|--------|--------|--------|-------|------------|----------------|
| month | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | last year | 2014-2018 |
| Jan | 5.865 | 6.634 | 5.639 | 6.540 | 6.482 | 7.030 | 8.5 | 12.8 |
| Feb | 5.325 | 5.746 | 5.484 | 6.192 | 5.904 | | | |
| 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 | | | |
| 1 Month Avg. | 5.865 | 6.634 | 5.639 | 6.540 | 6.482 | 7.030 | 8.5 | 12.8 |
| 1 Month Total | 5.865 | 6.634 | 5.639 | 6.540 | 6.482 | 7.030 | | |
| 12 Month Total | 75.405 | 70.138 | 76.391 | 76.901 | 79.965 | | | |

Source: USDA NASS Egg products - monthly

Million Cases Produced % BROKEN

| I | 231.279 | 247.874 | 255.895 | 261.162 | 22.854 |
|---|---------|---------|---------|---------|--------|
| I | 30.3 | 30.8 | 30.1 | 30.6 | 30.8 |



| PER CAPITA EGG | CONSUMPTIC | N BY QUARTE | R | | | | _ | TABLE 6 |
|----------------|------------|-------------|-------|-------|-------|-------|-------|---------|
| QUARTER | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019* |
| 1 | 63.2 | 64.2 | 65.6 | 65.6 | 67.4 | 68.5 | 68.2 | 69.0 |
| 2 | 62.2 | 63.3 | 66.2 | 63.0 | 66.3 | 68.6 | 68.9 | 68.7 |
| 3 | 63.3 | 64.6 | 67.2 | 61.5 | 67.3 | 69.3 | 70.3 | 69.7 |
| 4 | 65.6 | 66.1 | 68.5 | 65.6 | 70.6 | 69.9 | 71.4 | 72.4 |
| Total | 254.3 | 258.2 | 267.5 | 255.8 | 271.6 | 276.3 | 278.8 | 279.8 |

| Change from previous year | 3.9 | 9.3 | -11.7 | 15.8 | 4.7 | 2.5 | 1.0 |
|--------------------------------|----------------|------|-------|------|----------------|-----------------|-----|
| Source: USDA ERS Livestock and | d Meat Trade D | ata. | | | * Estimates fo | or 2019 (2/2018 | 3) |

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

Organic

■% cage-free

20% 350 18% 300 16% 250 14% Million Layers 12% 200 10% **150** 8% 6% 100 4% 50 2% 0% Jan-10 Jan-11 Jan-12 Jan-13 Jan-14 Jan-15 Jan-16 Jan-18 Jan-19 Jan-09 Jan-17

Conventional

| CAGE-FREE LAY | ERS (MILLIONS) | | | | | _ | TABLE 7 | |
|---------------|----------------|-----------|-----------|---------|-------|-------------|------------|---------------|
| | Non-Organic | Cage-Free | Certified | Organic | TOTAL | Cage-Free L | _ayers | Cage-Free % |
| | 2018 | 2019 | 2018 | 2019 | 2018 | 2019 | Change (%) | of U.S. Flock |
| January | 35.7 | 41.5 | 14.6 | 15.7 | 50.2 | 57.2 | 14% | 17.2% |
| February | 36.9 | | 15.0 | | 51.9 | | | |
| March | 36.9 | | 15.0 | | 51.9 | | | |
| 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 | | | |

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

Total cage-free

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



Source: USDA AMS

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

TABLE 8

| | North | Central | | European | | Southeast | Middle | | | % of U.S. |
|--------------|---------|---------|-----------|----------|-----------|-----------|--------|------------|------------|------------|
| Month \ To | America | America | Caribbean | Union-28 | East Asia | Asia | East | Total 2018 | Total 2017 | 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 | 111.2 | 0.1 | 33.8 | 0.0 | 91.8 | 0.0 | 4.4 | 246.7 | 253.5 | 1.12 |
| Apr | 183.3 | 0.0 | 16.8 | 0.0 | 107.3 | 0.0 | 0.0 | 311.9 | 270.7 | 1.47 |
| May | 190.1 | 0.1 | 11.6 | 0.0 | 117.3 | 0.0 | 0.1 | 324.1 | 273.6 | 1.47 |
| Jun | 101.0 | 0.0 | 11.8 | 0.0 | 156.4 | 0.0 | 2.7 | 273.5 | 252.2 | 1.28 |
| Jul | 116.1 | 0.0 | 11.8 | 0.0 | 120.0 | 0.0 | 19.2 | 273.3 | 292.9 | 1.25 |
| Aug | 181.4 | 0.0 | 10.0 | 0.0 | 138.4 | 0.0 | 39.7 | 373.8 | 340.9 | 1.69 |
| Sep | 191.3 | 0.0 | 8.7 | 0.0 | 145.2 | 0.0 | 14.1 | 363.2 | 396.8 | 1.69 |
| Oct | 252.0 | 0.0 | 14.0 | 0.0 | 187.5 | 0.0 | 11.9 | 471.1 | 382.4 | 2.10 |
| Nov | 190.8 | 0.0 | 14.9 | 0.0 | 101.9 | 0.0 | 3.7 | 314.4 | 285.2 | 1.43 |
| Dec | 213.0 | 0.1 | 25.7 | 0.0 | 107.2 | 0.0 | 3.1 | 352.6 | 375.9 | 1.54 |
| 11 Mo. Total | 1,925.4 | 0.8 | 204.8 | 0.0 | 1,490.2 | 0.0 | 147.3 | 3,820.4 | 3,215.1 | 1.46 |
| % | 50.4 | 0.0 | 5.4 | 0.0 | 39.0 | 0.0 | 3.9 | | | |

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

| | North | Central | | European | | Southeast | Middle | | | % of U.S. |
|--------------|---------|---------|-----------|----------|-----------|-----------|--------|------------|------------|------------|
| Month ∖ To | America | America | Caribbean | Union-28 | East Asia | Asia | East | Total 2018 | Total 2017 | 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 | 86.7 | 12.4 | 11.1 | 26.5 | 235.1 | 19.6 | 5.5 | 432.2 | 501.7 | 1.96 |
| Apr | 104.9 | 6.1 | 6.6 | 30.7 | 230.4 | 27.0 | 18.7 | 462.8 | 464.3 | 2.17 |
| May | 104.7 | 10.0 | 8.7 | 24.2 | 226.7 | 22.4 | 7.2 | 417.7 | 438.8 | 1.90 |
| Jun | 91.2 | 5.6 | 10.2 | 29.8 | 172.1 | 8.1 | 5.2 | 333.9 | 421.3 | 1.57 |
| Jul | 108.9 | 10.0 | 4.3 | 48.6 | 145.6 | 14.9 | 0.4 | 346.2 | 363.9 | 1.58 |
| Aug | 97.3 | 15.8 | 6.0 | 38.4 | 139.1 | 10.4 | 4.9 | 323.1 | 465.2 | 1.46 |
| Sep | 94.7 | 4.4 | 12.0 | 55.2 | 124.8 | 13.8 | 6.2 | 315.9 | 434.7 | 1.47 |
| Oct | 88.2 | 5.6 | 8.6 | 36.3 | 115.0 | 22.3 | 1.8 | 286.1 | 496.2 | 1.28 |
| Nov | 124.9 | 15.3 | 11.7 | 23.0 | 119.4 | 7.6 | 1.3 | 306.7 | 562.5 | 1.39 |
| Dec | 123.8 | 5.4 | 10.0 | 15.6 | 96.8 | 18.4 | 5.3 | 289.0 | 398.7 | 1.26 |
| 11 Mo. Total | 1,263.3 | 104.9 | 101.9 | 456.0 | 2,059.2 | 191.8 | 70.7 | 4,434.3 | 4,869.9 | 1.71 |
| % | 28.5 | 2.4 | 2.3 | 10.3 | 46.4 | 4.3 | 1.6 | | | |

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.

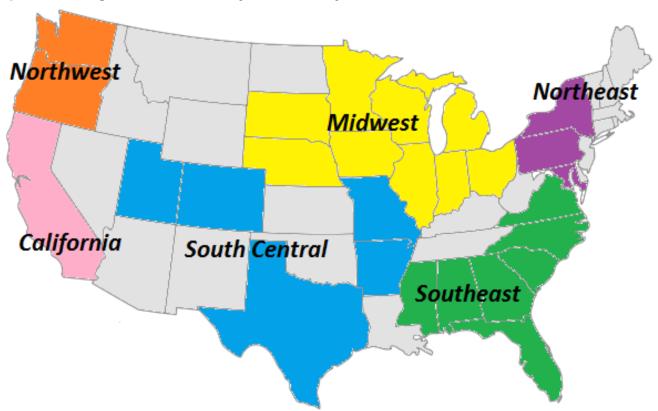
TOTAL EGGS EXPORTED - 2018

TABLE 10

| | Table Eggs Produced | Shell Eggs I | Exported | Egg Product | s Exported | Total E | xported |
|----------|---------------------|--------------|-----------|-------------|------------|-------------|-----------|
| | (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 | 19,722 | 231.7 | 1.18 | 478.5 | 2.43 | 710.3 | 3.60 |
| Mar | 22,033 | 246.7 | 1.12 | 432.2 | 1.96 | 678.8 | 3.08 |
| Apr | 21,292 | 311.9 | 1.47 | 462.8 | 2.17 | 774.7 | 3.64 |
| May | 22,035 | 324.1 | 1.47 | 417.7 | 1.90 | 741.8 | 3.37 |
| Jun | 21,307 | 273.5 | 1.28 | 333.9 | 1.57 | 607.5 | 2.85 |
| Jul | 21,946 | 273.3 | 1.25 | 346.2 | 1.58 | 619.6 | 2.82 |
| Aug | 22,133 | 373.8 | 1.69 | 323.1 | 1.46 | 696.9 | 3.15 |
| Sep | 21,555 | 363.2 | 1.69 | 315.9 | 1.47 | 679.1 | 3.15 |
| Oct | 22,407 | 471.1 | 2.10 | 286.1 | 1.28 | 757.1 | 3.38 |
| Nov | 22,007 | 314.4 | 1.43 | 306.7 | 1.39 | 621.1 | 2.82 |
| Dec | 22,942 | 352.6 | 1.54 | 289.0 | 1.26 | 641.6 | 2.80 |
| Total/Av | 261,162 | 3,820.4 | 1.46 | 4,434.3 | 1.70 | 8,254.7 | 3.16 |



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) - 2019

TABLE 11

| month | Northeast | Southeast | South Central | Midwest | Northwest | California | U.S. Total |
|--------------|-----------|-----------|---------------|---------|-----------|------------|------------|
| Jan | 33.6 | 29.5 | 38.9 | 170.1 | 9.0 | 13.7 | 320.7 |
| Feb | | | | | | | |
| Mar | | | | | | | |
| Apr | | | | | | | |
| May | | | | | | | |
| Jun | | | | | | | |
| Jul | | | | | | | |
| Aug | | | | | | | |
| Sep | | | | | | | |
| Oct | | | | | | | |
| Nov | | | | | | | |
| Dec | | | | | | | |
| 1 Month Avg. | 33.6 | 29.5 | 38.9 | 170.1 | 9.0 | 13.7 | 320.7 |
| % of total | 10.5 | 9.2 | 12.1 | 53.0 | 2.8 | 4.3 | |

Source: USDA NASS Chickens and Eggs



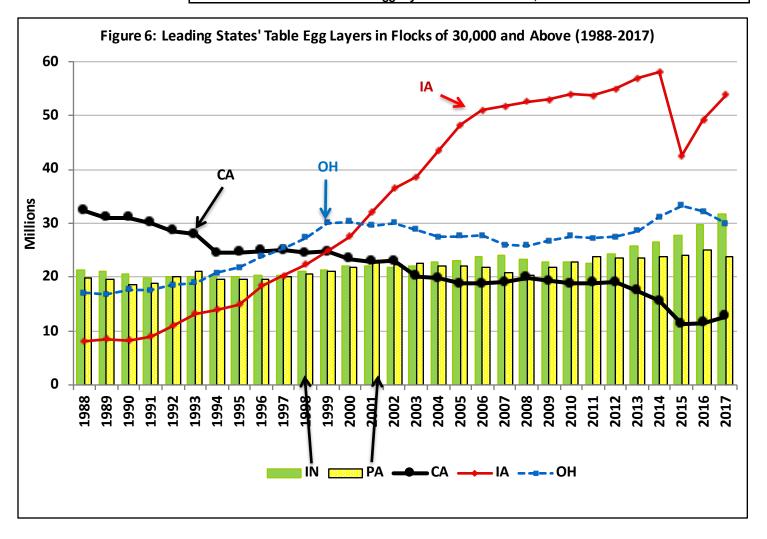
TABLE EGG LAYERS IN LEADING STATES - (LAYERS IN 30,000+ HEN FLOCKS) - 2019

| т. | ·ΒΙ | | 42 |
|------|------------|---|----|
| - 14 | 'DI | _ | |

| | | | | | | _ | ., |
|--------------|-------|-------|------------|-------|-------|-------|--------|
| month | IA | ОН | IN | PA | CA | TX | U.S. |
| Jan-2018 | 54.18 | 30.91 | 31.23 | 24.92 | 13.72 | 17.72 | 311.66 |
| | | | (Millions) | | | | |
| Jan-2019 | 55.63 | 31.55 | 33.85 | 25.81 | 13.73 | 17.75 | 320.72 |
| Feb-2019 | | | | | | | |
| Mar-2019 | | | | | | | |
| Apr-2019 | | | | | | | |
| May-2019 | | | | | | | |
| Jun-2019 | | | | | | | |
| Jul-2019 | | | | | | | |
| Aug-2019 | | | | | | | |
| Sep-2019 | | | | | | | |
| Oct-2019 | | | | | | | |
| Nov-2019 | | | | | | | |
| Dec-2019 | | | | | | | |
| 1 Month Avg. | 55.63 | 31.55 | 33.85 | 25.81 | 13.73 | 17.75 | 320.72 |

Source: USDA NASS Chickens and Eggs

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



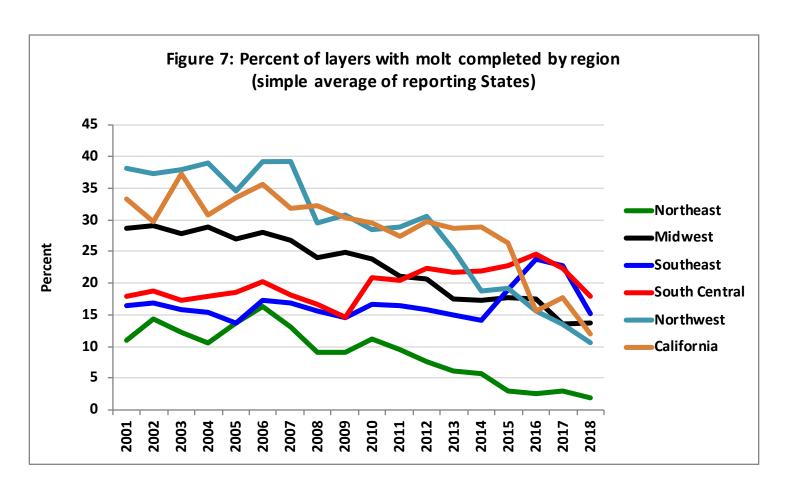
TOTAL MOLT (in-molt plus post-molt) BY REGION (Simple average of reporting States, %) - 2019

TABLE 13

| month | Northeast | Southeast | South Central | Midwest | Northwest | California | U.S. Avg |
|----------------|-----------|-----------|---------------|---------|-----------|------------|----------|
| Jan | 1.8 | 14.1 | 17.3 | 12.9 | 11.0 | 13.0 | 14.8 |
| Feb | 2.0 | 16.2 | 18.6 | 14.4 | 10.3 | 11.0 | 15.5 |
| Mar | | | | | | | |
| Apr | | | | | | | |
| May | | | | | | | |
| Jun | | | | | | | |
| Jul | | | | | | | |
| Aug | | | | | | | |
| Sep | | | | | | | |
| Oct | | | | | | | |
| Nov | | | | | | | |
| Dec | | | | | | | |
| 2 Month Avg. | 1.9 | 15.2 | 18.0 | 13.7 | 10.6 | 12.0 | 15.2 |
| 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



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

TABLE 14

| month | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---------------|-------|-------|-------|-------|-------|-------|-------|
| Jan | 2.579 | 2.540 | 2.682 | 3.081 | 2.581 | 2.741 | 2.206 |
| Feb | 2.613 | 2.536 | 2.689 | 3.074 | 2.598 | 2.768 | 2.078 |
| Mar | 2.630 | 2.472 | 2.605 | 2.997 | 2.742 | 2.604 | 2.122 |
| Apr | 2.588 | 2.530 | 2.718 | 2.840 | 2.705 | 2.613 | 2.120 |
| May | 2.515 | 2.497 | 2.917 | 2.805 | 2.699 | 2.498 | 2.145 |
| Jun | 2.537 | 2.439 | 2.892 | 2.866 | 2.747 | 2.389 | 2.245 |
| Jul | 2.436 | 2.608 | 2.797 | 2.836 | 2.696 | 2.498 | 2.219 |
| Aug | 2.515 | 2.535 | 2.797 | 2.725 | 2.764 | 2.506 | 2.252 |
| Sep | 2.503 | 2.553 | 2.857 | 2.615 | 2.755 | 2.482 | |
| Oct | 2.468 | 2.610 | 2.958 | 2.446 | 2.782 | 2.477 | |
| Nov | 2.555 | 2.619 | 2.937 | 2.566 | 2.685 | 2.450 | |
| Dec | 2.476 | 2.664 | 2.947 | 2.650 | 2.659 | 2.360 | |
| 8 month avg. | 2.552 | 2.520 | 2.762 | 2.903 | 2.691 | 2.577 | 2.173 |
| 12 month avg. | 2.535 | 2.550 | 2.816 | 2.792 | 2.701 | 2.532 | |

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 15

7.14

| | | | | | | | 2014 to '18 |
|--------------|-------|-------|-------|-------|-------|------|-------------|
| month | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | month avg. |
| Jan | 17.5 | 17.9 | 21.3 | 19.5 | 20.5 | 24.0 | 19.3 |
| Feb | 17.8 | 18.4 | 21.5 | 18.9 | 17.8 | 20.9 | 18.9 |
| Mar | 19.2 | 20.2 | 22.7 | 19.6 | 23.1 | 24.8 | 20.9 |
| Apr | 18.9 | 16.5 | 20.7 | 18.8 | 21.7 | 21.1 | 19.3 |
| May | 18.6 | 18.2 | 21.1 | 20.6 | 20.7 | 21.1 | 19.8 |
| Jun | 19.4 | 18.0 | 20.9 | 19.6 | 22.8 | 23.7 | 20.1 |
| Jul | 20.6 | 20.7 | 27.1 | 24.2 | 25.1 | | 23.5 |
| Aug | 20.2 | 21.4 | 25.7 | 25.0 | 26.2 | | 23.7 |
| Sep | 20.9 | 21.4 | 23.1 | 23.5 | 26.6 | | 23.1 |
| Oct | 22.4 | 21.8 | 25.9 | 23.9 | 27.1 | | 24.2 |
| Nov | 20.0 | 21.3 | 26.0 | 22.0 | 24.1 | | 22.7 |
| Dec | 19.2 | 19.3 | 18.8 | 18.7 | 22.9 | | 19.8 |
| 6 month avg. | 18.5 | 18.2 | 21.3 | 19.5 | 21.1 | 22.6 | 19.7 |
| Annual Avg. | 19.5 | 19.6 | 22.9 | 21.2 | 23.2 | | 21.3 |
| Total | 234.6 | 235.1 | 274.7 | 254.4 | 278.7 | | 255.5 |

Source: USDA NASS Chickens and Eggs % Change to date

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).



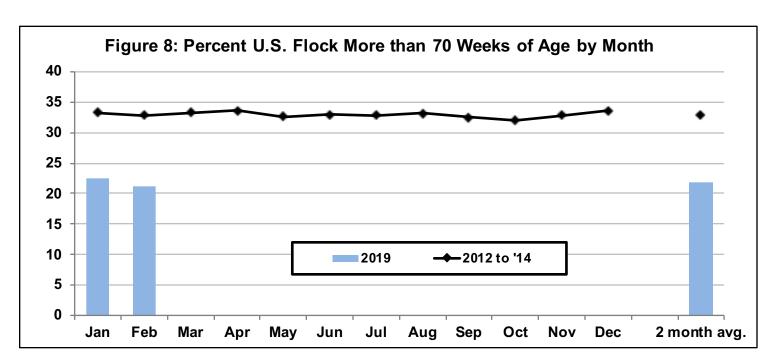
PROJECTED U.S. TABLE EGG FLOCK MORE THAN 70 WEEKS OF AGE (% of layers)

TABLE 16

| ROOLOILD G.G. 17 | (DII 100 : 100 | TO THE TIPE | TO THE ELECTION | TOE (70 of layor | 9 | | IABLE 10 |
|-------------------------------|----------------|-------------|-----------------|------------------|------------------|-----------|--------------|
| | | % of Natio | nal Flock over | 70 weeks of age | (on the 1st of t | he month) | _ |
| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2012 to '14 |
| Jan | 33.1 | 32.2 | | 24.1 | 28.7 | 22.6 | 33.3 |
| Feb | 31.8 | 31.1 | | 24.2 | 27.1 | 21.2 | 32.9 |
| Mar | 31.8 | 32.0 | | 24.5 | 27.6 | | 33.3 |
| Apr | 32.5 | | | 24.9 | 27.5 | | 33.6 |
| May | 32.2 | | | 25.7 | 26.8 | | 32.7 |
| Jun | 32.2 | | | 26.4 | 27.4 | | 33.0 |
| Jul | 32.4 | | | 25.7 | 26.6 | | 32.9 |
| Aug | 33.4 | | | 26.7 | 25.6 | | 33.2 |
| Sep | 32.5 | | | 27.8 | 24.6 | | 32.5 |
| Oct | 32.1 | | | 27.0 | 23.0 | | 32.0 |
| Nov | 31.5 | | 21.4 | 28.0 | 23.0 | | 32.9 |
| Dec | 32.8 | | 23.4 | 28.6 | 22.2 | | 33.6 |
| 2 month ava | 22.4 | 21.6 | | 24.1 | 27.9 | 21.0 | 33.0 |
| 2 month avg. 12 month avg. | 32.4 32.4 | 31.6 | | 24.1 26.1 | 27.9 25.9 | 21.9 | 33.0 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: 0.08975 0.0054 * Price 12-18_ Jan 0.00719 * Price 12-18_ Feb 0.00326 * Price 12-18_ Mar 0.00683 * Price 12-18_ Apr 0.0047 * Price 12-18_ May 0.00353 * Price 12-18_ Jun + 0.00282 * Price 12-18_ Jul + 0.00307 * Price 12-18_ Aug + 0.00367 * Price 12-18_ Sep + 0.00406 * Price 12-18_ Oct 0.00124 * Price 12-18_ Nov 0.00624 * Price 12-18_ Dec 0.00101 * "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
 - \dots where "MOLT previous 12-mo" is the previous 12 months average of the percentage of layers molted Adjusted R^2 =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: 0.01304 + 0.78816 * Added /Beg. count + 0.0052 * Jan - 0.00322 * Feb - 0.00094 * Mar + 0.00699 * Apr + 0.00403 * May + 0.00094 * Jun + 0.0006 * Jul - 0.00444 * Aug - 0.00052 * Sep - 0.00658 * Oct - 0.00999 * Nov + 0.01767 * Shock Sep

- ... where "Added /Beg. count " is the ratio between the pullets added and the beginning flock count for the month we are trying to project
- \dots where "Shock_Sep" is a dummy variable to capture the losses experienced after the year 2010 SE recall Adjusted R^2 =0.60

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

TABLE 17

| Actual | Actual | 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 | 329.5 | 330.7 | 332.0 | 329.8 | 328.6 | 329.1 | 329.9 | 332.5 | 333.7 | 337.1 | 341.1 |

Project. Year end:

Dec 31, 2019 - 341.3

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



Date calculated: 3/1/2019

2019 Bird Flow by Month

Table 18

Table 19

| | ACT | UAL FLOCI | K (million bi | rds) | | | PROJECTED FLOCK (million birds) | | | | | |
|------------------------------|--------------------|----------------------------|----------------------------------|-----------------|--|--------|---------------------------------|----------------------------|---------------------------------|--------------|--|--|
| month | Beginning Count | Pullets added ¹ | Slaughter , Died & Missing | Ending count | | month | Beginning Count | Pullets added ¹ | Slaughter, Died & Missing | Ending count | | |
| Jan-19 | 331.6 | 24.0 | 26.0 | 329.5 | | Jan-19 | 331.6 | 24.0 | 26.0 | 329.5 | | |
| Feb-19 | 329.5 | 20.9 | | | | Feb-19 | 329.5 | 20.9 | 19.7 | 330.7 | | |
| Mar-19 | | 24.8 | | | | Mar-19 | 330.7 | 24.8 | 23.6 | 332.0 | | |
| Apr-19 | | 21.1 | | | | Apr-19 | 332.0 | 21.1 | 23.3 | 329.8 | | |
| May-19 | | 21.1 | | | | May-19 | 329.8 | 21.1 | 22.3 | 328.6 | | |
| Jun-19 | | 23.7 | | | | Jun-19 | 328.6 | 23.7 | 23.3 | 329.1 | | |
| Jul-19 | | | | | | Jul-19 | 329.1 | 25.3 | 24.4 | 329.9 | | |
| Aug-19 | | | | | | Aug-19 | 329.9 | 25.4 | 22.9 | 332.5 | | |
| Sep-19 | | | | | | Sep-19 | 332.5 | 25.6 | 24.4 | 333.7 | | |
| Oct-19 | | | | | | Oct-19 | 333.7 | 25.8 | 22.5 | 337.1 | | |
| Nov-19 | | | | | | Nov-19 | 337.1 | 23.9 | 19.9 | 341.1 | | |
| Dec-19 | | | | | | Dec-19 | 341.1 | 22.0 | 21.8 | 341.3 | | |
| Jan-20 | | | | | | Jan-20 | 341.3 | | | | | |
| Feb-20 | | | | | | Feb-20 | | | | | | |
| Mar-20 | | | | | | Mar-20 | | | | | | |
| Apr-20 | | | | | | Apr-20 | | | | | | |
| May-20 | | | | | | May-20 | | | | | | |
| Jun-20 | | | | | | Jun-20 | | | | | | |
| Jul-20 | | | | | | Jul-20 | | | | | | |
| Aug-20 | | | | | | Aug-20 | | | | | | |
| Sep-20 | | | | | | Sep-20 | | | | | | |
| Oct-20 | | | | | | Oct-20 | | | | | | |
| Nov-20 | | | | | | Nov-20 | | | | | | |
| Dec-20 | | | | | | Dec-20 | | | | | | |
| 1 at 5 months of age. Actual | | | | | | | | | | | | |

¹ at 5 months of age

¹ at 5 months of age

Actual number



Table 20

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

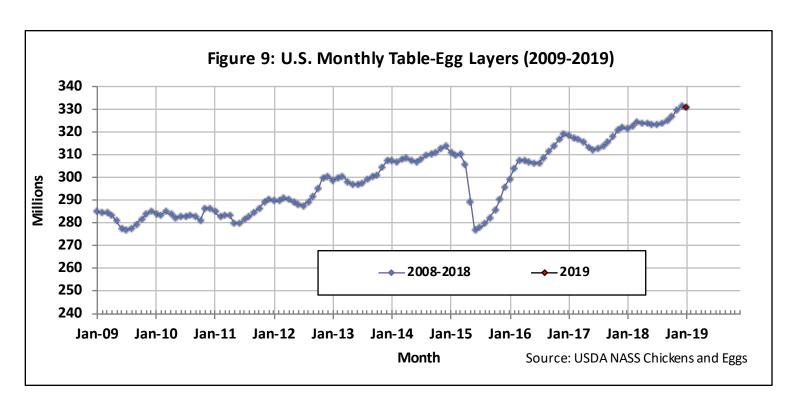
EIC projected USDA preliminary USDA actual count

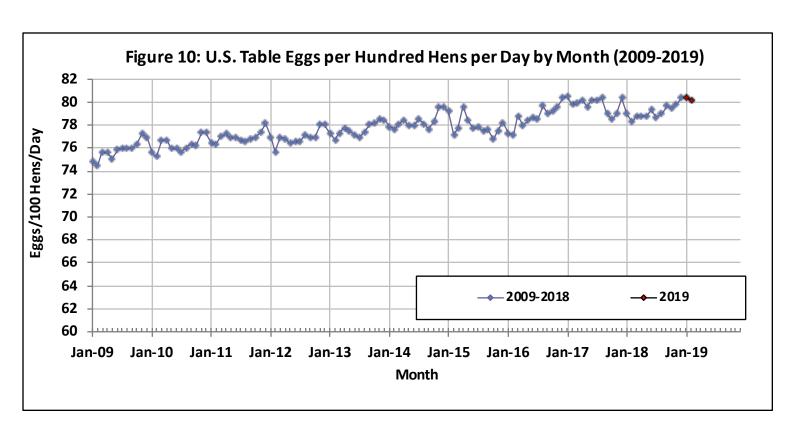
For February 2019 Number of U.S. table egg layers (million) on the 1st of each month

| For February 2 | | | | | | | | | | | | | | |
|----------------|--|-------|-----|-----|-----|------|------|-----|------|-----|-----|-----|--|--|
| Month & | Month when the Layer Number was Reported by USDA (highlighted) or Projected by EIC | | | | | | | | | | | | | |
| Year | Jan | Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec | | |
| Jan-18 | | 331.6 | | | | | | | | | | | | |
| Feb-18 | | 329.5 | | | | | | | | | | | | |
| Mar-18 | | 330.7 | | | | | | | | | | | | |
| Apr-18 | | 332.0 | | | | | | | | | | | | |
| May-18 | | 329.8 | | | | | | | | | | | | |
| Jun-18 | | 328.6 | | | | | | | | | | | | |
| Jul-18 | | 329.1 | | | | | | | | | | | | |
| Aug-18 | | 329.9 | | | | | | | | | | | | |
| Sep-18 | | 332.5 | | | | | | | | | | | | |
| Oct-18 | | 333.7 | | | | | | | | | | | | |
| Nov-18 | | 337.1 | | | | | | | | | | | | |
| Dec-18 | | 341.1 | | | | | | | | | | | | |
| Jan-19 | | 341.3 | | | | | | | | | | | | |
| Feb-19 | | | | | | | | | | | | | | |
| Mar-19 | | | | | | | | | | | | | | |
| Apr-19 | | | | | | | | | | | | | | |
| May-19 | | | | | | | | | | | | | | |
| Jun-19 | | | | | | | | | | | | | | |
| Jul-19 | | | | | | | | | | | | | | |
| Aug-19 | | | | | | | | | | | | | | |
| Sep-19 | | | | | | | | | | | | | | |
| Oct-19 | | | | | | | | | | | | | | |
| Nov-19 | | | | | | | | | | | | | | |
| Dec-19 | | | | | | | | | | | | | | |

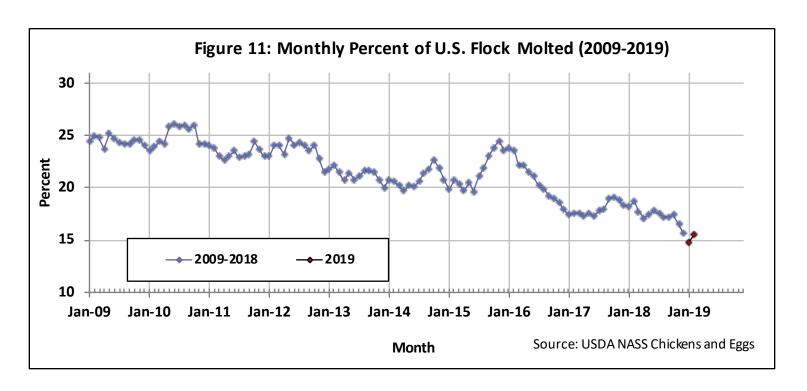
THIS PAGE HELPS VISUALIZE CHANGES IN FLOCK PROJECTIONS AS THE YEAR EVOLVES

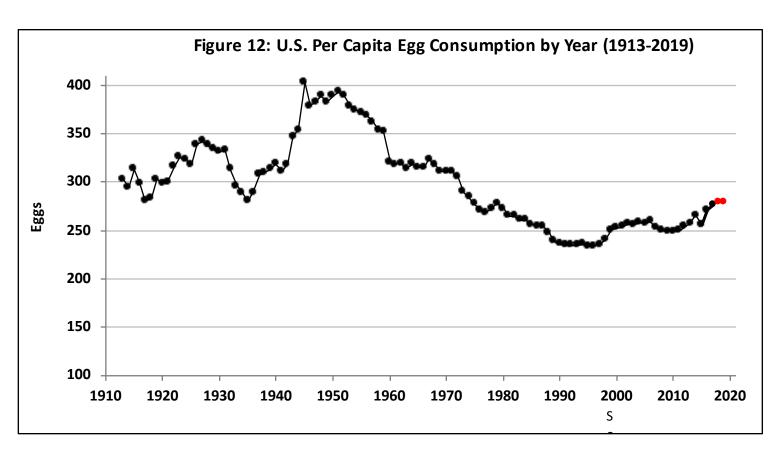














SUMMARY TO DATE _ Table 21

| | | 2018 | 2019 | % Change |
|---|------------|--------|--------|-------------|
| HATCH of EGG-TYPE STRAIGHT RUN (THOUSANDS) (U.S.) (Total) | Jan to Jan | 52,313 | 54,276 | 3.8 |
| TABLE-EGG LAYERS (MILLIONS) (U.S.) (Avg | Jan to Jan | 321.4 | 330.6 | 2.8 |
| TABLE EGGS (MILLIONS/MONTH) (U.S.) (Avg | Jan to Jan | 7,842 | 8,228 | 4.9 |
| RATE OF LAY (%) | Jan to Jan | 78.7 | 80.3 | 1.7 |
| U.S. TABLE EGG AVG. CASES/WEEK (THOUSANDS) | Jan to Jan | 1,771 | 1,858 | 4.9 |
| AVG MONTHLY CASES OF EGGS BROKEN (MILLION) (U.S.) | Jan to Jan | 6.482 | 7.030 | 8.5 |
| | | 2016 | 2017 | Difference |
| PERCENT OF U.S. FLOCK IN or POST MOLT (Avg.) | Jan to Feb | 18.5 | 15.2 | -3.3 |
| AVERAGE PULLETS ADDED/MONTH (MILLIONS) (U.S.) | Jan to Jun | 21.1 | 22.6 | 1.5 |
| AVERAGE FULLETS ADDED/MONTH (MILLIONS) (0.3.) | Jan 10 Jun | ۷۱.۱ | 22.0 | 1.0 |

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

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 Repor 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

