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# **Grain Crashings and Co- Products Production 2021 Summary**

## **March 2022**

# USDA





## 2021 Grain Crushings and Co-Products Production

As part of the Current Agricultural Industrial Reports (CAIR) program, the 2021 Annual Summary of the Grain Crushings and Co-Products Production contains data and annual totals for January through December 2021.

**Total corn consumed** for alcohol for 2021 was 5.28 billion bushels, up 7 percent from 2020. Corn for beverage alcohol in 2021 totaled 43.8 million bushels, up 3 percent from 2020. Corn for fuel alcohol was 5.15 billion bushels in 2021, up 8 percent from 2020.

**Dry mill co-product production** of distillers dried grains with solubles (DDGS) was 22.2 million tons during 2021, up 10 percent from 2020. Distillers wet grains (DWG) 65 percent or more moisture was 13.9 million tons in 2021, up 12 percent from 2020. Distillers dried grain (DDG) was 4.14 million tons in 2021, up 9 percent from 2020.

**Wet mill corn gluten feed production** was 3.37 million tons during 2021, down 2 percent from 2020. Wet corn gluten feed 40 to 60 percent moisture was 2.47 million tons, down 5 percent from 2020.

**Dry and wet mill carbon dioxide captured** was 2.70 million tons in 2021, up 18 percent from 2020.

### Dry and Wet Mill, Corn Consumed – United States: 2021

| Purpose                                       | January<br>2021    | February<br>2021   | March<br>2021      | April<br>2021      | May<br>2021        | June<br>2021       | July<br>2021       |
|-----------------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|                                               | (1,000<br>bushels) | (1,000<br>bushels) | (1,000<br>bushels) | (1,000<br>bushels) | (1,000<br>bushels) | (1,000<br>bushels) | (1,000<br>bushels) |
| <b>Consumed for alcohol production</b>        |                    |                    |                    |                    |                    |                    |                    |
| Beverage alcohol .....                        | 3,291              | 2,755              | 3,721              | 3,658              | 3,852              | 3,708              | 3,642              |
| Fuel alcohol .....                            | 417,027            | 332,926            | 420,374            | 407,524            | 448,001            | 439,529            | 450,321            |
| Dry mill .....                                | 375,757            | 302,663            | 384,842            | 371,265            | 410,696            | 402,866            | 411,026            |
| Wet mill .....                                | 41,270             | 30,263             | 35,532             | 36,259             | 37,305             | 36,663             | 39,295             |
| Industrial alcohol .....                      | 7,331              | 6,684              | 7,445              | 6,516              | 7,011              | 6,244              | 6,065              |
| <b>Consumed for other purposes</b>            |                    |                    |                    |                    |                    |                    |                    |
| Total wet mill products other than fuel ..... | 39,282             | 34,022             | 42,159             | 43,517             | 44,492             | 41,881             | 43,370             |

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### Dry Mill, Sorghum Consumed – United States: 2021

| Purpose            | January<br>2021 | February<br>2021 | March<br>2021 | April<br>2021 | May<br>2021 | June<br>2021 | July<br>2021 |
|--------------------|-----------------|------------------|---------------|---------------|-------------|--------------|--------------|
|                    | (1,000 cwt)     | (1,000 cwt)      | (1,000 cwt)   | (1,000 cwt)   | (1,000 cwt) | (1,000 cwt)  | (1,000 cwt)  |
| Fuel alcohol ..... | (D)             | (D)              | -             | (D)           | 115         | 356          | 323          |

See footnote(s) at end of table.

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### Dry and Wet Mill, Co-products and Products Produced – United States: 2021

| Co-products and products                                          | January<br>2021 | February<br>2021 | March<br>2021 | April<br>2021 | May<br>2021 | June<br>2021 | July<br>2021 |
|-------------------------------------------------------------------|-----------------|------------------|---------------|---------------|-------------|--------------|--------------|
|                                                                   | (tons)          | (tons)           | (tons)        | (tons)        | (tons)      | (tons)       | (tons)       |
| Condensed distillers solubles<br>(CDS - syrup) .....              | 79,610          | 92,525           | 90,530        | 86,074        | 95,299      | 102,483      | 88,506       |
| Corn oil (Corn Distillers Oil - CDO) .....                        | 148,527         | 117,903          | 156,903       | 149,431       | 168,904     | 171,344      | 176,712      |
| Distillers dried grains (DDG) .....                               | 342,557         | 262,261          | 368,075       | 342,870       | 380,620     | 370,694      | 341,136      |
| Distillers dried grains with solubles<br>(DDGS) .....             | 1,753,401       | 1,406,427        | 1,803,494     | 1,768,002     | 1,942,762   | 1,925,037    | 1,970,139    |
| Distillers wet grains (DWG)<br>65% or more moisture .....         | 1,042,660       | 885,932          | 1,114,039     | 1,078,944     | 1,084,238   | 1,114,200    | 1,122,403    |
| Modified distillers wet grains (DWG)<br>40% to 64% moisture ..... | 415,857         | 377,688          | 391,913       | 373,090       | 344,779     | 411,900      | 399,669      |
| <b>Wet mill</b>                                                   |                 |                  |               |               |             |              |              |
| Corn germ meal .....                                              | 53,242          | 44,416           | 50,088        | 63,568        | 64,607      | 56,403       | 63,732       |
| Corn gluten feed .....                                            | 282,163         | 217,605          | 266,308       | 291,558       | 299,123     | 287,839      | 304,527      |
| Corn gluten meal .....                                            | 116,178         | 97,680           | 113,365       | 113,905       | 114,135     | 112,189      | 103,107      |
| Wet corn gluten feed<br>40% to 60% moisture .....                 | 214,623         | 169,005          | 206,831       | 202,491       | 208,575     | 207,751      | 209,836      |
| <b>Dry and wet mill</b>                                           |                 |                  |               |               |             |              |              |
| Carbon dioxide captured .....                                     | 193,297         | 182,552          | 237,819       | 225,169       | 229,471     | 227,969      | 233,402      |

See footnote(s) at end of table.

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### Dry and Wet Mill, Corn Consumed – United States: 2021 (continued)

| Purpose                                       | August<br>2021     | September<br>2021  | October<br>2021    | November<br>2021   | December<br>2021   | Total<br>2021      |
|-----------------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|                                               | (1,000<br>bushels) | (1,000<br>bushels) | (1,000<br>bushels) | (1,000<br>bushels) | (1,000<br>bushels) | (1,000<br>bushels) |
| <b>Consumed for alcohol production</b>        |                    |                    |                    |                    |                    |                    |
| Beverage alcohol .....                        | 2,372              | 3,413              | 3,837              | 4,790              | 4,740              | 43,779             |
| Fuel alcohol .....                            | 416,836            | 407,131            | 467,952            | 466,867            | 477,878            | 5,152,366          |
| Dry mill .....                                | 385,658            | 371,207            | 427,001            | 429,207            | 439,172            | 4,711,360          |
| Wet mill .....                                | 31,178             | 35,924             | 40,951             | 37,660             | 38,706             | 441,006            |
| Industrial alcohol .....                      | 7,291              | 7,014              | 6,092              | 6,362              | 8,072              | 82,127             |
| <b>Consumed for other purposes</b>            |                    |                    |                    |                    |                    |                    |
| Total wet mill products other than fuel ..... | 43,719             | 39,171             | 41,748             | 40,792             | 40,651             | 494,804            |

- Represents zero.

(D) Withheld to avoid disclosing data for individual operations.

### Dry Mill, Sorghum Consumed – United States: 2021 (continued)

| Purpose            | August<br>2021 | September<br>2021 | October<br>2021 | November<br>2021 | December<br>2021 | Total<br>2021 |
|--------------------|----------------|-------------------|-----------------|------------------|------------------|---------------|
|                    | (1,000 cwt)    | (1,000 cwt)       | (1,000 cwt)     | (1,000 cwt)      | (1,000 cwt)      | (1,000 cwt)   |
| Fuel alcohol ..... | 295            | 269               | 693             | (D)              | (D)              | (D)           |

(D) Withheld to avoid disclosing data for individual operations.

### Dry and Wet Mill, Co-products and Products Produced – United States: 2021 (continued)

| Co-products and products                                          | August<br>2021 | September<br>2021 | October<br>2021 | November<br>2021 | December<br>2021 | Total<br>2021 |
|-------------------------------------------------------------------|----------------|-------------------|-----------------|------------------|------------------|---------------|
|                                                                   | (tons)         | (tons)            | (tons)          | (tons)           | (tons)           | (tons)        |
| <b>Dry mill</b>                                                   |                |                   |                 |                  |                  |               |
| Condensed distillers solubles<br>(CDS - syrup) .....              | 76,361         | 85,920            | 95,239          | 87,051           | 94,168           | 1,073,766     |
| Corn oil (Corn Distillers Oil - CDO) .....                        | 168,224        | 155,918           | 183,804         | 187,291          | 194,497          | 1,979,458     |
| Distillers dried grains (DDG) .....                               | 295,254        | 293,344           | 383,939         | 379,071          | 383,196          | 4,143,017     |
| Distillers dried grains with solubles<br>(DDGS) .....             | 1,827,378      | 1,761,034         | 1,948,812       | 1,997,444        | 2,073,188        | 22,177,118    |
| Distillers wet grains (DWG)<br>65% or more moisture .....         | 1,170,789      | 1,187,941         | 1,299,324       | 1,328,995        | 1,422,171        | 13,851,636    |
| Modified distillers wet grains (DWG)<br>40% to 64% moisture ..... | 395,054        | 423,404           | 396,748         | 515,758          | 546,625          | 4,992,485     |
| <b>Wet mill</b>                                                   |                |                   |                 |                  |                  |               |
| Corn germ meal .....                                              | 54,576         | 57,868            | 65,635          | 61,842           | 63,314           | 699,291       |
| Corn gluten feed .....                                            | 274,358        | 280,232           | 300,634         | 278,434          | 285,387          | 3,368,168     |
| Corn gluten meal .....                                            | 106,050        | 106,657           | 108,083         | 110,303          | 107,003          | 1,308,655     |
| Wet corn gluten feed<br>40% to 60% moisture .....                 | 205,634        | 208,335           | 212,455         | 211,260          | 214,346          | 2,471,142     |
| <b>Dry and wet mill</b>                                           |                |                   |                 |                  |                  |               |
| Carbon dioxide captured .....                                     | 229,244        | 234,343           | 236,582         | 219,586          | 251,666          | 2,701,101     |

Statistical Methodology

**Survey Procedures:** *Grain Crushings and Co-Products Production* is part of the Current Agricultural Industrial Reports (CAIR) program. CAIR reports are administered under NASS’s Census of Agriculture program. Response to CAIR surveys are required by law (Title 7, U.S. Code). Data are collected from all known mills that produce ethanol.

The census universe was determined during operation profile interviews which were completed for each potential facility to identify the presence of ethanol production in 2014. During the operation profile, facilities that met the survey criteria were asked for the nameplate production capacity. The operation profile also documented the manner in which the firm will report. A firm headquarters can report for all milling locations or each location can report separately.

In the Dry Mill Producers and Wet Mill Producers survey questionnaires, mills are asked for previous calendar month data on feedstocks consumed, products and co-products produced. Mills are mailed questionnaires with the options of completing the survey by mail or by Electronic Data Reporting (EDR). For surveys not received in a reasonable amount of time, telephone follow-up is conducted.

**Estimating Procedures:** Imputation is done for operations with non-response by using historical data and current data relationships. Data for reporting firms are added to estimates for non-reporting firms to obtain National totals.

**Revision Policy:** Data are revised the following month based on late reports or corrected data. Final figures are published in the annual summary of the following year.

**Reliability:** Approximately 130 reports are received each month which represent about 90 percent of total capacity. Monthly data can vary due to different firms reporting month to month. Survey data are also subject to non-sampling errors such as omissions and mistakes in reporting and in processing the data. While these errors cannot be measured directly, they are minimized by carefully reviewing all reported data for consistency and reasonableness.

Information Contacts

Listed below are the commodity statisticians in the Crops Branch of the National Agricultural Statistics Service to contact for additional information. E-mail inquiries may be sent to [nass@usda.gov](mailto:nass@usda.gov)

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| Lance Honig, Chief, Crops Branch .....                       | (202) 720-2127 |
| Chris Hawthorn, Head, Field Crops Section .....              | (202) 720-2127 |
| Irwin Anolik – Crop Weather .....                            | (202) 720-7621 |
| Joshua Bates – Oats, Soybeans .....                          | (202) 690-3234 |
| David Colwell – Current Agricultural Industrial Reports..... | (202) 720-8800 |
| Michelle Harder – Barley, County Estimates, Hay.....         | (202) 690-8533 |
| James Johanson – Rye, Wheat .....                            | (202) 720-8068 |
| Greg Lemmons – Corn, Flaxseed, Proso Millet .....            | (202) 720-9526 |
| Becky Sommer – Cotton, Cotton Ginnings, Sorghum.....         | (202) 720-5944 |
| Travis Thorson – Sunflower, Other Oilseeds .....             | (202) 720-7369 |
| Lihan Wei – Peanuts, Rice.....                               | (202) 720-7688 |

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For more information on NASS surveys and reports, call the NASS Agricultural Statistics Hotline at (800) 727-9540, 7:30 a.m. to 4:00 p.m. ET, or e-mail: [nass@usda.gov](mailto:nass@usda.gov).

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