

BOARD OF TRADE OF THE CITY OF CHICAGO INC.

ANALYSIS OF DELIVERABLE SUPPLY

SOYBEAN MEAL FUTURES

AUGUST 2018

In estimating deliverable supply for the Soybean Meal Futures, the Board of Trade of the City of Chicago Inc. ("CBOT" or "Exchange") relied on long-standing precedent, which provides that the key component in estimating deliverable supply is the portion of typical production that could reasonably be considered to be readily available for delivery. In its guidance on estimating deliverable supply, the Commodity Futures Trading Commission ("CFTC" or "Commission") states:

In general, the term "deliverable supply" means the quantity of the commodity meeting a derivative contract's delivery specifications that can reasonably be expected to be readily available to short traders and saleable by long traders at its market value in normal cash marketing channels at the derivative contract's delivery points during the specified delivery period, barring abnormal movement in interstate commerce. Typically, deliverable supply reflects the quantity of the commodity that potentially could be made available for sale on a spot basis at current prices at the contract's delivery points. For a non-financial physical-delivery commodity contract, this estimate might represent product which is in storage at the delivery point(s) specified in the futures contract or can be moved economically into or through such points consistent with the delivery procedures set forth in the contract and which is available for sale on a spot basis within the marketing channels that normally are tributary to the delivery point(s).¹

Background:

Soybean meal is a bi-product created by crushing soybeans and is used as a source of protein in livestock feed rations. The USDA estimates 2017/18 soybean meal production at 48.499 million short tons, which is a 8.29 percent increase from 2016/17.

Delivery Capacity:

Beginning with the January 2019 contract, the Soybean Meal futures contract's specifications were amended based on the results of a contract review and feedback from market participants. Specifically, relevant to the deliverable supply estimation is the adjustment of the protein specification, which was amended down one-half of one percent to 47.5 percent protein, with delivery without penalty or rejection down to 47.0 percent. This amendment brings the contract further in line with cash market as soybean production has shifted north and west, lowering the average protein content in soybeans and the resulting soybean meal. The CBOT Soybean Meal futures contract requires delivered soybean meal to meet the following specifications:

47.5 protein soybean meal, produced by conditioning ground soybeans and reducing the oil content of the conditioned product by the use of hexane or homologous hydrocarbon solvents. Standard specifications are:

- Protein minimum 47.5%
- Fat minimum 0.5%
- Fiber maximum 3.5%
- Moisture (when shipped by Processor) maximum 12.0%

When a bushel of soybeans weighing 60 pounds is crushed, the conventional result is 11 pounds of soybean oil, 44 pounds of 47.5% protein soybean meal, 4 pounds of hulls, and 1 pound of waste.

The deliverable capacity allowed by the Exchange for facilities regular to deliver on CBOT Soybean Meal futures is up to 15 times each facility's 24-hour soybean meal production capability plus storage.

¹ http://www.ecfr.gov/cgi-bin/text-idx?SID=74959c3dbae469e2efe0a42b45b8dfae&mc=true&node=ap17.1.38_11201.c&rgn=div9

Below are the facilities regular for delivery on CBOT Soybean Meal futures and the maximum number of shipping certificates each facility may deliver:

| FIRM/FACILITY | DAILY RATE OF LOADING (TONS) | MAXIMUM SHIPPING CERTIFICATES BONDED TO ISSUE |
|---|-------------------------------------|--|
| Ag Processing Incorporated | | |
| Eagle Grove, IA | 1,600 | 265 |
| Manning, IA | 600 | 115 |
| Mason City, IA | 700 | 114 |
| Emmetsburg, IA | 700 | 117 |
| Sergeant Bluff, IA | 1,500 | 250 |
| Sheldon, IA | 840 | 155 |
| St. Joseph, MO | 1,012 | 181 |
| Archer-Daniels-Midland Co. | | |
| Decatur, IL | 1,848 | 302 |
| Des Moines, IA | 1,584 | 260 |
| Fostoria, OH | 655 | 111 |
| Frankfort, IN | 1,082 | 175 |
| Mexico, MO | 572 | 110 |
| Quincy, IL | 1,707 | 305 |
| Deerfield, MO | 642 | 146 |
| Bunge North America (East), LLC | | |
| Bellevue, OH | 800 | 220 |
| Decatur, IN | 2,000 | 900 |
| Morristown, IN | 2,500 | 435 |
| Delphos, OH | 600 | 90 |
| Bunge North America (ODP West), Inc. | | |
| Council Bluffs, IA | 3,500 | 695 |
| Bunge North America, Inc. | | |
| Cairo, IL | 2,000 | 370 |
| Decatur, AL | 2,000 | 335 |
| Cargill, Inc. | | |
| Bloomington, IL | 1,000 | 90 |
| Guntersville, AL | 900 | 188 |
| Iowa Falls, IA | 1,500 | 225 |
| Kansas City, MO | 4,350 | 679 |
| Lafayette, IN | 850 | 128 |
| Sioux City, IA | 2,000 | 330 |
| Sidney, OH | 1,500 | 225 |
| Consolidated Grain & Barge Company | | |
| Mt. Vernon, IN | 1,000 | 210 |
| Incobrasa Industries, LLC | | |
| Gilman, IL | 1,000 | 250 |
| Louis Dreyfus Claypool Holdings, LLC | | |
| Claypool, IN | 2,500 | 500 |
| Owensboro Grain Company, LLC | | |
| Owensboro, KY | 1,000 | 463 |
| Riceland Foods, Incorporated | | |
| Stuttgart, AR | 440 | 116 |
| | | |
| TOTALS | 46,482 | 9,055 |

As of August 2018, the CBOT Soybean Meal futures contract had 9,055 contracts (905,500 tons) of delivery capacity.

Deliverable Supply:

The U.S. Census Bureau collected, and the USDA published monthly soybean meal production estimates for the U.S. until September 2011 when the *Oilseed Crushings* report was discontinued. The National Oilseed Processors Association (NOPA) continues to publish monthly soybean meal production for its member firms. A list of processing plants included in the NOPA Statistical crush report is available here:

<http://www.nopa.org/oilseed-processing/nopa-plant-locations/>

Also, here is a link for information on the NOPA monthly statistical crush report:

<http://www.nopa.org/resources/nopa-crush-report/>

NOPA reports soybean meal production for 59 processing plants. Of these 59 plants, 33 are regular for delivering on Soybean Meal futures.

NOPA production and stocks reports are broken down into the following six regions:

- Illinois
- Pennsylvania, Indiana, Kentucky, Ohio, Michigan
- Southeast
- Southwest
- Iowa
- Minnesota, North Dakota, South Dakota, Montana

| NOPA Territory | Number of NOPA Reporting Plants | Number of NOPA Plants that are Regular for Delivery | Percentage of NOPA Plants that are Regular for Delivery |
|---|---------------------------------|---|---|
| Illinois | 7 | 5 | 71% |
| Pennsylvania, Indiana, Kentucky, Ohio, Michigan | 13 | 11 | 85% |
| Southeast | 11 | 2 | 18% |
| Southwest | 11 | 5 | 45% |
| Iowa | 13 | 10 | 77% |
| Minnesota, North Dakota, South Dakota, Montana | 4 | 0 | 0% |
| TOTAL | 59 | 33 | 56% |

Supply is estimated based on the NOPA reported soybean crush in each region multiplied by the average soybean meal yield during the month prior to each futures delivery. These values are then weighted by the percentage of NOPA member processing plants that are also regular for delivery on CBOT Soybean Meal futures to estimate supply in position for deliveryⁱ. The estimated supply in position is then converted to estimated deliverable supply by estimating the percentage of production that meets Soybean Meal futures delivery specifications. An example of this calculation using the Illinois territory for November 2015 is as follows:

$(18,168,000 \text{ bushels of soybeans} \times 44 \text{ lbs of meal per bushel}) \div 2000 = 399,696 \text{ tons of NOPA soybean meal in the Illinois Territory.}$

$399,696 \text{ tons of NOPA meal} \times 0.71 = 283,784 \text{ tons of regular facility soybean meal in the Illinois Territory.}$

$283,784 \text{ tons of regular facility meal} \times 0.4960 = 140,757 \text{ tons of soybean meal that is 47 percent protein or greater in the Illinois Territory.}$

Soybean meal meeting 47.0 percent protein may not be rejected in futures delivery. Thus, deliverable supply is the proportion of soybean meal that is 47.0 percent protein or greater.

The University of Minnesota, The American Soybean Association and the Soybean Export Council conduct an annual survey to assess the quality, including the protein content, of U.S. produced soybeans. See, for example:

<https://ussec.org/wp-content/uploads/2017/12/2017.12.21-U.S.-Soy-Quality-Report.pdf>

Dividing soybean protein levels by 0.73 provides an estimate of protein levels in soybean meal that will be produced from those soybeans. For example, the average protein for the 2017/18 U.S. soybean crop was 34.1 percent. Meal produced from these soybeans would be on average $34.1 \div 0.73 = 46.7$ protein. Assuming the data are normally distributed, and sample size is large, the University of Minnesota data suggest the following percentages of soybean meal that would meet the Exchange's 47.0 percent protein requirement:

| Crop Year | Estimated Percentage of Meal that is 47.0 percent protein or greater |
|-----------|--|
| 2014-15 | 61.41% |
| 2015-16 | 49.60% |
| 2016-17 | 58.71% |
| 2017-18 | 40.52% |

The estimated supply in position is adjusted by these percentages to estimate deliverable supply.

December 2015-2017 (November 2015-2017 Production)

| NOPA Territory | NOPA Crush (1,000) | NOPA Est. Soybean Meal Production (Tons) | Weighting | Estimated Supply in Tons (contracts) | Estimated Deliverable Supply in Tons (contracts) |
|--|--------------------|--|-----------|--------------------------------------|--|
| Nov-15 | | | | | |
| Illinois | 18,168 | 399,696 | 71% | 285,497 | 141,607 |
| IN, KY, OH, MI | 36,270 | 797,940 | 85% | 675,180 | 334,889 |
| Southeast | 20,254 | 445,588 | 18% | 81,016 | 40,184 |
| Southwest | 30,154 | 663,388 | 45% | 301,540 | 149,564 |
| Iowa | 35,154 | 773,388 | 77% | 594,914 | 295,077 |
| MN, ND, SD, MT | 15,746 | 346,412 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2015 | | | | 1,938,147 | 961,321 |
| | | | Contracts | 19,381 | 9,613 |
| Nov-16 | | | | | |

| | | | | | |
|--|--------|---------|-----------|------------------|------------------|
| . | 20,699 | 455,378 | 71% | 325,270 | 190,966 |
| IN, KY, OH, MI | 35,786 | 787,292 | 85% | 666,170 | 391,108 |
| Southeast | 20,661 | 454,542 | 18% | 82,644 | 48,520 |
| Southwest | 34,049 | 749,078 | 45% | 340,490 | 199,902 |
| Iowa | 34,878 | 767,316 | 77% | 590,243 | 346,532 |
| MN, ND, SD, MT | 14,679 | 322,938 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2016 | | | | 2,004,817 | 1,177,028 |
| | | | Contracts | 20,048 | 11,770 |
| Nov-17 | | | | | |
| Illinois | 19,922 | 438,284 | 71% | 313,060 | 126,852 |
| IN, KY, OH, MI | 35,861 | 788,942 | 85% | 667,566 | 270,498 |
| Southeast | 22,048 | 485,056 | 18% | 88,192 | 35,735 |
| Southwest | 35,156 | 773,432 | 45% | 351,560 | 142,452 |
| Iowa | 35,307 | 776,754 | 77% | 597,503 | 242,108 |
| MN, ND, SD, MT | 15,253 | 335,566 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2017 | | | | 2,017,881 | 817,646 |
| | | | Contracts | 20,179 | 8,176 |
| ESTIMATED DELIVERABLE SUPPLY 2015- 2017 | | | | 1,986,949 | 985,332 |
| | | | Contracts | 19,869 | 9,853 |

January 2016-2018 (December 2015-2017 Production)

| NOPA Territory | NOPA Crush (1,000) | NOPA Est. Soybean Meal Production (Tons) | Weighting | Estimated Supply in Tons (contracts) | Estimated Deliverable Supply in Tons (contracts) |
|-----------------------|-----------------------------------|---|------------------|---|---|
| Dec-15 | | | | | |
| Illinois | 18,425 | 405,350 | 71% | 289,536 | 143,610 |
| IN, KY, OH, MI | 33,501 | 737,022 | 85% | 623,634 | 309,322 |
| Southeast | 21,171 | 465,762 | 18% | 84,684 | 42,003 |
| Southwest | 32,267 | 709,874 | 45% | 322,670 | 160,044 |
| Iowa | 35,740 | 786,280 | 77% | 604,831 | 299,996 |
| MN, ND, SD, MT | 16,606 | 365,332 | 0% | 0 | 0 |
| ESTIMATED | | | | 1,925,354 | 954,976 |

| | | | | | | |
|---|--------|---------|-----|-----------|------------------|------------------|
| DELIVERABLE SUPPLY 2015 | | | | Contracts | 19,254 | 9,550 |
| Dec-16 | | | | | | |
| Illinois | 20,578 | 452,716 | 71% | | 323,369 | 189,850 |
| IN, KY, OH, MI | 33,906 | 745,932 | 85% | | 631,173 | 370,562 |
| Southeast | 20,648 | 454,256 | 18% | | 82,592 | 48,490 |
| Southwest | 34,387 | 756,514 | 45% | | 343,870 | 201,886 |
| Iowa | 34,602 | 761,244 | 77% | | 585,572 | 343,790 |
| MN, ND, SD, MT | 16,019 | 352,418 | 0% | | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2016 | | | | | 1,966,576 | 1,154,577 |
| | | | | Contracts | 19,666 | 11,546 |
| Dec-17 | | | | | | |
| Illinois | 20,529 | 451,638 | 71% | | 322,599 | 130,717 |
| IN, KY, OH, MI | 37,073 | 815,606 | 85% | | 690,128 | 279,640 |
| Southeast | 22,468 | 494,296 | 18% | | 89,872 | 36,416 |
| Southwest | 35,624 | 783,728 | 45% | | 356,240 | 144,348 |
| Iowa | 35,141 | 773,102 | 77% | | 594,694 | 240,970 |
| MN, ND, SD, MT | 15,470 | 340,340 | 0% | | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2017 | | | | | 2,053,533 | 832,091 |
| | | | | Contracts | 20,535 | 8,321 |
| ESTIMATED DELIVERABLE SUPPLY 2015-2017 | | | | | 1,981,821 | 980,548 |
| | | | | Contracts | 19,818 | 9,805 |

March 2015-2017 (February 2015-2017 Production)

| NOPA Territory | NOPA Crush (1,000) | NOPA Est. Soybean Meal Production (Tons) | Weighting | Estimated Supply in Tons (contracts) | Estimated Deliverable Supply in Tons (contracts) |
|-----------------------|---------------------------|---|------------------|---|---|
| Feb-15 | | | | | |
| Illinois | 18,671 | 410,762 | 71% | 293,401 | 145,527 |
| IN, KY, OH, MI | 32,736 | 720,192 | 85% | 609,393 | 302,259 |
| Southeast | 19,040 | 418,880 | 18% | 76,160 | 37,775 |

| | | | | | |
|--|--------|---------|-----------|------------------|------------------|
| Southwest | 29,470 | 648,340 | 45% | 294,700 | 146,171 |
| Iowa | 32,543 | 715,946 | 77% | 550,728 | 273,161 |
| MN, ND, SD, MT | 14,510 | 319,220 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2015 | | | | 1,824,382 | 904,894 |
| | | | Contracts | 18,244 | 9,049 |
| Feb-16 | | | | | |
| Illinois | 17,328 | 381,216 | 71% | 272,297 | 159,866 |
| IN, KY, OH, MI | 32,986 | 725,692 | 85% | 614,047 | 360,507 |
| Southeast | 19,444 | 427,768 | 18% | 77,776 | 45,662 |
| Southwest | 29,057 | 639,254 | 45% | 290,570 | 170,594 |
| Iowa | 32,983 | 725,626 | 77% | 558,174 | 327,704 |
| MN, ND, SD, MT | 14,383 | 316,426 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2016 | | | | 1,812,864 | 1,064,332 |
| | | | Contracts | 18,129 | 10,643 |
| Feb-17 | | | | | |
| Illinois | 18,233 | 401,126 | 71% | 286,519 | 116,097 |
| IN, KY, OH, MI | 30,780 | 677,160 | 85% | 572,982 | 232,172 |
| Southeast | 19,351 | 425,722 | 18% | 77,404 | 31,364 |
| Southwest | 29,843 | 656,546 | 45% | 298,430 | 120,924 |
| Iowa | 30,519 | 671,418 | 77% | 516,475 | 209,276 |
| MN, ND, SD, MT | 14,074 | 309,628 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2017 | | | | 1,751,809 | 709,833 |
| | | | Contracts | 17,518 | 7,098 |
| ESTIMATED DELIVERABLE SUPPLY 2015- 2017 | | | | 1,796,352 | 893,020 |
| | | | Contracts | 17,964 | 8,930 |

May 2015-2017 (April 2015-2017 Production)

| NOPA Territory | NOPA Crush (1,000) | NOPA Est. Soybean Meal Production (Tons) | Weighting | Estimated Supply in Tons (contracts) | Estimated Deliverable Supply in Tons (contracts) |
|-----------------------|-----------------------------------|---|------------------|---|---|
|-----------------------|-----------------------------------|---|------------------|---|---|

| Apr-15 | | | | | |
|--|--------|---------|-----------|------------------|------------------|
| Illinois | 19,537 | 429,814 | 71% | 307,010 | 152,277 |
| IN, KY, OH, MI | 32,758 | 720,676 | 85% | 609,803 | 302,462 |
| Southeast | 20,151 | 443,322 | 18% | 80,604 | 39,980 |
| Southwest | 30,554 | 672,188 | 45% | 305,540 | 151,548 |
| Iowa | 33,295 | 732,490 | 77% | 563,454 | 279,473 |
| MN, ND, SD, MT | 14,068 | 309,496 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2015 | | | | 1,866,411 | 925,740 |
| | | | Contracts | 18,664 | 9,257 |
| Apr-16 | | | | | |
| Illinois | 18,131 | 398,882 | 71% | 284,916 | 167,274 |
| IN, KY, OH, MI | 31,512 | 693,264 | 85% | 586,608 | 344,398 |
| Southeast | 20,311 | 446,842 | 18% | 81,244 | 47,698 |
| Southwest | 31,453 | 691,966 | 45% | 314,530 | 184,661 |
| Iowa | 31,576 | 694,672 | 77% | 534,363 | 313,725 |
| MN, ND, SD, MT | 14,631 | 321,882 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2016 | | | | 1,801,661 | 1,057,755 |
| | | | Contracts | 18,017 | 10,578 |
| Apr-17 | | | | | |
| Illinois | 18,371 | 404,162 | 71% | 288,687 | 116,976 |
| IN, KY, OH, MI | 30,016 | 660,352 | 85% | 558,759 | 226,409 |
| Southeast | 18,812 | 413,864 | 18% | 75,248 | 30,490 |
| Southwest | 27,976 | 615,472 | 45% | 279,760 | 113,359 |
| Iowa | 29,923 | 658,306 | 77% | 506,389 | 205,189 |
| MN, ND, SD, MT | 14,037 | 308,814 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2017 | | | | 1,708,844 | 692,423 |
| | | | Contracts | 17,088 | 6,924 |
| ESTIMATED DELIVERABLE SUPPLY 2015- 2017 | | | | 1,792,305 | 891,973 |
| | | | Contracts | 17,923 | 8,920 |

July 2015-2017 (June 2015-2017 Production)

| NOPA Territory | NOPA Crush (1,000) | NOPA Est. Soybean Meal Production (Tons) | Weighting | Estimated Supply in Tons (contracts) | Estimated Deliverable Supply in Tons (contracts) |
|--|---------------------------|---|------------------|---|---|
| Jun-15 | | | | | |
| Illinois | 19,146 | 421,212 | 71% | 300,866 | 149,229 |
| IN, KY, OH, MI | 32,585 | 716,870 | 85% | 606,582 | 300,865 |
| Southeast | 18,433 | 405,526 | 18% | 73,732 | 36,571 |
| Southwest | 28,720 | 631,840 | 45% | 287,200 | 142,451 |
| Iowa | 33,084 | 727,848 | 77% | 559,883 | 277,702 |
| MN, ND, SD, MT | 10,505 | 231,110 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2015 | | | | 1,828,263 | 906,818 |
| | | | Contracts | 18,283 | 9,068 |
| Jun-16 | | | | | |
| Illinois | 16,347 | 359,634 | 71% | 256,881 | 150,815 |
| IN, KY, OH, MI | 33,608 | 739,376 | 85% | 625,626 | 367,305 |
| Southeast | 20,176 | 443,872 | 18% | 80,704 | 47,381 |
| Southwest | 30,269 | 665,918 | 45% | 302,690 | 177,709 |
| Iowa | 30,795 | 677,490 | 77% | 521,146 | 305,965 |
| MN, ND, SD, MT | 13,856 | 304,832 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2016 | | | | 1,787,047 | 1,049,176 |
| | | | Contracts | 17,870 | 10,492 |
| Jun-17 | | | | | |
| Illinois | 15,489 | 340,758 | 71% | 243,399 | 98,625 |
| IN, KY, OH, MI | 31,757 | 698,654 | 85% | 591,169 | 239,542 |
| Southeast | 17,863 | 392,986 | 18% | 71,452 | 28,952 |
| Southwest | 29,918 | 658,196 | 45% | 299,180 | 121,228 |
| Iowa | 29,429 | 647,438 | 77% | 498,029 | 201,801 |
| MN, ND, SD, MT | 13,619 | 299,618 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2017 | | | | 1,703,229 | 690,148 |
| | | | Contracts | 17,032 | 6,901 |

| | | | | | |
|--|--|--|-----------|------------------|----------------|
| ESTIMATED DELIVERABLE SUPPLY 2015- 2017 | | | | 1,772,846 | 882,047 |
| | | | Contracts | 17,728 | 8,820 |

August 2015-2017 (July 2015-2017 Production)

| NOPA Territory | NOPA Crush (1,000) | NOPA Est. Soybean Meal Production (Tons) | Weighting | Estimated Supply in Tons (contracts) | Estimated Deliverable Supply in Tons (contracts) |
|--|-----------------------------------|---|------------------|---|---|
| Jul-15 | | | | | |
| Illinois | 17,662 | 388,564 | 71% | 277,546 | 137,663 |
| IN, KY, OH, MI | 33,487 | 736,714 | 85% | 623,373 | 309,193 |
| Southeast | 18,119 | 398,618 | 18% | 72,476 | 35,948 |
| Southwest | 30,517 | 671,374 | 45% | 305,170 | 151,364 |
| Iowa | 30,453 | 669,966 | 77% | 515,358 | 255,618 |
| MN, ND, SD, MT | 14,989 | 329,758 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2015 | | | | 1,793,924 | 889,786 |
| | | | Contracts | 17,939 | 8,898 |
| Jul-16 | | | | | |
| Illinois | 13,995 | 307,890 | 71% | 219,921 | 129,116 |
| IN, KY, OH, MI | 32,074 | 705,628 | 85% | 597,070 | 350,540 |
| Southeast | 18,250 | 401,500 | 18% | 73,000 | 42,858 |
| Southwest | 29,665 | 652,630 | 45% | 296,650 | 174,163 |
| Iowa | 33,568 | 738,496 | 77% | 568,074 | 333,516 |
| MN, ND, SD, MT | 16,163 | 355,586 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2016 | | | | 1,754,715 | 1,030,193 |
| | | | Contracts | 17,547 | 10,302 |
| Jul-17 | | | | | |
| Illinois | 17,769 | 390,918 | 71% | 279,227 | 113,143 |
| IN, KY, OH, MI | 30,657 | 674,454 | 85% | 570,692 | 231,244 |
| Southeast | 17,150 | 377,300 | 18% | 68,600 | 27,797 |
| Southwest | 31,865 | 701,030 | 45% | 318,650 | 129,117 |
| Iowa | 33,066 | 727,452 | 77% | 559,578 | 226,741 |
| MN, ND, SD, MT | 14,211 | 312,642 | 0% | 0 | 0 |

| | | | | | |
|---|--|--|-----------|------------------|----------------|
| ESTIMATED DELIVERABLE SUPPLY 2017 | | | | 1,796,747 | 728,042 |
| | | | Contracts | 17,967 | 7,280 |
| ESTIMATED DELIVERABLE SUPPLY 2015-2017 | | | | 1,781,795 | 882,674 |
| | | | Contracts | 17,818 | 8,827 |

September 2015-2017 (August 2015-2017 Production)

| NOPA Territory | NOPA Crush (1,000) | NOPA Est. Soybean Meal Production (Tons) | Weighting | Estimated Supply in Tons (contracts) | Estimated Deliverable Supply in Tons (contracts) |
|--|---------------------------|---|------------------|---|---|
| Aug-15 | | | | | |
| Illinois | 18,578 | 408,716 | 71% | 291,940 | 144,802 |
| IN, KY, OH, MI | 29,504 | 649,088 | 85% | 549,228 | 272,417 |
| Southeast | 16,103 | 354,266 | 18% | 64,412 | 31,948 |
| Southwest | 26,570 | 584,540 | 45% | 265,700 | 131,787 |
| Iowa | 29,295 | 644,490 | 77% | 495,762 | 245,898 |
| MN, ND, SD, MT | 15,253 | 335,566 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2015 | | | | 1,667,042 | 826,853 |
| | | | Contracts | 16,670 | 8,269 |
| Aug-16 | | | | | |
| Illinois | 14,357 | 315,854 | 71% | 225,610 | 132,456 |
| IN, KY, OH, MI | 28,329 | 623,238 | 85% | 527,355 | 309,610 |
| Southeast | 17,011 | 374,242 | 18% | 68,044 | 39,949 |
| Southwest | 22,165 | 487,630 | 45% | 221,650 | 130,131 |
| Iowa | 34,669 | 762,718 | 77% | 586,706 | 344,455 |
| MN, ND, SD, MT | 15,291 | 336,402 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2016 | | | | 1,629,365 | 956,600 |
| | | | Contracts | 16,294 | 9,566 |
| Aug-17 | | | | | |
| Illinois | 17,613 | 387,486 | 71% | 276,776 | 112,150 |
| IN, KY, OH, MI | 29,728 | 654,016 | 85% | 553,398 | 224,237 |

| | | | | | |
|--|--------|---------|-----------|------------------|----------------|
| Southeast | 18,795 | 413,490 | 18% | 75,180 | 30,463 |
| Southwest | 31,213 | 686,686 | 45% | 312,130 | 126,475 |
| Iowa | 31,723 | 697,906 | 77% | 536,851 | 217,532 |
| MN, ND, SD, MT | 13,351 | 293,722 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2017 | | | | 1,754,335 | 710,856 |
| | | | Contracts | 17,543 | 7,109 |
| ESTIMATED DELIVERABLE SUPPLY 2015- 2017 | | | | 1,683,581 | 831,437 |
| | | | Contracts | 16,836 | 8,314 |

October 2015-2017 (September 2015-2017 Production)

| NOPA Territory | NOPA Crush (1,000) | NOPA Est. Soybean Meal Production (Tons) | Weighting | Estimated Supply in Tons (contracts) | Estimated Deliverable Supply in Tons (contracts) |
|--|-----------------------------------|---|------------------|---|---|
| Sep-15 | | | | | |
| Illinois | 15,867 | 349,074 | 71% | 249,339 | 123,672 |
| IN, KY, OH, MI | 30,644 | 674,168 | 85% | 570,450 | 282,943 |
| Southeast | 15,395 | 338,690 | 18% | 61,580 | 30,544 |
| Southwest | 23,184 | 510,048 | 45% | 231,840 | 114,993 |
| Iowa | 27,714 | 609,708 | 77% | 469,006 | 232,627 |
| MN, ND, SD, MT | 13,901 | 305,822 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2015 | | | | 1,582,215 | 784,778 |
| | | | Contracts | 15,822 | 7,848 |
| Sep-16 | | | | | |
| Illinois | 14,656 | 322,432 | 71% | 230,309 | 135,214 |
| IN, KY, OH, MI | 29,805 | 655,710 | 85% | 554,832 | 325,742 |
| Southeast | 15,586 | 342,892 | 18% | 62,344 | 36,602 |
| Southwest | 26,124 | 574,728 | 45% | 261,240 | 153,374 |
| Iowa | 30,820 | 678,040 | 77% | 521,569 | 306,213 |
| MN, ND, SD, MT | 13,244 | 291,368 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2016 | | | | 1,630,293 | 957,145 |
| | | | Contracts | 16,303 | 9,571 |

| | | | | | |
|--|--------|---------|-----------|------------------|----------------|
| Sep-17 | | | | | |
| Illinois | 17,068 | 375,496 | 71% | 268,211 | 108,679 |
| IN, KY, OH, MI | 32,097 | 706,134 | 85% | 597,498 | 242,106 |
| Southeast | 17,172 | 377,784 | 18% | 68,688 | 27,832 |
| Southwest | 27,254 | 599,588 | 45% | 272,540 | 110,433 |
| Iowa | 28,891 | 635,602 | 77% | 488,925 | 198,112 |
| MN, ND, SD, MT | 13,936 | 306,592 | 0% | 0 | 0 |
| ESTIMATED DELIVERABLE SUPPLY 2017 | | | | 1,695,862 | 687,163 |
| | | | Contracts | 16,959 | 6,872 |
| ESTIMATED DELIVERABLE SUPPLY 2015- 2017 | | | | 1,636,123 | 809,696 |
| | | | Contracts | 16,361 | 8,097 |

Seasonality:

The Exchange evaluates seasonality on the deliverable supply across all Soybean Meal futures contract expirations. To the extent that 25 percent of any contract month's future estimated deliverable supply falls below the current spot month limit, the Exchange will evaluate whether there is a need to adjust the spot-month position limit for that corresponding contract month.

Long Term Contracts:

There is no readily available data on soybean meal under long-term contracts or agreements that could not be delivered on futures and should not be counted in deliverable supply estimates. To gauge the potential impact of long-term contracts, the Exchange conducted outreach to three regular warehousemen. Feedback from these three warehousemen suggests long-term agreements should not affect grain in-store should it become economical to deliver against futures. At this time, the Exchange is unaware of any significant amount of soybean meal tied to long-term agreements. However, should such agreements begin to exist in significant quantities in the future, they are unlikely to adversely affect estimated deliverable supply. Soybean meal can be produced in real time, and rarely if ever does U.S. crushing capacity operate at 100 percent.

ANALYSIS OF DELIVERABLE SUPPLY

Based on the above analysis, the Exchange estimates the monthly deliverable supply over the past three years to be 894,591 tons or **8,946** contract equivalents (contract size: 100 tons). The current spot month limit of 720 represents **8.0%** of this estimated monthly deliverable supply.

¹ The crushing capacity of plants is proprietary data. In aggregate, however, on 1 August 2018, regular firms had a 30-day crushing capacity of 167,733,000 bushels of soybeans. Without knowing the crushing capacity of NOPA members that are not also regular for delivery on Soybean Meal futures, total NOPA crush capacity has to be estimated. From December 2015 to current, the maximum NOPA crush was during March 2018 when NOPA member firms crushed 171,858,000 bushels of soybeans. Assuming this maximum NOPA crush is near 100 percent of NOPA capacity, Soybean Meal regular firms have crushing capacity that is 57 percent of NOPA capacity. Thus, the Deliverable Supply estimate is likely a conservative estimate.
