

BOARD OF TRADE OF THE CITY OF CHICAGO INC.

ANALYSIS OF DELIVERABLE SUPPLY

ROUGH RICE FUTURES

AUGUST 2018

In estimating deliverable supply for the Rough Rice 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 supply stocks 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:

Rough Rice is a major food grain in the United States and arguably the most important food grain globally. USDA estimates the 2017/18 U.S. Rough Rice crop at 178.2 million cwt, a 20.5 percent decrease compared to the 224.1 million cwt 2016/17 crop.

Rough Rice Futures Delivery Capacity (Updated Annually):

The par delivery points for rough rice are warehouses within the boundaries of the Arkansas counties of Craighead, Jackson, Poinsett, Woodruff, Cross, St. Francis, Lonoke, Prairie, Monroe, Jefferson, Arkansas and DeSha. No warehouse regular for delivery of rough rice shall be located outside the twelve Arkansas counties listed above.

Facilities approved for delivery on Rough Rice futures are limited in the number of shipping certificates that they may issue. As of August 2018, firms regular for delivery on CBOT Rough Rice futures had approved capacity to issue 12,474 shipping certificates or 24.948 million cwt of rough rice.

Below are the facilities regular for delivery on Rough Rice futures in August 2018 along with the maximum number of shipping certificates they may issue, with each shipping certificates equivalent to 2,000 cwt:

Firm	Location	Maximum Certificates Deliverable
CROP MARKETING SERVICES, LLC	McGehee, AR	833
EASTSIDE RICE LLC	Jonesboro, AR	655
ERWIN-KEITH INC.	Wynne, AR	722
ERWIN-KEITH INC.	Marked Tree, AR	720
FARMER’S GRANARY, INC.	Patterson, AR	450

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

Firm	Location	Maximum Certificates Deliverable
FARMER'S GRANARY, INC.	McCrary, AR	75
SOUTHERN RICE AND COTTON, LLC	Harrisburg, AR	476
HARVEST RICE, INC.	McGehee, AR	592
HARVEST RICE, INC.	Otwell, AR	810
POINSETT RICE & GRAIN, INC.	Cherry Valley, AR	438
POINSETT RICE & GRAIN, INC.	Diaz, AR	631
POINSETT RICE & GRAIN, INC.	Waldenburg, AR	873
PRODUCER'S RICE MILL, INC	Stuttgart, AR	61
PRODUCER'S RICE MILL, INC	Stuttgart, AR	200
PRODUCER'S RICE MILL, INC	Wynne, AR	239
RICELAND FOODS, INC.	Dumas, AR	225
RICELAND FOODS, INC.	Fair Oaks, AR	225
RICELAND FOODS, INC.	Hickory Ridge, AR	169
RICELAND FOODS, INC.	Jonesboro, AR	1,125
RICELAND FOODS, INC.	McGehee, AR	225
RICELAND FOODS, INC.	Newport, AR	180
RICELAND FOODS, INC.	Stuttgart, AR	1,125
RICELAND FOODS, INC.	Waldenburg, AR	425
RICELAND FOODS, INC.	Weiner, AR	225
RICELAND FOODS, INC.	Wheatly, AR	225
WINDMILL RICE COMPANY, LLC	Jonesboro, AR	300
PLANTERS RICE MILL, LLC	Brinkley, AR	250

Rough Rice Deliverable Supply Procedures and Estimates (Updated Annually):

Each Tuesday the Registrar's Office publishes Rough Rice meeting deliverable grades that are in-store as of the previous Friday at all regular delivery facilities.

Supply is estimated as the stocks of grain meeting deliverable grades in regular facilities on the Friday prior to First Notice Day. The Exchange believes these stocks capture supply going into the delivery period and is the relevant supply to consider when estimating what would be available for each contract expiration.

Of the 27 warehouses regular for delivery on Rough Rice futures, ten are warehouses connected to rice mills. Of these ten warehouses connected to rice mills, five have a history of delivering against futures. Assuming warehouses connected to rice mills may be less likely to deliver because rice in these warehouses may be under long-term commitments to the adjacent mill, stocks need to be adjusted to account for this possibility. Warehouses connected to rice mills make up 42 percent of deliverable capacity in Rough Rice futures. Assuming a like percentage of stocks in the Stocks of Grain report are held at warehouses connected to rice mills, and taking into account that half of warehouses connected to rice mills nonetheless have a history of delivery, we reduce stocks by 21 percent ($0.42 * .5$) to estimate the stocks in warehouses connected to rice mills that may be under long-term commitments to the adjacent rice mill.

This is likely a conservative estimate of deliverable supply because it does not count the significant amount of Rough Rice that is likely near the delivery facilities and could easily be placed into delivery position very quickly. While this estimate of deliverable supply does not attempt to include these stocks, they could be estimated to some degree using economic theory. Economic theory and the theory of storage would suggest these uncounted stocks would likely exceed the stocks reported in the Stocks of Grain report². Regular delivery facilities are in position for feeding domestic milling operations and

² See <http://ajae.oxfordjournals.org/content/77/3/512.abstract>

aggregating for export; thus, the value of rice in most of the regular delivery facilities is greater than the value of rice in the country because rice in the country needs to be transported to be in position for either milling or export. The cost to store rice includes opportunity cost, and opportunity costs increase with value. Thus, the cost to store rice in position at a regular delivery facility is greater than the cost to store in the country all other factors equal. If there is grain being stored in position at a rice mill or terminal rice elevator, it suggests demand for rice, and theory would suggest a greater amount of stocks would be stored internally due to the lower cost. The Exchange may, at a later date, decide to estimate these stocks and included them in future deliverable supply estimates.

Futures Contract Expiration	Stocks of Rough Rice in Regular Facilities on the Friday prior to FND (1M CWTs)	Estimated Deliverable Supply
Jan-17	22.89	18.08
Jan-16	22.27	17.59
Jan-15	42.47	33.55
JAN AVG	29.21	23.07
Mar-17	22.70	17.93
Mar-16	23.27	18.38
Mar-15	42.57	33.63
MAR AVG	29.51	23.31
May-17	21.10	16.67
May-16	19.30	15.25
May-15	40.75	32.19
MAY AVG	27.05	21.37
Jul-17	16.96	13.40
Jul-16	13.62	10.76
Jul-15	14.79	11.68
JUL AVG	15.12	11.95
Sep-17	11.99	9.47
Sep-16	7.21	5.70
Sep-15	12.32	9.73
SEP AVG	10.51	8.35
Nov-17	23.04	18.20
Nov-16	25.64	20.26
Nov-15	24.73	19.54
NOV AVG	24.47	19.33
AVG ALL DELV MONTHS	22.65	17.89

Seasonality:

The Exchange continuously monitors the deliverable supply and the delivery requirements on the Contract. Further, the Exchange closely monitors seasonality and to the extent that the Exchange anticipates that 25 percent of any contract month's deliverable supply would fall below the current spot month limit, the Exchange would make a good faith effort to resolve conditions potentially limiting the adequacy of the deliverable supply or 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 rice under long-term contracts or agreements with outside entities other than adjacent mills that could not be delivered on futures and should not be counted in deliverable supply estimates. To get a sense of the extent rice is under long-term agreements with outside entities and not deliverable, the Exchange reached out to 8 Rough Rice regular delivery firms. Feedback from these firms indicates generally zero (0) to at most five (5) percent of rice in their facilities is under long-term agreement and could not be delivered against Rough Rice futures. Given this feedback and the conservative nature of the rough rice deliverable supply estimate, the Exchange does not believe rice stocks under long-term agreements with outside entities significantly affect the deliverable supply estimates.

ANALYSIS OF DELIVERABLE SUPPLY

Based on the above analysis, the Exchange estimates the monthly deliverable supply over the past three crop years to be 17.89 million cwt or **8,945** contract equivalents (contract size: 2,000 hundredweight). The current spot month limit of 600 contracts represents **6.7%** of this estimated monthly deliverable supply.