



# Cornhusker Economics

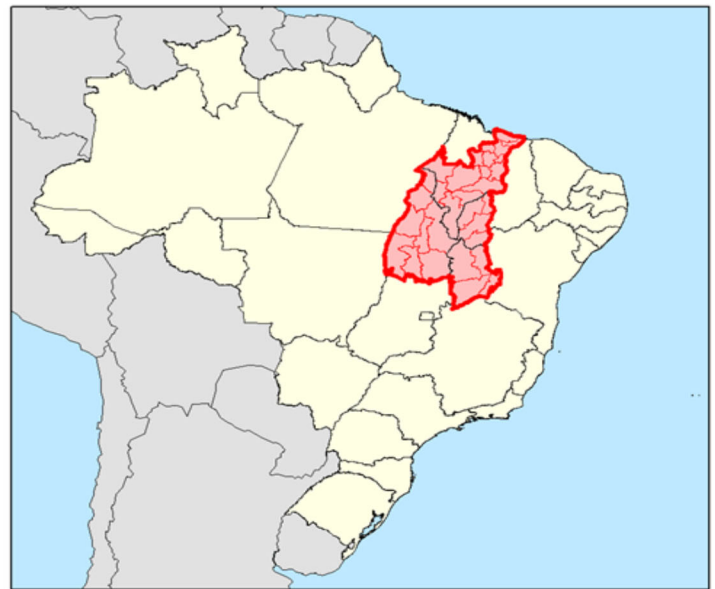
## Further Thoughts on the Brazilian Grain Market, Its Competitiveness and Its Challenges

Market Report	Year Ago	4 Wks Ago	11-15-19
<b>Livestock and Products,</b>			
<b>Weekly Average</b>		*	*
Nebraska Slaughter Steers, 35-65% Choice, Live Weight. . . . .	No report – Thanksgiving Week	156.18	157.55
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb. . . . .		150.88	158.02
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb. . . . .		217.93	240.66
Choice Boxed Beef, 600-750 lb. Carcass. . . . .		*	*
Western Corn Belt Base Hog Price Carcass, Negotiated . . . . .		76.74	87.28
Pork Carcass Cutout, 185 lb. Carcass 51-52% Lean. . . . .		149.15	152.16
Slaughter Lambs, woolled and shorn, 135-165 lb. National. . . . .		403.37	402.34
National Carcass Lamb Cutout FOB. . . . .			
<b>Crops,</b>			
<b>Daily Spot Prices</b>			
Wheat, No. 1, H.W. Imperial, bu. . . . .		3.74	3.67
Corn, No. 2, Yellow Columbus, bu. . . . .		3.74	3.51
Soybeans, No. 1, Yellow Columbus, bu. . . . .		8.41	8.16
Grain Sorghum, No.2, Yellow Dorchester, cwt. . . . .		6.02	5.77
Oats, No. 2, Heavy Minneapolis, Mn, bu. . . . .		3.09	3.15
<b>Feed</b>			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton. . . . .		*	175.25
Alfalfa, Large Rounds, Good Platte Valley, ton. . . . .		107.50	107.50
Grass Hay, Large Rounds, Good Nebraska, ton. . . . .		95.00	95.00
Dried Distillers Grains, 10% Moisture Nebraska Average. . . . .		147.50	153.00
Wet Distillers Grains, 65-70% Moisture Nebraska Average. . . . .		52.50	52.50
* No Market			

In previous articles in this space (on 6/20/2018 and 6/19/2019), I talked about recent developments and challenges for Brazilian grain markets. We discussed that one of the main obstacles for Brazilian competitiveness is the country’s logistics system. In those articles, we focused more on transportation and how higher marketing costs are explained by the poor infrastructure in Brazil and the modes of transportation used to haul grain to export ports. Today we will talk a bit more about this point, and then address another dimension of the logistics challenge in Brazil.

As previously discussed, the major agricultural area in Brazil is the center-west region, while the new frontier that has been expanding in recent years is the Matopiba region in the Brazilian northeast (Figure 1). One of the greatest challenges in these areas is transportation. Traditionally, Brazilian grain is exported through ports in the south and southeast, which are located around 1,000 miles from those regions. Still, approximately 75-80% of Brazilian grain is exported through these ports in the south and southeast. In addition, grain from the center-west and Matopiba is mainly transported by trucks, which is typically more expensive than rail or barges.

The distance to the ports and the relatively more expensive mode of transportation has decreased the competitiveness of Brazilian grain in the world market. In order to improve competitiveness, Brazil has been working on expanding the capacity of ports located in the north and developing cheaper and more efficient modes of transportation (i.e. rail and barges) to haul grain to the northern ports. Nowadays, around 20-25% of Brazilian grain is shipped through the northern ports. The Brazilian govern-



**Figure 1: Agricultural areas in Brazil – Center-west (left) and Matopiba (right)**

ment plans to expand this number to 40% by 2025. Transportation costs could be reduced since these ports in the north are geographically closer to the center-west and Matopiba. Besides, they would be accessed more easily by cheaper modes of transportation (rail and barges).

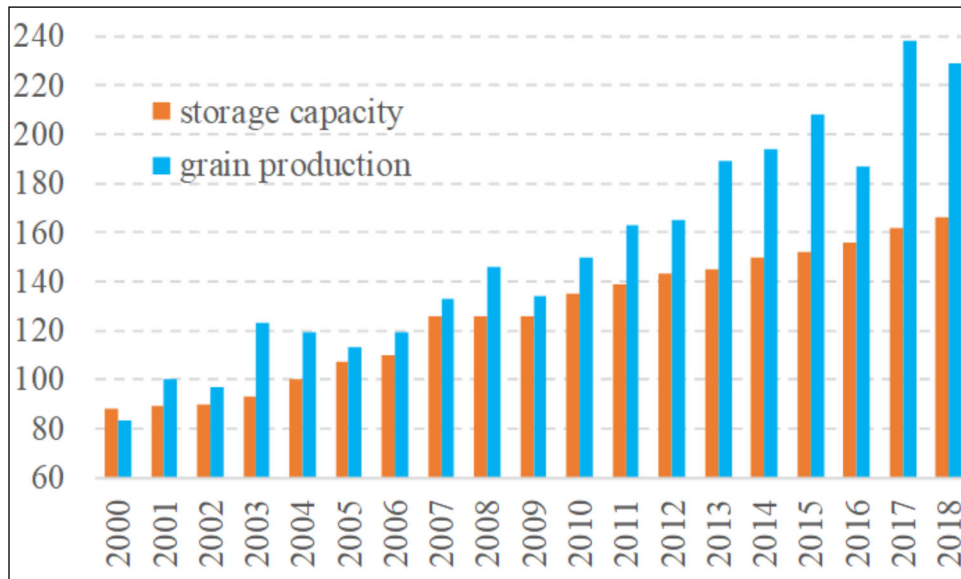
A study by the Brazilian Agricultural Research Corporation (EMBRAPA) discusses calculations of the cost of Brazilian grain to buyers in China and Europe. The numbers indicate that shipping grain to these regions from the Brazilian center-west through the northern ports can already be about 20% cheaper than shipping it through the southern ports. Besides, improving the ability to haul the grain from the center-west and Matopiba to the northern ports by rail or barges can further decrease this cost by 16-20%. Therefore, shipping more grain through the northern ports and improving the modes of transportation to reach those ports can potentially make Brazilian grain more competitive in the world market.

However, there is another dimension of the logistics system that also affects the competitiveness of Brazilian grain, which is the deficit in storage capacity. An increasingly larger portion of the Brazilian grain crop cannot be stored because its volume exceeds storage capacity in the country. The lack of storage forces producers to sell their grain faster, soon after harvest. The larger amount of grain to be hauled at that time means higher transportation costs, which affects the competitiveness of Brazilian grain as well as the profits of producers. In addition, the large amount of grain hauled to the ports at the same time also creates another problem for the logistics system which is the rising waiting time to unload the grain at the port. At harvest

time, ports are so busy that it is not unusual to arrive at the port and then wait for several days until the grain can be unloaded, which adds to the cost of shipping Brazilian grain to the world market and hence reduces its competitiveness.

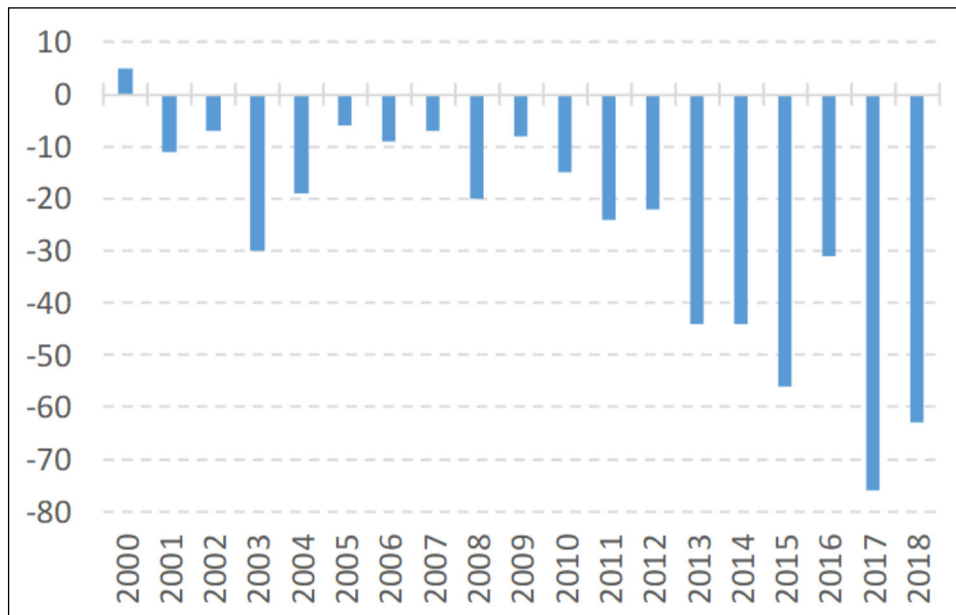
This issue has become more relevant in recent years because grain production started increasing faster than storage capacity. Storage capacity in Brazil has increased from 88 million tons in 2000 to 166 million tons in 2018, i.e. an increase of 88% in 18 years (or an average increase of 3.6% per year). However, grain production in Brazil has increased faster during the same period, going from 83 million tons in 2000 to 229 million tons in 2018. This represents a total increase of 176% or an average increase of 5.8% per year (Figure 2).

Since grain production has been increasing faster than storage capacity, there has been a growing storage deficit (grain production minus storage capacity) in Brazil. In the early 2000's, the deficit was around 10-20 million tons, i.e. around 10% of Brazilian grain production could not be stored. In recent years, the deficit has grown to 40-60 million tons, which means that approximately 20-30% of Brazilian grain production cannot be stored because it exceeds storage capacity (Figures 3 and 4). In particular, the deficit is generally larger in the center-west region and Matopiba. In the last few years, storage capacity has corresponded to 50-55% of total grain production in these areas. Not only is there an increasing deficit in grain storage in Brazil, but also this issue is more serious in two of the most important agricultural areas in the country



Source: Data from CONAB<sup>1</sup>

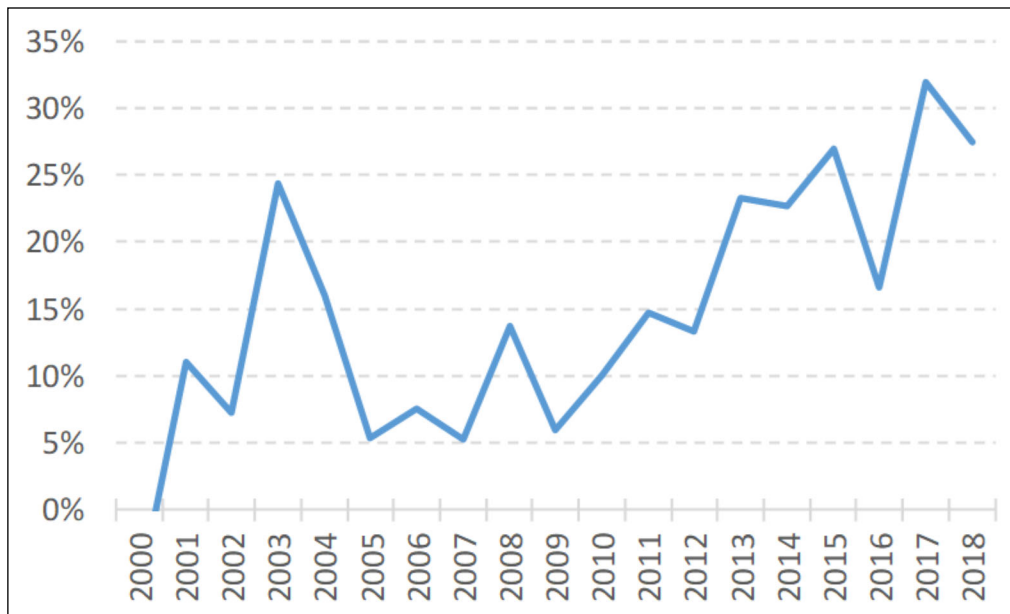
**Figure 2: Grain production and storage capacity in Brazil – 2000 to 2018 (million tons)**



Source: Data from CONAB

**Figure 3: Storage capacity deficit (grain production minus storage capacity) in Brazil – 2000 to 2018 (million tons)**

<sup>1</sup> CONAB (Brazilian Food Supply Company) is a public agency under the Brazilian Ministry of Agriculture, Livestock and Supply (MAPA), responsible for the execution of Brazilian agricultural policies related to price support, public storage, market supply and foreign trade. In addition, CONAB participates in the formulation of Brazilian government agricultural policy.



Source: Data from CONAB

**Figure 4: Proportion of grain production in Brazil that exceeds storage capacity – 2000 to 2018**

The two points discussed here illustrate some of the challenges faced by Brazil to improve the competitiveness of its grain in the world market. More data needs to be collected and more research needs to be done to assess the real competitive advantage that Brazil may earn if the northern ports become more active and storage capacity in the country increases. Basically, what is needed to accomplish these goals is capital and a business plan. Brazil has historically performed poorly when it comes to investments in infrastructure and development of solid business plans, particularly when the government is involved. However, there have been improvements in the recent past, hence it is worth watching closely how this story develops because it has the potential to change the world grain market in the future.