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12-13-2017

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Cornhusker Economics

An Introduction to the Economic Impact of Dry Edible Bean Production

Market Report	Year Ago	4 Wks Ago	12-8-17
<u>Livestock and Products,</u>			
<u>Weekly Average</u>			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight.	110.00	*	116.00
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb.	147.30	179.94	178.98
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb.	134.63	166.31	165.87
Choice Boxed Beef, 600-750 lb. Carcass.	189.85	212.59	206.87
Western Corn Belt Base Hog Price Carcass, Negotiated	53.45	58.91	58.56
Pork Carcass Cutout, 185 lb. Carcass 51-52% Lean.	74.98	80.40	82.53
Slaughter Lambs, woolled and shorn, 135-165 lb. National.	138.97	136.55	132.18
National Carcass Lamb Cutout FOB.	352.19	393.31	386.01
<u>Crops,</u>			
<u>Daily Spot Prices</u>			
Wheat, No. 1, H.W.			
Imperial, bu.	2.73	3.26	3.09
Corn, No. 2, Yellow			
Columbus , bu.	3.13	3.09	3.14
Soybeans, No. 1, Yellow			
Columbus , bu.	9.38	8.73	8.97
Grain Sorghum, No.2, Yellow			
Dorchester, cwt.	4.83	5.49	5.61
Oats, No. 2, Heavy			
Minneapolis, Mn, bu.	3.02	3.06	2.68
<u>Feed</u>			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185			
Northeast Nebraska, ton.	160.00	156.25	165.00
Alfalfa, Large Rounds, Good			
Platte Valley, ton.	67.50	80.00	87.50
Grass Hay, Large Rounds, Good			
Nebraska, ton.	65.00	82.50	82.50
Dried Distillers Grains, 10% Moisture			
Nebraska Average.	107.50	135.00	147.50
Wet Distillers Grains, 65-70% Moisture			
Nebraska Average.	42.34	42.00	44.25
* No Market			

Amazing statistics about Nebraska agriculture are plentiful. For example, Nebraska produces the 4th most output of agricultural products in the United States, while ranking only 37th in population. No wonder Nebraska's agricultural output ranks first when adjusted for population. It is safe to say most Nebraskans understand the importance of beef, corn, soybeans and ethanol. On the other hand, secondary crops play an important role in the economy as well, especially in the western portion of the state.

In 2015, Nebraska farmers planted just over 16 million acres with various crops. When corn, soybeans, and wheat are removed, just over 2 percent is left for *other* crops. From this standpoint the production of these crops could not make a large impact on the economic health of the state. However, given that low corn, soybean, and gasoline prices have depressed the state's economy in recent years, it is important to consider multiple production opportunities. Dry edible bean production is one of these *other* enterprises that offers potential benefits for the state. The remainder of this article examines the industry from a basic economic analysis standpoint.

Production

While dry edible bean production does not rank in the top five ag products produced in the state, Nebraska is the #1 nation-wide producer of Great Northern Beans, #2 producer of Light Red Kidney Beans, #2 producer of Pinto Beans, and #4 overall

producer of dry edible beans. In this respect, the importance of the industry is immense.

The production of dry edible beans is limited to the western portion of the state where the climate is better suited to the conditions needed by dry edible beans. Even though the growing conditions are ideal for production, the actual production process is far from straightforward. Dry edible bean producers face all of the normal challenges of crop production along with several other layers of complexity. Dry edible bean producers must be proficient agronomists, plant scientists, and irrigation engineers. In addition, the harvesting process has additional steps not included in the harvesting process of corn or soybeans.

If the complex nature of production were not enough, dry edible bean producers face market dynamics less standardized than other commodities. The result of these less-than-perfectly-competitive markets potentially increases risk and could also extract market welfare (aka profit) from dry edible bean producers.

One market structure not often evaluated in economics is oligopsony. Oligopsony has a direct parallel that is often studied: oligopoly. Entire classes on oligopoly and game theory are offered in departments of economics around the country, so this definition/explanation is greatly simplified. An oligopoly is a market where there are only a few sellers. Farm machinery, pickup trucks, soft drinks, and airlines are classic examples of oligopoly. The main feature of oligopoly is that there are few enough firms that they all matter; they are interdependent. How each firm competes against each other gives rise to the different models of oligopolistic behavior. In short, some of these industries have market outcomes similar to Perfect Competition (The Bertrand Model), while other have outcomes closer to that of a monopoly (Collusion).

Oligopsony is the mirror image of oligopoly. Instead of there being few sellers of a product, there are few buyers. Other examples of oligopsony in agriculture could include tobacco, as there are very few cigarette manufacturers buying raw tobacco. The market power oligopsonists hold is derived from their ability to force a lower price on producers in a similar way that oligopolists are able to influence the market price in an upward direction. Simply put, oligopolists aim to extract consumer surplus from buyers. Oligopsonists aim to extract producer surplus from sellers (profit).

This could be the case in the dry bean industry where there are less than four main processors to which producers can sell. The fact that there are only a few buyers of dry edible beans is not sufficient to raise concerns about the market practices as they relate to producers. However, several other nuances in the market exist.

To begin, there is no standardized futures contract for dry edible bean production. If producers desire to hedge risk, the typical arrangement is that they may contract a forward price with one of the processors, but not for the entirety of the crop. In addition, the local market is not active, with cash price changes happening infrequently. In short, the price data available at any given time could best be described as incomplete.

Another way to view prices would be specifically local. The prices paid by processors seem to have more influence from substitutes in production (soybeans) than global demand and prices. Another key detail is that there are times when processors allow producers to contract their entire crop. If the processor is willing to accept all downside market risk, the global price (that they have contracted to receive) is surely bullish. In short, there could be speculation that processors are exercising their market power by eliminating the possibility for producers to share in the profits of higher global prices.

Demand

Unlike animal protein products, there is little or no argument regarding the health benefits of dry edible beans. Dry edible beans are high in protein and fiber, all while being low in fat and calories. On the other hand, few Nebraskans would choose a plate of any type of dry edible beans over a nice medium rare steak.

While it is true U.S. consumers continue to increase their per capita consumption of animal protein, it is also true that demand for healthier alternatives has also increased. Unfortunately, studies show that dry edible bean consumption is negatively correlated with income. In other words, dry beans are an inferior good.

When the health benefits of beans are compared to foods like quinoa, chia, nuts, pumpkins, or lentils, they compare favorably. In fact, these foods are all

often associated with the moniker, *superfood*. When the health benefits of dry edible beans are compared to Ramen Noodles, the inferior good of choice among college students, there is little similarity.

The price of beans at the retail level is low, and this is a reflection of a lack of value added past the processing level of the supply chain. For beans to be edible, useful, and tasty, a significant amount of preparation is required. This *value added* is almost always the result of in-home production. This is both a benefit and curse. Because beans are sold in need of more value added, they are very flexible in their use. Unfortunately this low cost has firmly segmented beans as an inferior good; something you only buy if you have to.

This analysis of the dry edible bean market seems negative. However, the market is profitable for producers to continue to expand production. When this is combined with the murky nature of the supply chain and the inferior nature of demand, the outlook for the industry is very positive. Part of the *farm problem* is exposure to market risk. This risk can be managed by holding cash reserves, spreading sales, or utilizing derivative markets. None of these strategies address the long run risk of becoming very specialized in the production of only a few enterprises. Nebraska farmers and ranchers are resourceful, and diversifying production in enterprises such as dry edible beans will guarantee a successful ag economy for years to come.

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