How Weather affects Grain Commodities

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Advanced Composition

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Abstract

Weather can be a huge factor when dealing with grain commodity prices. It can persuade futures prices greatly and can help determine a year’s crop. Knowing grain commodities and the ways they change could make a hedger or spectator untold amounts of money. Being a farmer today you must be able to keep involved in futures trading and have much knowledge in the business side of things. Weather can have huge affects on even the small time farmer.

Outline

***Thesis Statement***: Even though there are many factors that affect commodities, weather is still the biggest variable that will determine if you make or break it in commodity exchanges.

I. Understanding Commodities

1. How the futures market works

1.Exchange functions and participants

2. How hedging works

1. Strategies
2. 1-6 Strategies
3. Advantages

II. How weather affects commodities

1. Instances examples, History
2. Why it changes it.

III. Current markets

“Civilization as it is known today could not have evolved, nor can it survive, without an adequate food supply” (Norman).There is no question that people need food to survive. The true question is; how much food do we need and how do we get that food? While prices continue to rise, do humans waste too much food? When half the world is close to starving, should we be cutting funding on research helping to grow food in an easier and more successful way?

In order for a farmer to gain a reasonable profit, he must consider both the business and agricultural attributes of farming. Farming is a business. It takes time, effort, and even luck. America needs food to support not only its own citizens, but other countries America exports food to as well. In order to have adequate production to support this need, several major factors are necessary. These factors include soil type, equipment, fertilizers, and chemicals. In order for these factors to work, one more factor is absolutely necessary: weather.

A commodity is a raw material or primary agricultural product that can be bought and sold. Weather can affect commodities in three different ways; a negative way, a positive way, and an average way. Weather’s inconsistency and unpredictability make predicting the type of crop that each year’s harvest will produce very difficult, if not impossible.

Weather can differ greatly in small geographic distances. One area may experience drought, while at the same time, an area nearby may experience nearly perfect rainfall. In addition, weather can drastically change in a short amount of time. As weather goes through these dramatic changes, commodity prices react just as quickly. Commodity prices are affected by the amount of production in that product or crop. For example, if an area experiences a severe drought, crops do not grow and there will be a shortage of crops in that area.

The United States is the largest supplier in the world of corn. When the United States has a short supply of crops, grain prices are affected in a very dramatic way. This is a simple concept, supply and demand. Supply and demand is when you have a product you are selling and a price. The more a product is going to be needed the more demand it has. When you have more of a demand for a product, price is increased. When the United States experiences good weather, it affects the prices in a similar fashion to the bad weather, just in the opposite direction. The same concept of supply and demand applies. Good weather can force the prices to fall back down. Good weather consists of small, consistent doses of rain. Good weather produces better crops. When the United States’ supply fits the world’s needs, the price of commodities will decrease because the needs of the world are met.

Sometimes weather is good in some areas, but not as good in others. Just because one area has good weather, does not mean the whole United States does. Droughts are often spotty and inconsistent, taking up only a small area of land. In the big picture, prices are going to be affected by the overall supply, not one small piece.

Weather is one of the greatest variables that affect crops’ production. In order for crops to grow at all, the right amount of rain is needed at almost the exact time and place.

Farming is a business. Farmers are required to make difficult choices everyday based on financial decisions. Even though there are many factors that affect commodities, weather is still the biggest variable that will determine if you make or break it in commodity exchanges.

A commodity exchange is an exchange for buying and selling commodities for future delivery. A futures contract is a commitment to make or take delivery of a specific quantity and quality of a given commodity at a predetermined place and time in the future (Chicago Board of Trade 5). All the terms of the contract are set in stone in advance, with the exception of price. The price is determined on the trading floor of a commodity exchange or through an exchanges’ electronic trading system. All contracts will be settled by liquidation or the actual delivery of the commodity. But only one percent of all contracts traded end up in the actual delivery of the commodity. Almost all contracts are settled with liquidation (5).

The main purpose of a commodity exchange is to bring the buyers and sellers together. The role of the exchange is simply a central marketplace. It has no part in whether prices are high or low. The exchange helps enforce rules and keep an open trading market available to everyone so no one will have an advantage. Only members can make a trade at the exchange. If an individual is not a member, that individual can work through a broker. The broker simply calls in the individual’s order to an exchange member and the exchange member executes the order (Chicago Board of Trade).

Most futures market participants fall between two categories: hedgers and speculators. The word hedge means protection: “to try to avoid or lessen a loss by making a counterbalancing investment (Chicago Board of Trade).” Importers want to take advantage of lower prices for grain contracted for future delivery but not yet received. But the exporters, processors or livestock producers, merchandisers or elevators, and farmers are all in need of protection. These are all known as hedgers. The speculators can be part of the general public or they may be floor traders. The speculators then simply provide liquidity: the ability to enter and exit the market quickly and easily. If speculators can anticipate the direction and timing of the markets, they will be successful and prove their talents. That is their goal.

Now the affect margins and bases have on futures. In order to bring a margin account up to the required level, a brokerage firm makes a margin call to a market participant and additional funds are deposited. The reason for additional funds can be the result of a losing market position or an increase in the required margin. The basis is the difference between the local cash price of a commodity and the price of a related futures contract.

Cash price – futures price =basis.

There are 6 different strategies for buying and selling agricultural options (Chicago Board of Trade).

Strategy #1 Buy calls for protection against rising prices.

Strategy #2 Sell puts to lower your buying price in a stable market.

Strategy #3 Buy a call and sell a put to establish a buying price range.

Strategy #4 Buy puts for protection against lower prices.

Strategy #5 Buy a put and sell a call to establish a selling price range, this building a fence.

Strategy #6 Sell crop at harvest and buy call options to profit from a possible price increase.

There are four basic principles that affect futures prices: (1) supply and demand, (2) inventories and stocks, (3) currency, and (4) inflation (Ponzio). Futures prices adjust to reflect the additional information about the supply and demand as it becomes available. So if the United States is experiencing a huge drought throughout the Midwest like this last year, the supply will be low due to the worse production. The market will see this and adjust by adjusting to supply and demand. So the prices will go up due to the low supply (Chicago Board of Trade 6). This is very similar to selling other items like a car for example. The less a company makes a car the more valuable and rare that car will be. If they make 1 mustang and 500 corvettes the mustang will most likely be more valuable, this being that they are very similar cars with the same specs.

Inventory is a quantity of goods held in stock. So let’s say there is a drought and the supply of corn falls short to half of what it normally would in an average year, prices generally rise to drive demand down. If at a later time, this same scenario occurs again, but this time farmers have prepared by filling their silos for such emergencies, then even though the production has temporarily shut down, the supply meets the demand. Inventories begin to fall, but nobody is worried because the drought is just temporary. This time, because of the farmers’ preparation, prices do not change. But the production cannot stay offline for too long or inventories will begin to fall to low levels. In that case, prices will rise to quell demand and preserve inventories until production can get back on track (Ponzio 2).

The Currency that affects commodities is basically transferring the money to the correct amounts so they equal each other. For instance, if China buys 10 Yuan worth of soybeans from the United States, then that is equal to $1.6 U.S dollars. Currently, all countries use the same board of trade or markets, so it may be cheaper for China to buy from another country like Brazil for example (Ponzio 3).

Inflation occurs without the awareness of most individuals, who generally do not feel its affects. Inflation generally rises over time. If inflation goes up three percent each year, corn prices rise three percent as well, due to a rise in income, utilities and supplies (Ponzio 4).

All of this information relates to supply and demand. You can’t sell one little production for a little price you will never make money it has to even out (Joe Ponzio 5).

And what is maybe the biggest variable that affects supply and demand? Once again, the answer is weather.

Long-term climate records from tree-ring chronologies show that the 2012 drought in the Midwest was the most severe event of its kind in the western United States in the past 800 years. Though there have been many extreme droughts over the last 1,200 years, only three other events have been of similar magnitude, all during periods of “mega droughts.” (Schwalm, Williams and Schaefer).

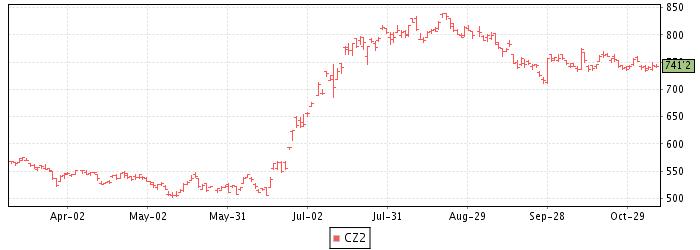
In the history of the United States, this country has experienced many severe droughts. Five of the worst droughts in United States history were the dust bowl of the 1930s, the dry 1950s, the northeastern drought in the 1960s, the late 1980s drought, and this year’s 2012 drought. Each individual drought had an effect on grain commodities.

The dust bowl, also known as the dirty thirties, was the most destructive drought the United States has ever faced. According to the NOAA, the drought affected more than 50 million acres of land. This drought was very severe because of the lack of rain and poor soil management, causing huge dust storms across the Great Plains. At that time, the United States did not use proper conservation techniques and the consequences were dire. The prices of corn during the 1930s did not vary as much as one would expect. The price of corn in July of 1928 was only $1.15. In July of 1932, the price of corn was $0.50. In 1934, the price was $0.72. The selling tactics were much different back in the 1930s as compared to now. Most of the corn harvested would be used for individual farmers’ needs: feed for the animals, food for themselves. Very little corn was actually taken to an elevator or shipped. The uses for corn at that time were much more simple and less diversified then today. The need for corn was not nearly as much of a cash crop as it is now (Pappas 5).

From 1950 to 1956, drought engulfed the Great Plains and the Southwest. The rainfall decreased from 1949 to 1951 by 40% in Texas (Stephanie Pappas 4). Corn prices in July of 1949 were at $1.42. Only three years later, in 1952, the price of corn had gone up to $1.87. Prices in the 1950s did not change very drastically or very quickly. A $0.40 difference was much great then than it is now (Karnowski).

Last, but definitely not least, the 2012 drought settled over more than half of the United States. This was the most widespread drought in more than half of a century. In July of 2012, the United States experienced the hottest year since 1895. July was the hottest month ever recorded in United States history. The most recent federal assessment in August reports that parts of at least 33 states, mostly in the West and the Midwest, are experiencing drought conditions that are severe or worse. The drought affected 87% of the land dedicated to growing corn, 63% of the land for hay, and 72% of the land used for cattle Mohadjerin).

Those who believe the 2012 drought impacted only farmers are mistaken. More than 75 percent of the food on your supermarket shelves contains corn. Corn is used to feed most meat livestock. Corn produces foods ranging from dairy to baked goods to breakfast cereals. It is as simple as this: no rain equals no pollination equals fewer kernels of corn. And when corn is used everywhere, the loss is huge. In 2011, the government awarded over four billion dollars in corn subsidies. There were 92.3 million acres of corn in 2011. That is definitely not a small supply. The United States is the world’s biggest producer and exporter of corn, delivering to nations as varied as China and Mexico. These statistics show how much our county depends on corn for nearly everything in daily life. So when the United States has a lack of rain, who helps cover the losses? Most farms will still be covered by subsidies, which will basically act as a safety net. Corn futures prices surged on the Chicago Board of Trade, up 42 percent in a month. Futures prices impact food prices, as corn is basic to our diet (Myers). Drought conditions in Midwestern states have reduced expectations for the amount of corn that may be harvested in 2012, and contributed to a 35 percent rise in the price of corn from June 18, 2012, to August 29, 2012 (U.S. Energy Information Administration).



The chart above shows corn futures prices for a 6-month period. As the chart indicates, the price of corn started shooting up dramatically in the beginning of July, 2012, rising from nearly $5.00 to $8.00 in only the month of July. That number is record setting. This rise occurred right after the United States started experiencing a drought in early July all the way through the summer. Since the United States was not receiving any rain, and the temperatures were too hot for the corn to pollinate, the expected average yields for the United States were very low, with average yields around 124 bushels per acre. Compare this to the average yield of 147.9 bushels per acre in 2011. That is a huge difference compared to 2012. With this low of production, the corn prices will once again rise sky high, as they did in July. When corn prices rose this high, ethanol could not afford to buy $8.00 corn. This forced many ethanol plants to shut down and cut the amount of ethanol they could make (Pro Farmer).

All of these effects have occurred because the United States experienced a drought. It is a simple process. If there is no rain and too hot of weather, corn cannot grow. When there is a shortage of corn, supply and demand kicks in and the price of corn goes up, affecting so many more individuals and entities than just farmers and the farming market. Even though there are many factors that affect commodities, weather is the biggest variable that will determine the prices of commodities. It is as simple as Dave Ramsey says: “When dealing with commodities you are betting on the weather (Dave Ramsey).”

Works Cited

Chicago Board of Trade, . *Agriculture Futures and Options*. Chicago : Board of Trade of the City of Chicago, 1998. Print.

"Corn Prices." *Pro Farmer*. Pro Farmer. Web. 20 Nov 2012. <http://www.agweb.com/assets /1/6/6970344.pdf>.

Ramsey, Dave. *Foundations in Personal Finance*. Brentwood, TN: Lampo Licensing LLC, 2008. Print.

Karnowski, Steve. "Widest drought since 1950s." *LeaderPost*. LeaderPost . Web. 20 Nov 2012. <http://www.leaderpost.com/technology/drought widest since 1950s/6944206/story.html>.

Mohadjerin, Mashid. "Drought (U.S. Drought of 2012)." *The New York Times*. The New York Times, 20 2012. Web. 20 Nov 2012. <http://topics.nytimes.com/top/news/science/topics/drought/index.html>.

Myers, Stan. "No Rain Could Mean No Corn." *CantonRep*. CantonRep, 14 2012. Web. 20 Nov 2012. <http://www.cantonrep.com/news/x1062474000/No-rain-could-mean-no-corn?zc\_p=0>.

Pappas, Stephanie. "The Worst Droughts in U.S. History." *LiveScience*. LiveScience, 25 2012. Web. 20 Nov 2012. <http://www.livescience.com/21844-worst-droughts-in-u-s-history.html>.

Ponzio, Joe. "What Affects Commodities Prices." *F Wall Street* . N.p., 27 2009. Web. 19 Nov 2012. <http://www.fwallstreet.com/article/182-what-affects-commodities-prices/>.

Schwalm, Christopher, Christopher Williams, and Kevin Schaefer. "Hundred-Year Forecast:Drought." *SundayReview*. The New York Times, 11 2012. Web. 20 Nov 2012. <http://www.nytimes.com/2012/08/12/opinion/sunday/extreme-weather-and-drought-are-here-to-stay.html?\_r=1&>.

"Today In Energy." *U.S. Energy Information Administration*. eia Independent Statistics and Analysis, 31 2012. Web. 20 Nov 2012. <http://www.eia.gov/todayinenergy/detail.cfm?id=7790>.