DEVELOPING AN OUTLOOK TALK: LESSONS IN SUPPLY AND DEMAND

by

NICHOLAS E. PIGGOTT

and

MICHELE C. MARRA

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Department of Agricultural and Resource Economics North Carolina State University Raleigh, NC 27695-8109





Foreword

This publication is intended to give to Southern Region Extension personnel the tools with which to develop an "outlook talk". An outlook talk is a presentation that gives farmers and other interested parties information about agricultural commodities' and agriculture-related products' demand and supply conditions in the near future. It is *not* intended to be a crystal ball, but rather a comprehensive look at the *trends* that might influence demand or supply, thus affecting prices and production. The manual follows along with a set of slides used in several outlook talks in the spring of 2008. To facilitate learning current databases used to create charts and figures are made available for download off the NC State Grain Marketing page (www.ag-econ.ncsu.edu/faculty/piggott/out_talk.html).



Table of Contents

Fore	word	. ii
1. TI	ne Basics of Demand and Supply	. 1
a.	Demand	. 1
	i A Demand Schedule	. 1
	ii Other Factors Affecting Demand	. 2
b.	Supply	. 3
	i The Supply Schedule	. 4
	ii Factors Affecting Supply	. 5
c.	Market Equilibrium	. 6
2.	Unbiased Demand and Supply Data	. 9
3.	Special Supply and Demand Features in the Southeast	12
a.	Net Importer	12
b.	Different Timing	12
c.	More Volatile Yields	13
d.	Transportation Costs	13
e.	Yield-Price Correlation Low	13
4.	Current and Future Commodity Prices	
a.	Current Selling Price - Cash Markets	16
	Cash Sale	16
	Cash Forward Price Contract	17
	Using Basis To Evaluate Cash Forward Price Offers	18
b.	Futures Prices - Commodity Exchanges	19
	Futures Contracts	20
	Hedging	20
	Basis Contract	23
	Understanding the "Ticker" - Open Auction	24
c.	Contract Specifications	26
5.	Putting the Outlook Talk Together	29
a	Introductory Material	30
b	The Situation and Outlook	43
c.	The Current Situation and Outlook for the Corn Market	48
d.	The Current Situation and Outlook for Soybeans	57
e.	Current situation and outlook for wheat	64
6.	Final Thoughts	74





1. The Basics of Demand and Supply

This section of the manual is a primer, or refresher course, for those of you who have taken a basic economics course that discusses the fundamentals of the two parts of a market. These parts, demand and supply, are the basic building blocks of an outlook talk.

a. Demand

We talk about demand in two ways; a demand schedule, or curve, and the factors that affect demand.

i A Demand Schedule

A market demand schedule represents, for any good, the quantity that buyers in the market will choose of that good at each of a range of prices. A demand schedule can be a list of prices and quantities demanded or a graph; each depicting the same information. For example, let's consider the U.S. market for pecans. Suppose an economist gathered some price and sales data for this year as follows:

Table 1. A demand schedule

Pounds (thousands)	Price/lb.
0	\$9.00
2,500	\$8.00
5,000	\$7.00
7,500	\$6.00
10,000	\$5.00
12,500	\$4.00
15,000	\$3.00
17,500	\$2.00
20,000	\$1.00
22,500	\$0.00

As you can see by the listing above, more was sold at lower prices than at higher prices. This phenomenon is called "The Law of Demand" and it always holds. In other words, as the price of a good falls the quantity demanded increases, *all other things equal*. Remember that phrase. We'll come back to it in a minute.

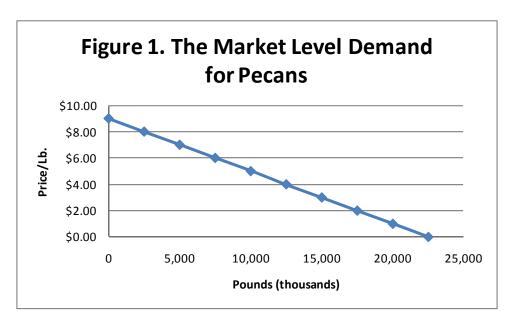




Figure 1 below shows us a graphical version of exactly the same information that is in the listing above. The graphical version gives us a clear look at the Law of Demand and may be easier to follow, especially when things get a little more complicated, as we'll see soon.

ii Other Factors Affecting Demand

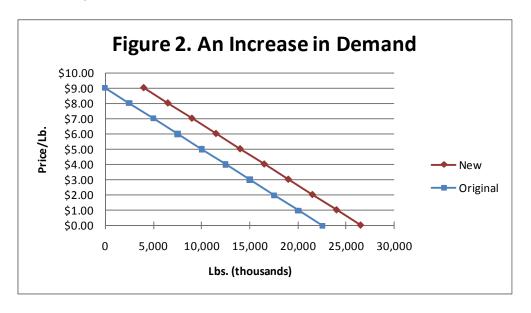
Many factors affect the demand for a product. The product's own price affects the *quantity demanded*, which is shown in Figure 1, but the other factors affect *demand*. These factors are the "all other things" in the phrase, "all other things equal". These "all other things" include tastes and preferences, the prices of related goods in demand, and customers' incomes.



For example, suppose the Food and Drug Administration announced that pecans contain a substance that prevents some types of cancer. In that case, more pecans would be demanded at *every* price. This would be depicted as a *rightward* shift of the demand curve as in Figure 2. Notice that now, with the favorable news from the FDA, 4 million *more* pounds of pecans are demanded at every price in this market because customers' preferences have changed in favor of pecans. Conversely, if there was bad health news about pecans, demand would shift *leftward* because less will be demanded at every price.



What happens to demand when the price of a related good changes? Let's suppose that there is a terrible blight that has affected walnut groves around the world. This would tend to reduce the supply and increase the price of walnuts as we'll see in the section on supply. Since pecans and walnuts are substitutes in consumption (at least for most people) then as the price of walnuts increases, people will tend to not purchase as many walnuts at each price, but will purchase more pecans at each price of pecans. This results in, again, a *rightward* shift in the demand for pecans as depicted in Figure 2. So, any *reduction*, *or leftward shift*, in the demand for a *substitute* good, will result in an *increase*, *or rightward shift*, in the demand for the good in question, in our case, pecans.



The opposite is true for goods that are *complements* in demand. Take, for instance, peanut butter and jelly. These two goods are often eaten together and so are complements in demand. If the demand curve for a complement shifts leftward, so will the demand curve for the good in question.

b. Supply

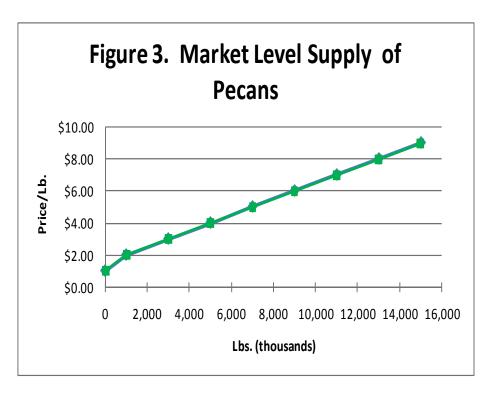
Just as the demand curve for a good can be shown by a listing of the prices and corresponding quantities, the supply curve for a good can be depicted in these ways also.



i The Supply Schedule

The supply schedule represents the quantities that producers are willing to supply at different prices. Generally, producers are willing to supply a higher quantity of the good as the price goes up. This is because the costs of producing a good generally increase with the amount of the good produced and the supply curve represents those costs of production in a competitive market. Consider Figure 3, which represents the quantities of pecans that grove owners are willing to supply at each price. In this case, the cost of production will increase with the quantity supplied because getting the last pecans out of the tree is quite expensive! Notice also that at a price of \$1.00 per pound, pecan suppliers aren't willing to supply any pecans to the market. This is because the cost of supplying any pecans to the market is greater than a dollar. In other words, the producer's costs of doing business. the cost of the land, and any costs of labor that do not change with the amount of labor hours supplied (unemployment insurance, health insurance, social security, etc.), are greater than \$1.00 per thousand lbs. of pecans. So, the producers would be losing money if they supplied any pecans to the market if the price were only \$1.00.

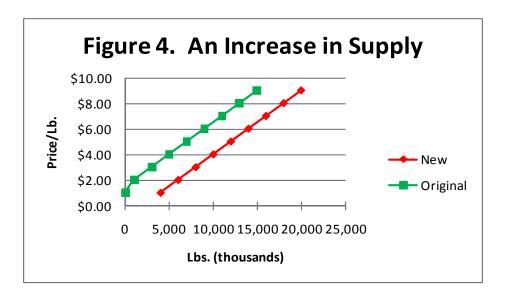




ii Factors Affecting Supply

The supply of a good is affected by available technology and resources and the prices of related goods in supply. Technology and resource changes change the costs of production and therefore shift the supply curve. For example, suppose a new, higher yielding pecan tree is invented that lowers the cost of supplying a given quantity of pecans to the market. In other words, the higher yield per tree lowers the cost of labor for harvesting per thousand pounds of pecans, for example. This would result in an *increase*, *or rightward shift*, in the supply curve so more pecans are supplied at every price. Such a shift is shown in Figure 4. Likewise, if a blight were to affect southern pecan groves, rather than walnut groves, the supply of pecans would *decrease*, *or shift leftward*.

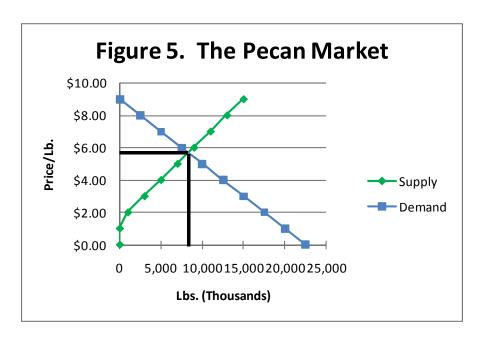




c. Market Equilibrium

The market equilibrium price and the quantity exchanged are determined where the quantity demanded just equals the quantity supplied, given our demand and supply schedules. This is depicted graphically as the price and quantity indicated where the demand schedule intersects the supply schedule. Figure 5 shows on the same graph the original demand and supply schedules that we made up for pecans. This is a picture of the pecan *market* in a particular interval of time, say one year. Reading from the graph, the market equilibrium price is about \$5.75 per lb. and the market equilibrium quantity exchanged is about 8 million pounds.





Now, suppose the price were *above* the market equilibrium price of \$5.75, say at \$8.00. There are market forces in play that will move the price toward the equilibrium price. At a price of \$8.00, suppliers are willing to produce more than demanders want to purchase. This over-supply will have to be sold somehow, so the suppliers will start lowering the price until demanders wish to purchase exactly the same amount as suppliers are willing to supply. What if the suppliers lower their price *below* the \$5.75 equilibrium price by mistake? In that case, demanders would want to purchase more pecans than suppliers are willing to supply at that price. In other words, there would be a temporary *shortage* of pecans if the price were held to that lower level. Demanders would start bidding up the price until supply again equals demand. This is why this particular price and quantity sold is deemed to be the market *equilibrium*. That is, at a pecan price of \$5.75 per lb., there is no incentive for suppliers to supply more or less and there is no incentive for demanders to wish to purchase more or less.

So why do prices and quantities sold fluctuate at all? One would think that, once they reach equilibrium, they wouldn't change. **But remember**, this market equilibrium is subject to the "all other things equal" constraint. Once we start changing the levels of the factors that influence demand and supply (other than price) the demand and supply curves will *shift* and a new equilibrium price and quantity will be found.



Now that we have reviewed the building blocks—demand, supply, and market equilibrium—we can now begin to talk about an outlook talk.



2. Unbiased Demand and Supply Data

An outlook talk is a presentation that gives farmers and other interested parties information about agricultural commodities' and agriculture-related products' demand and supply conditions in the *near* future. Generally, outlook talks have a "shelf-life" of about 1-3 months, depending on whether a significant shift in supply or demand has occurred during the time period. A critical underlying component of an outlook talk is to develop a perspective of historical demand and supply situations of the underlying commodity of interest. To develop this perspective requires historical data for a significant period, on the order of 10 to 20 years.

Fortunately, USDA provides the best, unbiased information on the historic series of factors that affect supply and demand for U.S. commodities, as well as off-shore factors that might affect agricultural prices in the U.S; the WASDE report.

How the WASDE Report Is Prepared

The World Agricultural Supply and Demand Estimates (WASDE) report is prepared monthly and includes forecasts for U.S. and world wheat, rice, and coarse grains (corn, barley, sorghum, and oats), oilseeds (soybeans, rapeseed, palm), and cotton. U.S. coverage is extended to sugar, meat, poultry, eggs, and milk. These are annual estimates, updated monthly as new supply and demand information comes in. USDA World Agricultural Outlook Board analysts chair the Interagency Commodity Estimates Committees (ICECs) comprising representatives from several key USDA agencies. The nine ICECs— one for each commodity—compile and interpret information from USDA and other domestic and foreign official sources to produce the report.

Diverse Sources

The ICECs rely on Foreign Agricultural Service (FAS) attaché reports and analysis of foreign commodity developments, Economic Research Service (ERS) domestic and foreign regional assessments, and National Agricultural Statistics Service (NASS) U.S. crop and livestock estimates. For domestic policy and market information, the Board relies on the Farm Services Agency and the Agricultural Marketing Service. WAOB and FAS use weather analysis and satellite imagery to monitor crop conditions. Additional private and public information sources are considered.

This broad information base is reviewed and analyzed by ICEC members who bring diverse expertise and perspectives to the report. To arrive at consensus forecasts, alternative assessments of domestic and foreign supply and use are vetted at the ICEC meetings. Throughout the growing season and afterwards, estimates are compared with





new information on production and utilization, and historical revisions are made as necessary.

Commodity Balance Sheets

The WASDE reports a full balance sheet for each commodity. Separate estimates are made for components of supply (beginning stocks, imports, and production) and demand (domestic use, exports, and ending stocks). Domestic use is subdivided into major categories, for example corn for feed and corn for ethanol. Domestic use may be based on data from other Federal agencies: for example, U.S. wheat ground for flour, soybeans crushed for oil, and cotton mill use come from the Bureau of the Census. The demand side of the balance sheet may include a category for "residual" or "unaccounted" disappearance to balance known uses against total supplies.

The WASDE also reports forecast season-average farm prices for most items. Prices tie together both sides of the balance sheet. Market prices aid in rationing available supplies among competing uses. Prices also indicate potential supply responses, for example potential planting decisions for the upcoming year. The process of forecasting price and balance sheet items is complex and involves the interaction of expert judgment, commodity models, and in-depth research by USDA analysts on key domestic and international issues.

Lock-up Conditions

To assure the highly market-sensitive information is released simultaneously to all endusers, and not prematurely to any one, the WASDE report is prepared under tight security in a specially designed area of USDA's South Building. From about midnight before the morning of release, doors in the "lockup" area are secured, window shades are sealed, and telephone and Internet communications are blocked. Once analysts present their credentials to a guard, they enter the secured area to finalize the WASDE report. Communications with the outside world are suspended until the report is released at 8:30 a.m. Eastern time, about 2 hours before U.S. commodity markets open. All this security is necessary because this new information is so valuable that if anyone knew the updated estimates ahead of others, they could make huge gains and, possibly, distort market conditions for others.

All of the WASDE reports are available at: http://www.usda.gov/oce/commodity/wasde/





Notice each WASDE report starts off with a narrative of important changes in the supply and demand information from last month. You should read this carefully. A series of tables, mostly based on one commodity each, comes next. These tables give you information about the general components of supply and demand for each commodity for the previous two months and for the previous three crop years. These factors are:

Supply:

- a. Ending stocks Amounts of the commodity in storage that is available to be sold in the current year
- b. Production Total estimated production of the commodity in the current year
- c. Imports Total amount of the commodity imported for domestic use in the current year

Demand (also sometimes called disappearance or use):

- a. Animal feed Amounts of the commodity estimated to be used for animal feed in the current year
- b. Food, seed, and industrial uses Amounts of the commodity estimated to be used for food for human consumption, seed production for next year, and all other uses for the commodity. Lately, "industrial uses" has included corn used in the production of ethanol in the WASDE corn estimates.
- c. Exports Amounts of the commodity exported to other countries during the current year.

So, after all of the uses for the commodity in the current year are accounted for, the remainder of the supply, if there is any, comprises the ending stocks for the current year, which become the beginning stocks for next year and so on. The ending stocks could be in government storage (CCC inventory) or private storage (free stocks).

The WASDE tables also provide estimates of acres planted and harvested of the commodity and the estimated yield per acre. They also provide an estimate of the marketing-year, weighted average price received by farmers. The weights are the proportions of total supply sold at different prices throughout the marketing year.

The WASDE report contains estimates for the U.S. and all its major trading countries (by commodity) and also estimates for the world. The tables from the WASDE typically used in an outlook talk will be discussed shortly.



3. Special Supply and Demand Features in the Southeast

There are several unique features in relation to demand and supply in the Southeast. These unique features need to be well understood by those of us who prepare outlook talks so that our audiences can make informed agricultural marketing decisions in the Southeast region.

- Net Importer
- Different Timing
- More Volatile Yields
- Transportation Cost
- Low Yield-Price Correlation

a. Net Importer

The unique demand and supply conditions stem from the Southeast being a grain-deficit region. That is, the Southeast does not produce enough grain to support the poultry and livestock industries located in the region. The significant proportion of the grain that is consumed by the livestock and poultry industries is imported with the majority coming from production out of the Midwest region. This state-of-affairs means that for a majority of the marketing year we should observe grain prices in the Southeast at approximately the Midwest grain price plus the cost of freight.

In addition, because there is only limited storage capacity in the Southeast, and the market must clear, harvest time prices are often lower than the harvest price in the Midwest. These low harvest time prices, due to limited storage, are then typically followed by a strengthening in basis for several months after harvest (usually up to around February for corn and soybeans). Producers who are able to store their commodity as the local prices settle into the more favorable Midwest plus freight price relationship can take advantage of this strengthening basis. More information on this topic can be found in the Southeast Grain Marketing Handbook (www.ag-econ.ncsu.edu/faculty/piggott/handbook.htm).

b. Different Timing

Generally, the timing of crops in the Southeast is slightly different than the Midwest. Wheat and feed grains are usually harvested earlier while the reverse is true for soybeans, which are typically planted and harvested later. This difference in timing





can also mean that some marketing strategies might be more or less appealing than others in different regions.

For example, new crop pricing alternatives for wheat and feed grains might be enhanced significantly in the early harvesting Southeast regions in years when the ending stocks from the previous year were depleted and there remains uncertainty about the new crop production in the major producing areas.

c. More Volatile Yields

Yields tend to be more variable in the Southeast compared to the Midwest. This property has the effect of making strategies that involve locking in a certain quantity, such as a forward contract, less attractive compared to the Midwest where yields are less volatile, and where they can be fairly confident that they can deliver the contracted quantity.

d. Transportation Costs

Due to the Southeast being heavily reliant on Midwest grain to be transported here to fulfill demand, there is a small premium captured by local producers whose grain does not have to be hauled as far.

Furthermore, when there are transportation glitches or a sudden increase in fuel costs there may be opportunities for local grain producers to sell their grain at higher price levels. However, often these opportunities are difficult to predict and are usually short-lived and require having grain on hand to take advantage of them.

Nonetheless, the fact that the Southeast region is a major importer means that such factors as freight rates and logistics play a larger role in the price discovery process than other regions.

e. Yield-Price Correlation Low

Perhaps, most important, is the modest yield-price correlation that exists in the Southeast. That is, if yields in the Midwest plummet, there is typically a national price offsetting response with rising prices having a stabilizing effect on revenues for farmers - a lower quantity but a higher price.

There is stronger correlation between national yields and prices and Midwest yields and prices than Southeast and National yields and prices. The Midwest is significant





in terms of production. So, adverse or favorable yields in this region significantly impact national supply and thus, prices.

This is not the case for production in the Southeast. Since, agricultural production in the Southeast accounts for such a small share of the national agricultural market, adverse weather that greatly affects yields in the Southeast will have little effect, if any, on national supply and thus prices.

This lack of the yield-price tradeoff in the Southeast means that producers may need to consider alternative strategies than what might be appropriate for a Midwest producer. Southeast producers cannot rely on much of a counterbalancing impact from price on revenues when yields are lower.



4. Current and Future Commodity Prices

Just as we discussed in the first section, changes in all of these supply and demand component estimates (remember, *all other things the same*?) give us a pretty good idea of how the price of the commodity will change. For example, suppose the commodity in question is soybeans and the updated WASDE estimate contains information about very poor growing conditions and substantially lower yields in Argentina? What do you suppose might happen to soybean price? Of course! U.S. soybean price will be adjusted upward to reflect the expected decrease in world supply (a leftward shift in Figure 5).

So far, we've been pretty glib about the word "price". It is now time to explain exactly what we mean by it. Actually, we mean several prices; the current selling price for a commodity on the open market and a series of *futures prices* for the commodity. All of these prices are affected by changing supply and demand conditions.

- 1. Current selling price the price a farmer can expect to receive at a certain place at a certain time for a certain commodity. In order to estimate this price for your target audience, say a group of farmers in Tifton, GA, you will need to know the current selling price at the national level and the current basis for Tifton, Georgia. Basis is the difference in the local price and the nearby futures contract price, which is the most commonly referenced for purposes of price discovery. Generally, the local price differs from the nearby futures price by the amount of transportation costs from the local market to the market on which the futures price is based. Of course, local supply and demand conditions can affect the basis, too, so the basis is not a constant amount, but generally it doesn't move around as much as the price.
- 2. Futures price The price for the commodity that traders in the *futures market* expect at some point in the future. For most commodities, this market is the Chicago Board of Trade. These traders use their best educated guesses based on all the current supply and demand information to estimate what the price for a commodity might be at some future date.

The next few sub-sections discusses the various ways price is determined in both the cash market and the futures markets. It should help you understand these from a farmer's point of view.



a. Current Selling Price - Cash Markets

All producers of grain and soybeans must at sometime find a buyer for their commodity unless they are producing the commodity for on-farm use. The "actual" physical exchange of the commodity for payment is typically referred to as the cash market. This can be compared to the futures market where actual physical exchange of a commodity is rare and where instead offsetting trades are most commonly adopted.

For most producers, their cash market constitutes a local commercial elevator, a feed mill, a crushing facility, or possibly another producer. Transactions in the cash market occur under many different arrangements including forward price contracts (price is determined before delivery) and delayed pricing (price is determined sometime after delivery).

When transactions occur in the cash market there are many details that must be negotiated between the buyer and seller other than price, which include:

- The quantity
- Dates of delivery
- Time and place
- Grade requirements
- Premiums and discounts
- A method of settling differences in opinion if a disagreement arises.

These details can be compared to the futures contract where the only variable not standardized is the futures price.

Cash Sale

This strategy tends to be the most common way that producers sell their crops. Spot selling is the simplest method but also tends to be one of the most risky. Harvest time cash prices can be the lowest prices of the year due to local supply and demand conditions during this period. Basis around harvest time tends to be weak. Producers benefit greatest selling their crop when basis is strong. Furthermore, relying on harvest time cash sales offers no flexibility to the producer. Despite some of these disadvantages spot selling is popular because:

- It is simple
- Requires no storage
- Provides instant cash flow





Cash Forward Price Contract

This type of agricultural marketing contract is a cash contract much like spot selling, except the grower and elevator agree, in advance, to the transaction of a specified quantity to be delivered on a certain date at a specified price.

All forward pricing by elevators is done using futures markets. Typically, we expect a cash forward offer by an elevator to closely follow with the following formula:

Forward Price = Futures Price + Basis.

This formula can also be used by farmers to localize the current futures prices. Knowing the historical basis for a particular location, combined with the above formula, can be extremely useful when evaluating the merits of a forward price offer.

Advantages of Cash Forward Price Contract

- Farmers can lock-in both the price level and the basis.
- The farmer can forward contract "odd-lots" instead of specified quantity as dictated by a futures contract
- No initial deposit is required as there is in the case of a margin requirement with a futures position.
- Elevators may be willing to contract with a producer before a crop is planted. A signed contract might be sufficient for a lender to serve as collateral on an operating loan for a producer.

Disadvantages of Cash Forward Price Contract

- Because the producer has essentially locked in both price and basis, if there is improvement in either, the producer cannot benefit. That is, this contract not only eliminates the downside risk (the desired effect), it also eliminates the upside potential.
- Because the contract stipulates the delivery of a specified quantity, if there is an
 unforeseen cut in production (i.e., a drought or storm damages) a producer may find
 it difficult to fill their contracts. This may require purchasing grain to fulfill the
 commitment; which may require paying a higher price than the already agreed upon
 delivery prices. In this case the difference is borne by the producer.





It is this uncertainty with production that typically leads producers to allow for contracting a modest amount of their anticipated production, such as 50-60%.

Using Basis To Evaluate Cash Forward Price Offers

If a farmer in Washington County, North Carolina is interested in locking-in a price for soybeans in June for harvest delivery in late October, knowing the historical basis can be helpful in evaluating current harvest delivery offers. To illustrate, let's say the November soybean futures contract (the nearby contract to the time the farmer is planning to sell their soybeans) is trading around \$6.00 in June. In addition, the farmer calls the local buyer at Pantego (the closest local elevator) and a forward harvest delivery price offer of \$5.85 is made. The local buyer is quoting a price that is 15 cents under the futures price. In other words, it has included a basis of -15 cents (-\$0.15). Is this a reasonable price? Should the farmer go ahead and contract some of their anticipated production at this price?

Knowledge of the historical basis can help the farmer decide whether to either accept or reject the offer. Figure 7 shows the monthly historical basis for Pantego over the period 1980-1998. It also provides the average, minimum, and maximum values by month, and by year. Using this information, the farmer can make an informed decision about whether to accept the current offer of \$5.85.



Table 2. Average Monthly Soybean Basis with Nearby Futures

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg.	Min.	Max.
1980	-0.26	-0.07	-0.16	-0.15	-0.22	-0.20	-0.22	-0.18	-0.28	-0.29	-0.54	-0.34	-0.24	-0.54	-0 D7
1981	-0.14	-0.04	-0.16	-D D8	-0.21	-0.14	-0.11	-0.06	-0.16	-0.41	-0.50	-0.21	-0.19	-0.50	-0.04
1982	-D D8	-0 D5	-0.07	-0.07	0.00	0.06	0.10	-0.10	-0.10	-0.19	-0.24	-0 D9	-0.07	-0.24	0.10
1983	-0 .10	-0.11	-0.13	-D D8	-D D9	0.09	-D D3	-0.10	-0.13	-D D8	-0.16	0.02	-D D8	-0.16	0.09
1984	0.00	0.06	0.05	0.05	-0.02	-0.01	-0.07	-0.07	0.04	-0.10	-0.22	-0.11	-0 D3	-0.22	0.06
1985	-0 D5	0.05	0.05	0.05	0.04	0.10	0.18	0.15	0.17	-0.15	-0.18	-D D3	0.03	-0.18	0.18
1986	-0.10	-0.02	-0.01	-0.10	-0.15	-0.01	0.09	0.23	0.06	-0.22	-0.15	-0.11	-0.04	-0.22	0.23
1987	-0.11	-0.10	-0.05	-0.04	-0.12	-0.11	-D D6	0.07	-D D8	-0.24	-0.20	-0.19	-0.10	-0.24	0.07
1988	-0.15	-0.02	0.00	0.01	-0.04	-0.33	-0.36	-0.10	-0.25	-0.33	-0.35	-0.28	-0.18	-0.36	0.01
1989	-0.21	-D D8	-0.12	-D D8	-0.06	-0.31	0.04	0.33	0.10	-0.13	-0.24	-0.15	-0 D8	-0.31	0.33
1990	-0.17	-0.13	-0.21	-0.18	-0.24	-0.20	-0 04	-0.04	-0.20	-0.19	-0.27	-0.25	-0.18	-0.27	-0.04
1991	-0.31	-0.11	-0.21	-0.12	-0.11	-0.10	-0.12	-0.15	-0.21	-0.19	-0.23	-0.25	-0.18	-0.31	-0.10
1992	-0.19	-0.16	-0.16	-0.12	-0.15	-0.15	-0.11	-D D8	-0.20	-0.25	-0.35	-0.30	-0.19	-0.35	-D D8
1993	-0.23	-0.15	-0.15	-0.20	-0.15	-0.15	-0.18	-0.18	-0.24	-0.24	-0.22	-0.15	-0.19	-0.24	-0.15
1994	-0.20	-0.16	-0.10	-D D8	-0.05	-0.04	-D D8	-0.19	-0.20	-0.23	-0.36	-0.27	-0.16	-0.36	-0.04
1995	-0.18	-0.10	-0.20	-0.17	-0.21	-0.20	-0.20	-0.36	-0.33	-0.26	-0.28	-0.22	-0.23	-0.36	-0.10
1996	-0.17	-0.12	-0.15	-0.16	-0.25	-0.25	-0.30	-0.18	-0.06	-0.18	-0.24	-0.29	-0.20	-0.30	-0.06
1997	-0.25	-0.25	-0.20	-0.16	-0.10	-0 D5	0.39	-0.04	0.09	-0.21	-0.24	-0.20	-0.10	-0.25	0.39
1998	-0.15	-0 D9	-0.05	-0.05	0.00	-0 D3	-0.41	-0.10	-0.15	-0.22	-0.31	-0.25	-0.15	-0.41	0.00
Avg.	-0.16	-0.09	-0.11	-D D9	-0.11	-0.11	-D D8	-D D6	-0.11	-0.22	-0.28	-0.19	-0.13	-0.31	0.04
Min.	-0.31	-0.25	-0.21	-0.20	-0.25	-0.33	-0.41	-0.36	-0.33	-0.41	-0.54	-0.34	-0.33	-0.54	-0.15
Max.	0.00	0.06	0.05	0.05	0.04	0.10	0.39	0.33	0.17	-D D8	-0.15	0.02	0.08	-0.16	0.39

Over its nineteen-year history, the average basis in October at Pantego has been -22 cents (-\$0.22) with a maximum of -8 cents (1983) and minimum of -41 cents (1981). If we had anticipated the elevator to make an offer using the average basis, we would have expected an offer of \$5.78 (\$6.00 + [-\$0.22] = \$5.78), but the current offer is 7 cents above this level (\$5.85 - \$5.78 = \$0.07). In this case the farmer has an opportunity to lock-in a basis that is close to the historical high of -8 cents for this nineteen-year period for this time of the marketing year. Assuming that the price level is also acceptable, the current offer gives the farmer an opportunity to eliminate both price and basis risk on the amount of their expected production that they elect to contract.

b. Futures Prices - Commodity Exchanges

A commodity exchange is a market place where participants exchange futures and option contracts in agricultural commodities. There are numerous major exchanges in the United States for agricultural commodities they include the:



- Chicago Board of Trade (CBOT) The Chicago Board of Trade provides futures and options markets agricultural commodities, including, wheat, corn, and soybeans, soybean oil, soybean meal, wheat, and ethanol.
- Chicago Mercantile Exchange (CME) The Chicago Mercantile Exchange provides futures and options markets for agricultural commodities, including feeder cattle, live cattle, lean hogs, frozen pork bellies, milk and butter.
- New York Board of Trade (NYBOT) The New York Board of Trade provides futures and option markets for cocoa, coffee, cotton, sugar, and frozen concentrate orange juice.

These commodity exchanges act as clearinghouses for transactions from all around the world. The trading of futures and options in the United States is highly regulated and monitored by such agencies as the Commodity Futures Trading Commission (CFTC) to ensure the financial integrity of every transaction. The crucial roles of commodity price discovery and risk transference take place within these exchanges.

Futures Contracts

A futures contract is a commitment to either *make* or *take* delivery of a specific quantity and quality of a given commodity at a predetermined time and place sometime in the future.

The only term of the contract that is not standardized is the price. It is determined by open outcry on a commodity exchange floor or an exchanges electronic trading system. Such a standardized contract permits the efficient and fluent exchange of the contract in a fashion that minimizes transaction costs.

All contracts are settled by either offsetting purchases (almost always) or by actually delivery of the commodity (very rare).

Hedging

Hedging is the practice of trading futures or options with the objective of reducing or controlling risk. It involves trading off additional profits, due to favorable price changes, in return for a reduction in risk exposure, due to adverse changes in prices. This is done by taking an offsetting (i.e., opposite) position in the futures market than in cash market meaning that gains and losses in each are offset.





Hedging with futures contracts involves selling the appropriate number of contracts today with the idea of offsetting this position at the same time the cash sale of the physical commodity — this practice is sometimes referred to as a short hedge.

The way to remember whether you must buy or sell futures is to use the following rule:

Do today in the futures market what you must do in the cash market later.

For a producer of a commodity this means selling futures today and then offsetting the futures position by buying them back at the time of the cash sale.

If commodity prices subsequently decline between when the futures contracts were sold and the cash sale is completed, the producer buys the futures contracts back at the lower price, profiting by the difference, which then, offsets the drop in the value of commodity in the cash market.

If instead futures prices rise, the producer will have to pay margin calls until this position is offset. However, since the cash market should also be rising in concert with the futures market, producers should recapture the cost of the margin calls when they complete the cash sale at the higher price.

Being hedged in a rising market and having to pay margin calls can place a strain on an operation's cash flow. It is important that lenders are well informed and understand the principles involved.

Hedging hinges on the premise that local prices and futures prices are highly correlated. Stated differently, this means that local prices and futures prices move together. The more the two markets are correlated (i.e., the closer they move together) the better the hedge will work.

It is important to also point out that hedging eliminates price risk in return for accepting basis risk. It is generally thought that basis is less volatile than prices hence the willingness to trade price risk for basis risk.

Hedging with futures does offer protection from downward price movements and does not require paying a premium but it also has the disadvantage that if the market price increases the producer must pay margin calls. The margin calls or "a losing position" in the futures market essentially eliminates any upside potential with respect to price if hedging with a futures strategy. It is the threat of possible margin





calls and the limiting upside potential of this strategy that is the primary reason some producers prefer hedging with options rather than futures.

Mechanics of a Short Hedge with Futures

The example below illustrates the mechanics of short hedge for soybeans. In May the November soybean contract is trading at \$6.30 and the basis at Soy City tends to be around 30 cents under (-0.30) the November contract in October.

Thus, the current \$6.30 price on the futures equates to a predicted local price of \$6.00 in October with a typical basis.

Local Price = Futures Price + Local Basis

Farmer Bill from Soy City finds this price acceptable and wants to hedge a portion of his crop to lock-in this price level. He does this by selling the appropriate number of futures contracts at the \$6.30 level in May.

When October rolls around and Farmer Bill is harvesting his crop the market has weakened with the November contract now only trading at \$5.70, which equates to \$5.40 local price with the same typical basis of 30 cents under.

So when Farmer Bill takes his beans to the elevator he will only receive \$5.40 for the cash sale.

In addition, because of the hedge he placed in May Farmer Bill can offset his futures position by buying back the same number of contracts that he sold in May at the lower \$5.70. Adding the \$0.60 profit (\$6.30 - \$5.70) to the net sale (\$5.40), results in a net price of \$6.00.

This example illustrates a perfect hedge by assuming no basis risk, which is almost never the case in practice. In a short hedge a producer benefits from a strengthening in basis but loses from a weakening in basis. That is, if the basis had strengthened to say 20 cents under (-20 cents) then Farmer Bill's local and subsequent net price would have been 10 cents higher, a net \$6.10. Conversely, if the basis had weakened to say 40 cents under (-40 cents) then Farmer Bill's local and net price would have been 10 cents lower, a net \$5.90.



Table 3. Mechanics of a Short Hedge with Futures

Soybean Short Hedge with Futures

	Cash market—Soy City	Futures—Nov Contract	Basis
May	\$6.00	\$6.30 (sell)	(-0.30)
October	\$5.40	\$5.70 (buy)	(-0.30)
	Profit/Loss	\$0.50	

Cash Price Received: \$5.40 Futures Profit/Loss: \$0.60

Net Price: \$6.00

Basis Contract

Basis contracts permit the capturing of a favorable basis. The basis contract is essentially a forward price contract in which the basis level is guaranteed instead of the price level.

The producer locks in the basis that they will receive on the day they deliver their grain. At the time of settlement, the price that the producer will receive will be equal to whatever the price of the agreed upon futures contract is trading plus the agreed up basis.

This contract allows the producer to benefit from strengthening in the price level between when the contract was entered into and the day the final settlement made. Under this contract, there is no price protection, merely basis, and most consider basis the more predictable of the two.

Furthermore, there is no opportunity to capture any further gains in basis. Before entering into this contract it is advisable that the producer be quite familiar with the historical basis so that they can be certain that the basis that they are locking into is truly exceptional.





Understanding the "Ticker" - Open Auction

This section goes into detail about how to read the "open outcry" display using an example for corn from the CBOT. We also discuss the specifications of agricultural futures contracts traded on these boards again using an example from the CBOT.

Chicago Board of Trade cme.com | cmegroup.com Corn Futures (C) Delayed 10 minute data as of March 20, 2008 17:52 CDT OSMay settle: 05/14 Click to see Corn Product Calendar Dates 📑 Settlement Daily Vol Time & Sales Volatility Historical Data Electronic Combinations Real-Time Quotes High Settle -19'6 526'4 507'4 08May 507'4 525'0 507'2 527'2 16:39 519'2 1u080 -2010 537'0 53812 519'2 519'2 539'2 523'0 539'4 540'0 521'4 523'0 541'4 538'2 -20"0 539'4 08Dec 521'2 521'2

Figure 5: A quote for corn from the CBOT

Source: www.cbot.com

Last1/Last2 This value represents the last price paid for the commodity that

was last traded.

Net chgThe net change represents the amount the commodity's "last

price" has changed from the previous day's settle price.

Open The price at which the commodity opened trading for the day.

This is often reported as the range of prices that buy and sell

transactions took place during the opening of the market.

High The highest price of the day for the futures contract of interest.



Low The lowest price of the day for the futures contract of interest.

Settle Is the range of prices that buy and sell transactions took place

at the close of the market. The settle price is determined by

averaging these quoted prices.

Prev Settle Previous Settle is the settlement price from the previous day.

It is important to understand how to interpret price quotes equating tick size to cents per bushel. For example in the case of soybeans, corn, and wheat the price quotes are at least four digits. The first digits excluding the digit furthest to the right are in cents per buthe final digit is in 1/8 cent/bu. To be clear the digits to the left of the "" are in cents per bushel and the digit to the right is measured in 1/8 cent/bu. If the tick size is 1/4/cent/buthen we can interpret the following quotes into dollars per bushel as follows:

Corn Price Quote	Dollars Per Bushel
507'0	\$5.07/ bu
507'2	\$5.07 ^{1/4} / bu or \$5.0725 / bu
507'4	\$5.07 ^{1/2} / bu or \$5.0750 / bu
507'6	\$5.07 ^{3/4} / bu or \$5.0775 / bu
508'0	\$5.08 / bu or \$5.08 / bu

The same interpretations can be applied made for soybeans or wheat quotes.



c. Contract Specifications

The contract specification details for each contract focus on size, deliverable grades, tick size, price quotes, contract months trading days and hours. Below are current specifications for the CBOT contracts for corn, soybeans, and wheat.

Figure 6: Corn Futures - CBOT

Contract Size

5,000 bushels

Deliverable Grades

No. 2 Yellow at par, No. 1 yellow at 1 1/2 cents per bushel over contract price, No. 3 yellow at 1 1/2 cents per bushel under contract price

Tick Size

1/4 cent/bushel (\$12.50/contract)

Price Quote

Cents/bushel

Contract Months

Dec, Mar, May, Jul, Sep

Last Trading Day

The business day prior to the 15th calendar day of the contract month.

Last Delivery Day

Second business day following the last trading day of the delivery month.

Trading Hours

Open Auction: 9:30 a.m. - 1:15 p.m. Central Time, Mon-Fri.

Electronic: 6:30 p.m. - 6:00 a.m. and 9:30 a.m. - 1:15 p.m. Central Time, Sun.-Fri.

Trading in expiring contracts closes at noon on the last trading day.

Ticker Symbols

Open Auction: C Electronic: ZC

Daily Price Limit

Twenty cent (\$0.20) per bushel (\$1,000/contract) above or below the previous day's settlement price. No limit in the spot month (limits are lifted beginning on First Position Day).



Figure 7: Soybean Futures - CBOT: Specifications

Contract Size

5,000 bushels

Deliverable Grades

No. 2 Yellow at par, No. 1 yellow at 6 cents per bushel over contract price and No. 3 yellow at 6 cents per bushel under contract price*

*No. 3 Yellow Soybeans are only deliverable when all factors equal U.S. No. 2 or better except foreign material. See Chapter 10s - Soybean Futures in the Rules & Regulations section.

Tick Size

1/4 cent/bu (\$12.50/contract)

Price Quote

Cents bushel

Contract Months

Sep, Nov, Jan, Mar, May, Jul, Aug

Last Trading Day

The business day prior to the 15th calendar day of the contract month.

Last Delivery Day

Second business day following the last trading day of the delivery month.

Trading Hours

Open Auction: 9:30 a.m. - 1:15 p.m. Central Time, Mon-Fri.

Electronic: 6:31 p.m. - 6:00 a.m. and 9:30 a.m. - 1:15 p.m. Central Time, Sun.-Fri.

Trading in expiring contracts closes at noon on the last trading day.

Ticker Symbols

Open Auction: S Electronic: ZS

Daily Price Limit

50 cents/bu (\$2,500/contract) above or below the previous day's settlement price. No limit in the spot month (limits are lifted beginning on First Position Day).



Figure 8: Wheat Futures - CBOT: Specifications

Contract Size

5,000 bushels

Deliverable Grades

No. 2 Soft Red Winter, No. 2 Hard Red Winter, No. 2 Dark Northern Spring, and No. 2 Northern Spring at par; No. 1 Soft Red Winter, No. 1 Hard Red Winter, No. 1 Dark Northern Spring and No. 1 Northern Spring at 3 cents per bushel over contract price.

Tick Size

1/4 cent/bushel (\$12.50/contract)

Price Quote

Cents/bushel

Contract Months

Jul, Sep, Dec, Mar, May

Last Trading Day

The business day prior to the 15th calendar day of the contract month.

Last Delivery Day

Seventh business day following the last trading day of the delivery month.

Trading Hours

Open Auction: 9:30 a.m. - 1:15 p.m. Central Time, Mon-Fri.

Electronic: 6:32 p.m. - 6:00 a.m. and 9:30 a.m. - 1:15 p.m. Central Time, Sun.-Fri.

Trading in expiring contracts closes at noon on the last trading day.

Ticker Symbols

Open Auction: W Electronic: ZW

Daily Price Limit

Thirty cents (\$0.30) per bushel (\$1,500/contract) above or below the previous day's settlement price. No limit in the spot month (limits are lifted beginning on First Position Day).



5. Putting the Outlook Talk Together

The best way to think about presenting an outlook talk is to first discuss information about the larger agricultural economy, say the U.S. agricultural economy, although sometimes it's a good idea to present some information about what's going on in the rest of the world as it pertains to U.S. agricultural prices; then present some information about the crops grown in your area; and finally talk about what the information you presented means for the growers in your audience. You must stop short of giving specific marketing advice, however. Stick with some general marketing/risk management approaches that might be beneficial in that particular year. We will see more about this as we go through the example outlook talk.



The Example Outlook Talk

[based on a real outlook talk given in NC in 2008]

a Introductory Material

It is best to start out your talk with a brief summary of the key points you want to make. A typical beginning slide will have the title of the talk and your name and contact information. The second slide should lay out the points you want to make in your talk.

Grain Outlook: Talking Points

Key drivers

- Renewable fuels mandate (36 Bil. Gal by 2022)
- Explosion of ethanol capacity
- Cheap US dollar enhancing agricultural exports

Key outcomes

- Corn, soybean, and wheat prices are all double their long-term historical 25 yr averages
- 2007 net farm income a record \$87.5 billion
- US farmland prices and NC farmland values appreciating markedly

Slide 2: Key Talking Points



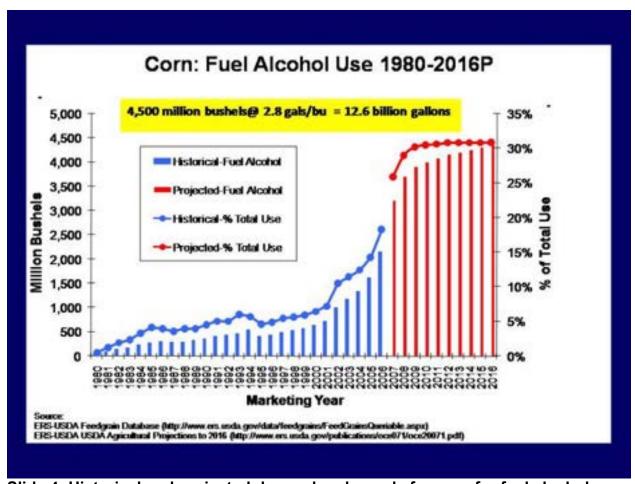
It is always good to insert some humor into your slide show!



Slide 3: Screw OPEC, Burn Corn

Slide 3 is also an introduction to an important part of this outlook talk, namely, that the demand for ethanol fuel is one of the key drivers in the market for corn and its substitutes in production. In other words, the increased demand for corn tends to increase the price and the quantity supplied of corn, which means there are fewer acres on which to grow other crops. In order to entice some of those lost acres back into production of soybeans, for example, the price of soybeans must rise, as well. The next slide begins to illustrate the factors affecting the demand for corn.





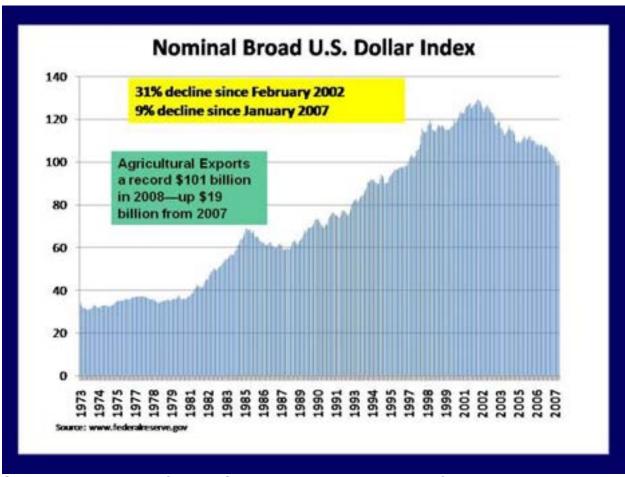
Slide 4: Historical and projected demand and supply for corn for fuel alcohol.

This slide illustrates the big jump in the demand for (right axis) and supply of (left axis) fuel alcohol in 2007, along with the increase of fuel alcohol as a percent of total demand (use). Any pictures like this that you can include to show big shifts in trends are worthwhile additions to your outlook talk. Notice that this graph is developed using information from two sources and that the sources are listed at the bottom of the slide. Listing sources at the bottom of a slide is a good idea for two reasons. The first reason is that it lets your audience know that there are actual data behind the graph and the second is that it serves to remind you of where you can retrieve the data to update the slide in the future. This slide shows clearly the first and second talking points on slide 2.





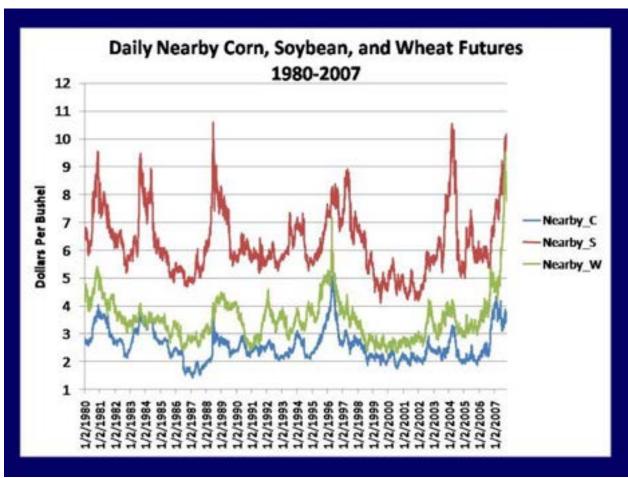
Slide 5 illustrates the change in the value of the U.S. dollar that is driving the export demand for U.S. corn, another component of the demand for corn. This slide illustrates the third talking point in slide 2.



Slide 5. The value of the U.S. dollar against an index of other trading partners' currencies over time.



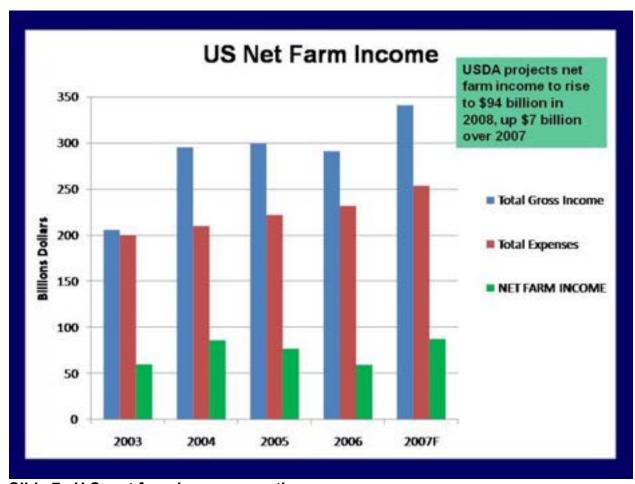
The next slide begins to give a flavor of the consequences of the increasing demand for corn and the relatively low value of the dollar. It depicts the daily nearby futures prices on the Chicago Board of Trade for corn, soybeans and wheat. Notice that all of the futures prices are headed upward in 2007 as a result of the change in the demand for corn.



Slide 6. Daily futures prices for the nearby contract over time for corn, soybeans, and wheat.



So, what does this all mean for U.S. grain farmers? This slide tells us that the outcome of the change in demand has benefited farmers' bottom lines. Even though some input prices have risen, as well, it appears that the corn benefit has outweighed the higher input prices to give grain farmers higher profit when compared to the 2005 and 2006 crop years.



Slide 7. U.S. net farm income over time.



We can see another benefit (or cost, depending on whether you want to sell or buy) of the increased demand for corn in the slide 8. Farmland prices are increasing at a rate of \$150/acre/year across the U.S. and by about \$312/acre/year in North Carolina. Farm land prices reflect the present value of the net benefit from the land in agricultural production and the degree of demand for the land for development. Land prices are increasing faster in North Carolina because we have higher than average development pressure on our farm land.

Notice the big jump in farm land prices in Iowa from 2004 to 2007. This is because Iowa is one of the largest corn producing states and the benefits of the increased demand for corn are more concentrated there. Notice also that we are starting to bring in information that is "closer to home".



Slide 8. Farm land prices over time for lowa, North Carolina and the U.S.



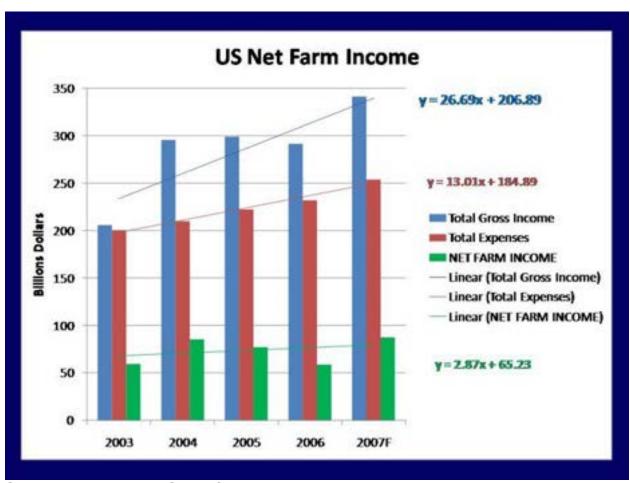
The next slide (9) serves to illustrate the breakdown of the sources of net farm income over time and how they have changed. You can see clearly here that the cash receipts from farming have risen by almost 18% from 2006 to 2007, but farm expenses have risen only 9.3%. Even though direct government payments fell by about 23%, that source of revenue is a small part of total cash receipts and so the decline is outweighed by the increases in the other sources of revenue. The two net farm income slides are a staple of most outlook talks.

The same information is conveyed in slide 10, only in graphical form and over time. The slide shows the 5-year trends in net farm income for the U.S. broken down by its component parts with a trend line fitted to each component. Sometimes the two ways of conveying the same information is helpful for farmers to understand the point you want to make. It's always good to have two or three approaches to conveying information in your outlook talk so you can keep the audience's attention.

Income Statement U.S	2003	2004	2005	2006	2007F	
			\$ billion	[a]	[b]	[b] v. [a]
Cash Receipts	215.6	237.3	240.7	239.3	282.2	
Crops	109.9	113.7	115.9	120.0	142.6	-
Livestock	105.6	123.6	124.9	119.3	139.6	320115 STATE
Direct Govt. Pay	16.5	13.0	24.4	15.8	12.1	-23.4%
Total Gross Income	206.0	296.0	299.6	291.5	341.7	17.2%
Total Expenses	200.4	210.0	222.5	232.5	254.2	9.3%
NET FARM INCOME	59.7	85.9	77.1	59.0	87.5	48.3%

Slide 9. Breakdown of net farm income in 2007.





Slide 10. Trends in U.S. net farm income



Slide 11 shows only the revenue part of net farm income broken out for the crops that are important in our area. Between 2006 and 2007, cash receipts for U.S. corn rose 52%, an amazing increase in one year. Cotton cash receipts were lower by 5%. Overall, both crop and livestock revenue rose a healthy 19% and 17%, respectively. Notice that we are moving more toward markets of local interest with this slide.

Next comes the "punch line" for the first part of the talk in slide 12. This is the beginning of a break-point in the talk and a good place to ask for questions, take a short break, etc. Slides 13-18 show the lengths farmers will go to market their products when prices are high enough and reinforces the "punch line in slide 12. Obviously, they also inject a bit of comic relief into your talk. Any pictures like this that you can find that are appropriate to your subject matter make a great addition to your talk.

U.S. Cash Receipts 2006-2007F

U.S. Farm Sector Cash Re	eceipts 2	006-2007	by Cro
Crop Receipts	2006	2007F	%
	\$ bi		
Corn	21.7	32.9	52%
Soybeans	16.9	21.0	24%
Wheat	7.3	10.2	40%
Cotton	6.2	5.9	-5%
Sub-total	52.1	70.0	34%
Total Crops	120.0	142.6	19%
Total Livestock	119.3	139.6	17%
Total Receipts	239.3	282.2	18%
Source: http://ers.usda.gov/Briefin	g/FarmInco	me/Data/cr_t	3.htm

Slide 11. Cash receipts broken out by crop.





Markets Do Work!

"Currently a fierce acreage auction for grain plantings for 2008/2009. Grain prices are the most important variable sending information and incentives to growers to act upon"

"Farmers will
respond to
higher price
signals but
acreage is not
unlimited"

Slide 12. Markets work!



These next sequence of slides are examples of farmers responding to prices. They also represent an opportunity to reengage your audience with some light hearted humor with an economic message.



Slide 13. Man marketing pigs



Slide 15. Getting apples to market



Slide 14. Man marketing pigs, II



Slide 16. Prices are really high

Slides 13, 14, 15, and 16: Farmers responding to price signals





Slide 17. Pork prices must have hit the Slide 18. Chickens going to market roof

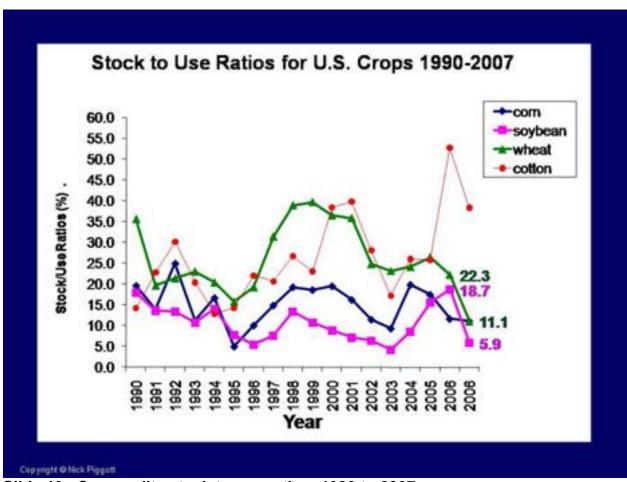


Slides 17, 18: Farmers responding to price signals



b The Situation and Outlook

Now that we've laid all the background work by illustrating the current factors that are affecting U.S. grain markets, we now turn to the "meat" of the outlook talk. Slide 19 is a typical "stock to use" graph that illustrates the ratio of supply (stocks) and demand (use) at the end of each crop year going back to 1990. Notice that for all commodities on this graph, the stock to use ratio is falling from 2006 to 2007. This means that demand is outstripping supply and that commodity prices are likely to rise next year. See figure 2 for an illustration of an outward shift in demand.



Slide 19. Commodity stock to use ratios- 1990 to 2007

The next slide shows that, although commodity prices have doubled or more in the last year compared to the historical average nearby futures prices, *relative* prices have not changed much. Look at the bottom part of slide 20. If relative prices haven't changed





at all, the ratio of the nearby soybean to nearby corn futures price quotes would equal 1. So we can conclude from this slide that the prices of soybeans and corn have remained about the same relative to each other, while the price of wheat relative to corn has risen a bit.

Current Prices Twice Their Historical Average							
	1980-2007	01-22-2008					
Future Contract	[a]	[b]	[b]-[a]	[b]/[a]			
Nearby_C	\$2.58	\$4.98	\$2.40	1.9			
Nearby_S	\$6.26	\$12.64	\$6.38	2.0			
Nearby_W	\$3.55	\$9.62	\$6.07	2.7			
Ratios							
Nearby_S/Nearby_C	\$2.46	\$2.54	\$0.08	1.03			
Nearby_W/Nearby_C	\$1.39	\$1.93	\$0.54	1.39			

Slide 20. Changes in absolute and relative futures prices over time

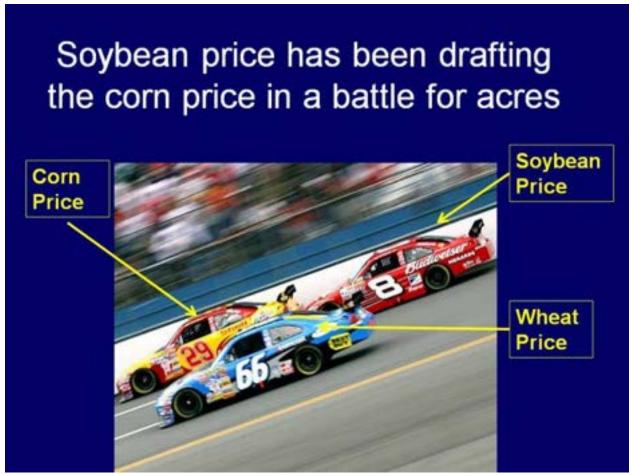
The next two slides present a unique way to illustrate what's happening in the battle for acres for the three major grain commodities. In the South, NASCAR analogies are very effective ways to convey information and also bring a little comic relief. Slide 21 shows how the commodity prices are changing. The big "drivers" are the increased demand for corn and the weak dollar, as was shown in the talking points slide at the beginning (slide 2). First, the demand for corn shifted upward, causing corn price to rise and more acres to switch to corn production. Most of the increased corn acres were switched out of soybean production, decreasing the supply of soybeans, causing





soybean prices to rise. Wheat prices are reacting somewhat to the higher corn and soybean prices, but also to the increased export demand for wheat from developing countries this year.

Slide 22 shows what happened in the battle for acres in a different way. A lot of people thought that soybean acres would hold steady in 2007, but just as happened to Dale Earnhardt, Jr. at the Talladega race in the spring of 2007, that theory just blew up and left Junior scratching his head. However, corn acres (the 24 car in this picture) rose to the front of the pack and won the battle for the acres.



Slide 21. The battle for acres





Slide 22. The battle is won by corn

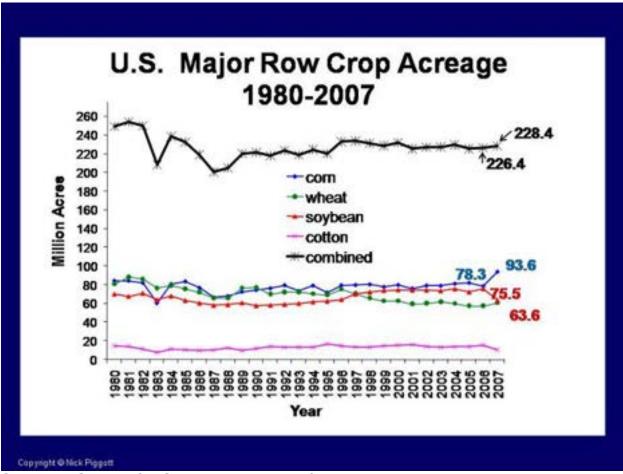


Slide 23 shows the same information in a chart. From 2006 to 2007 corn acres rose by 15 million acres, while soybean acres fell by almost 12 million acres. Wheat acres increased slightly and cotton acres decreased slightly. Overall, combined acreage in the four commodities rose by two million acres. Slide 24 illustrates the same information, but in graphical form and over a longer time horizon. Again, presenting the same information two ways is sometimes an effective way to get the message across.

03 A	cres Planted (Mi	ilions)	
Сгор	2006	2007	Δ
Corn	78.3	93.6	15.3
Soybean	75.5	63.6	-11.9
Wheat	57.3	60.4	3.1
Cotton	15.3	10.8	-4.4
Combined	226.4	228.4	2.1

Slide 23. U.S. planted acres 2006-2007





Slide 24. Graph of U.S. planted acreage for major row crops over time

Now, the emphasis turns to individual crops and their outlooks. Each section has the same set of slides with information pertaining to the crop in the section. The last slide in each section is the actual synthesis of the outlook for that crop. First is the set of slides for corn.

c. The Current Situation and Outlook for the Corn Market

Slide 25 shows the current demand and supply balance sheet for corn over a three-year period. The take-home points on this slide are that corn acres are up but beginning stocks are down, creating a scenario where corn prices are expected to rise. This is further supported by the stock to use ratio, which fell over the period, resulting in corn prices increasing by about 31 percent. Slide 26 shows the same information, but in graphical form and over a longer period. Slide 27 breaks down the category of use that covers food, seed, and industrial use. Notice the huge increases in the demand for





fuel alcohol, the main ingredient in ethanol. Slide 28 shows the relatively low ending stocks for corn this year, also an indication that corn prices are likely to rise. Slide 29 is an important slide for any outlook talk. It shows the historical inverse relationship between the crop's stocks to use ratio and its market price. This inverse relationship is strong in corn, which means that one can rely heavily on changes in the stocks to use ratio to predict the direction of price in the short term. One of the reasons this relationship is so strong in corn is that the U.S. is the major player in world corn production, so what happens here has a big effect on corn price.

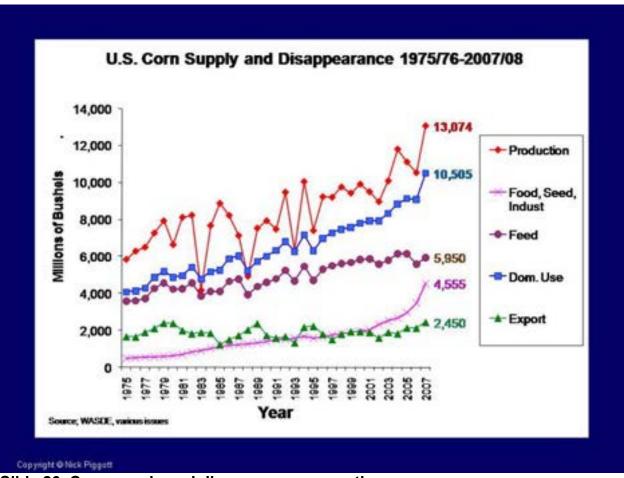




	05-06	06-07	07-08	%∆
Acres Planted	81.8	78.3	93.6	19.5
Acres Harvested	75.1	70.6	86.5	22.5
Bu./Harvested Acre	148.0	149.1	151.1	1.3
Beginning Stocks	2,114	1,967	1,304	-33.7
Production	11,114	10,535	13,074	24.1
Total Supply	13,237	12,514	14,393	15.0
Use:				
Feed and Residual	6,155	5,598	5,950	6.3
Food, seed, & industrial	2,981	3,488	4,555	30.6
Ethanol for fuel	1,603	2,117	3,200	51.29
Exports	2,134	2,125	2,450	15.39
Total Use (Demand)	11,270	11,210	12,955	15.6
Ending Stocks	1,967	1,304	1,438	10.3
Ending Stocks, % of Use	17.5	11.6	11.1	-4.6
U.S. Season Avg. Farm Price, \$/ Bu.	\$2.00	\$3.04	\$4.00	31.69

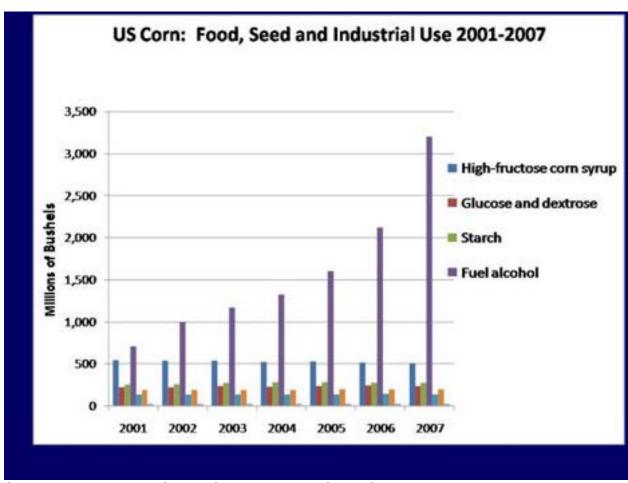
Slide 25. Supply and demand balance sheet for corn





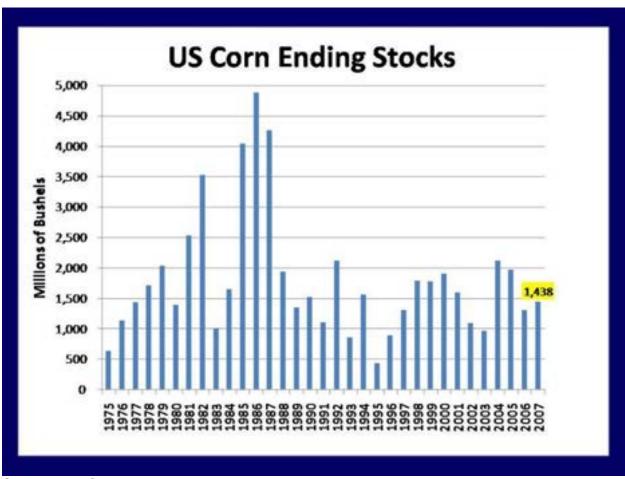
Slide 26. Corn supply and disappearance over time.





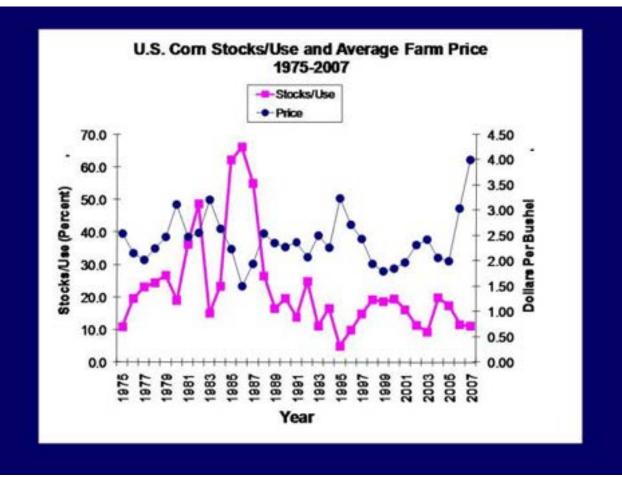
Slide 27. Breakout of uses for corn in the food, feed, and industrial sector





Slide 28. U.S. corn ending stocks over time



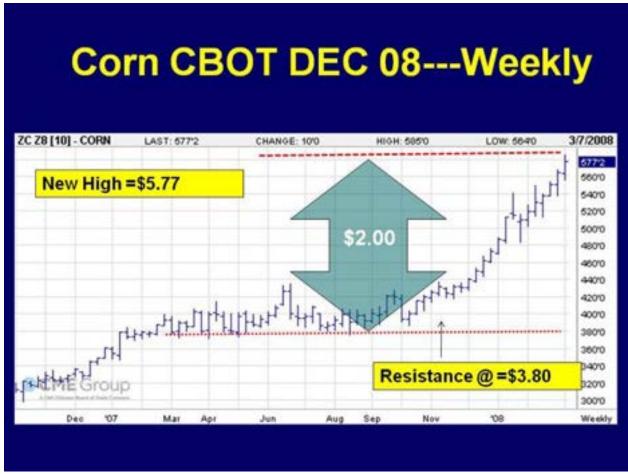


Slide 29. The inverse relationship between corn stocks to use ratio and price over time

The next two slides (30 and 31) show what traders in the corn futures market think will happen to corn price in the fall and two years out. Slide 30 shows the futures price quote for the December 2008 (harvest time) contract. Notice that from September 2007 to March 2008 the quote has risen from \$3.80 to \$5.77. This is likely due to a further shift out of the demand for fuel alcohol to feed the increasing number of ethanol plants (the corn-eating monsters that have to be fed continuously). Slide 31 shows the futures price quote for the December 2010 futures contract. Notice that the price quote on March 7, 2008 for the two-year-out contract is *still high*. For the price of a put option, one could lock in a corn price of \$5.47 two years from now. Whether or not this is a good play for a particular farmer depends on how risk averse he is and the price of the put option. If the price of the put option is, say, \$0.40, would you be willing to buy it?







Slide 30. Daily quotes for the December 2008 corn futures contract





Slide 31. Daily quotes for the December 2010 corn futures contract



The final slide in this section contains the author's recommendations of possible marketing strategies, given the current situation in the corn market.

Marketing Corn

- At time of writing market is strengthening further
 - C-Mar08 trading @ \$5.57
 - C-Dec08 trading @ \$5.77
- For NC with nearby corn basis of -\$0.10 in October, this would be a current expected harvest price in NC of around \$5.67 for 2008.
 - current new crop bids are around \$5.47-5.97
 - opportunity to lock in profitable sales with forward contracts
- A Dec 08 put option with a strike of \$5.50 is trading @ 61 cents
 - use puts to establish price floor but leaving upside open
 - might be cheaper price insurance using coverage CRC or RA
- Can corn prices go higher? Yes. Soybeans are bidding for some of the 2007 lost acres. Corn price will try and keep pace to retain corn acres.
 - Best to roll up pricing opportunities using Dec 08 put options

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Slide 32. Corn marketing alternatives

d. The Current Situation and Outlook for Soybeans

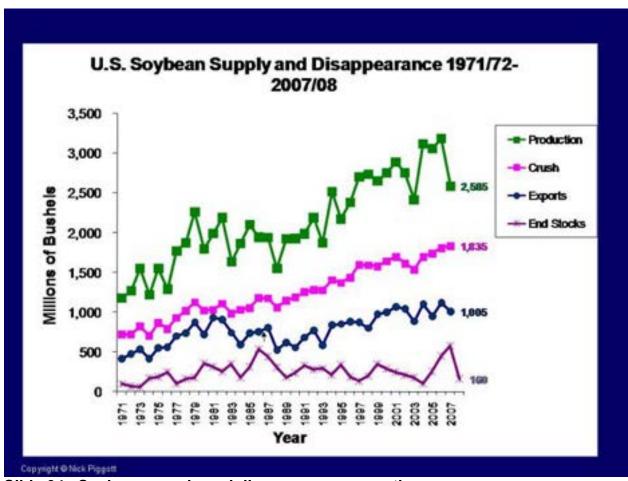
This section contains the same set of slides as above, but for soybeans. We are going to leave the analysis of the soybean market as an exercise for you to go through to see how much you have learned. Read through slides 33 through 38 and try to form an opinion on the outlook for soybean prices in the near future. Then read slide 39, the synthesis slide, to see if you came to the same conclusion this author did.



	05-06	06-07	07-08	%Δ
\ <u>-</u>	Millio	ons of Acr	es	7,511
Acres Planted	72.0	75.5	63.6	-15.8%
Acres Harvested	71.3	74.6	62.8	-15.8%
Bu./Harvested Acre	43.0	42.7	41.2	-3.5%
	Million	ns of Busi	nels	
Beginning Stocks	256	449	574	27.8%
Production	3,063	3,188	2,585	-18.9%
Total Supply	3,322	3,647	3,165	-13.2%
Use:				
Crushing	1,739	1,806	1,830	1.3%
Exports	940	1,118	995	-11.0%
Seed & Residuals	194	148	165	11.5%
Total Use	2,873	3,073	2,990	-2.7%
Ending Stocks	449	574	175	-69.5%
Ending Stocks, % of Use	15.6	18.7	5.9	-68.7%
U.S. Season Average Farm Price, \$/ Bu.	\$5.66	\$6.43	\$10.40	61.7%

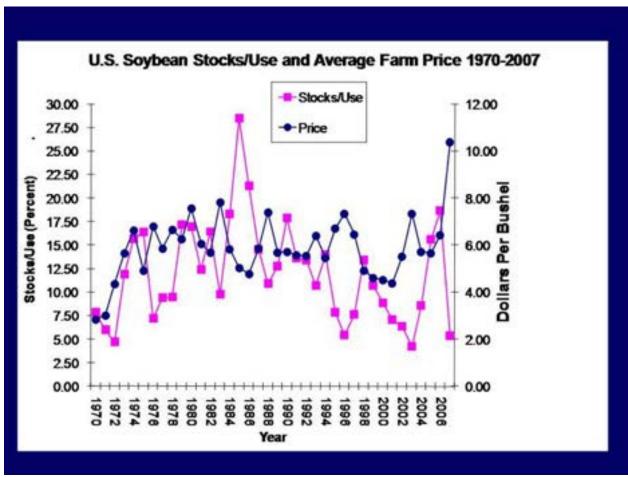
Slide 33. Supply and demand balance sheet for soybeans





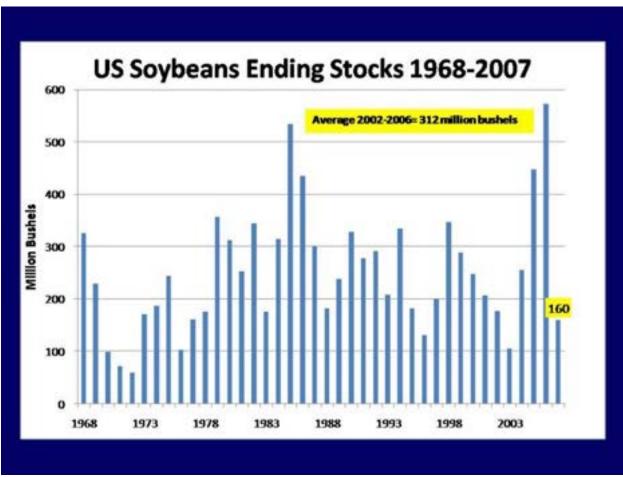
Slide 34. Soybean supply and disappearance over time





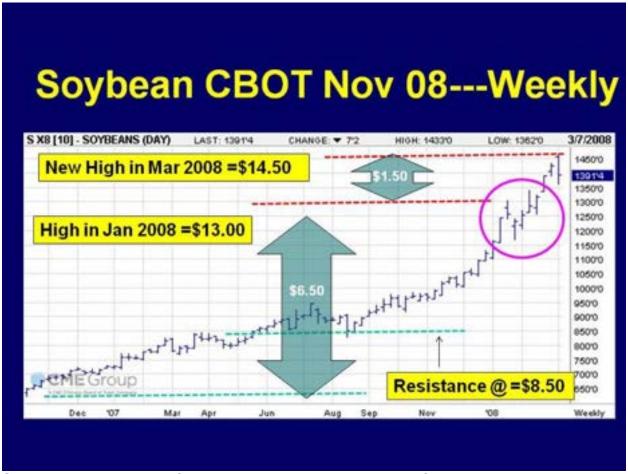
Slide 35. The relationship between soybean stocks to use ratio and price over time





Slide 36. Soybean ending stocks over time





Slide 37. Daily quotes for the November 2008 soybean futures contract





Slide 38. Daily quotes for the November 2010 soybean futures contract



Marketing Soybeans

- At time of writing market has pulled back slightly from recent \$15 (+) on nearby (March 2008) contract
 - S-Mar 08 trading @ \$14.90
 - S-Nov 08 trading @ \$13.90
- For NC with nearby corn basis of -\$0.20 in October, this would be a current expected harvest price in NC of around \$13.70 for 2008.
 - current new crop bids are around \$13.77
 - opportunity to lock in profitable sales with forward contracts
- A Nov 08 put option with a strike of \$13.40 is trading @ 140 cents
 - use puts to establish price floor but leaving upside open
- Can soybean prices go higher? Yes. With very low stocks, soybeans are bidding for some of the 2007 lost acres back
 - Need at least 6 million of the acres back
 - 6 mil. acres @ 40 = 240 mill bu to restore depleted stocks

Slide 39. Soybean Marketing Alternatives

e. Current situation and outlook for wheat.

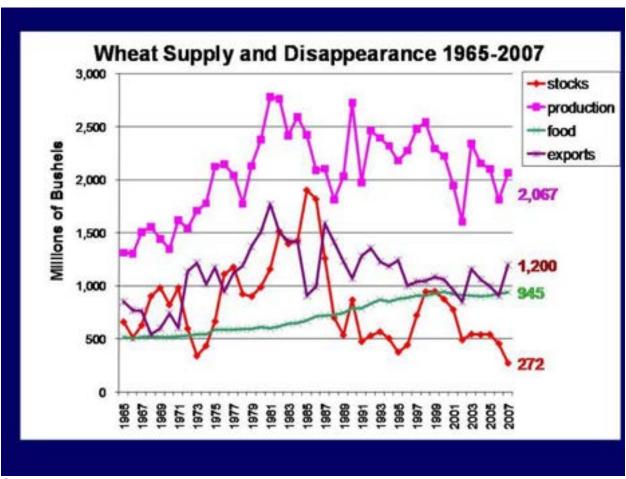
Now we come to the situation and outlook for wheat. Remember, wheat prices are driven by both the battle for corn acres and the low value of the dollar. The information in slide 40 shows the relatively drastic fall in the stock to use ratio for wheat and what factors contributed to it. You can see clearly the relatively steep increase in export demand for wheat on this slide that has contributed to wheat prices almost doubling in the last three years. Slide 41 illustrates the same information in graphical form, clearly showing the jump in exports and the record low ending stocks.



	05-06	06-07	07-08	%∆
_	Mi	llion Acres		
Acres Planted	57.2	57.3	60.4	5.19
Acres Harvested	50.1	46.8	51.0	8.29
Bu./Harvested Acre	42	38.7	40.5	4.49
	Milli	on Bushels		
Beginning Stocks	540	571	456	-25.29
Production	2,105	1,812	2,067	12.39
Imports	81	122	90	-35.69
Total Supply	2,726	2,505	2,613	4.19
Use:				
Food	915	933	945	1.39
Seed	78	81	86	5.89
Feed & Residual	160	125	110	-13.69
Exports	1,003	909	1,200	24.39
Total Use	2,155	2,049	2,341	12.59
Ending Stocks	571	456	272.0	-67.69
Ending Stocks, % of Use	26.5	22.3	11.6	-91.59
U.S. Season Aver. Farm Price, \$/ Bu.	\$3.42	\$4.26	\$6.65	35.99

Slide 40. Supply and demand balance sheet for wheat

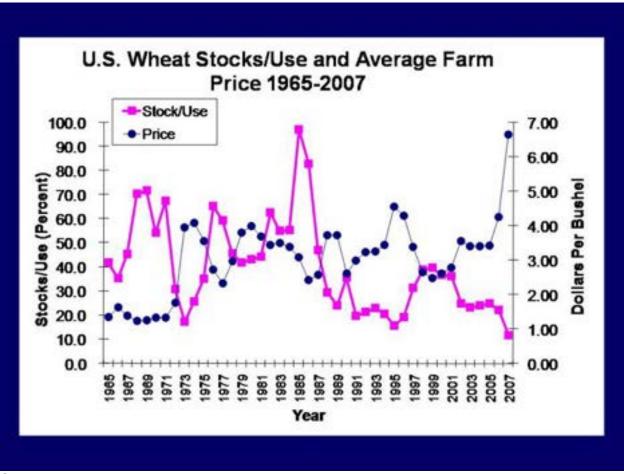




Slide 41. Wheat supply and disappearance over time

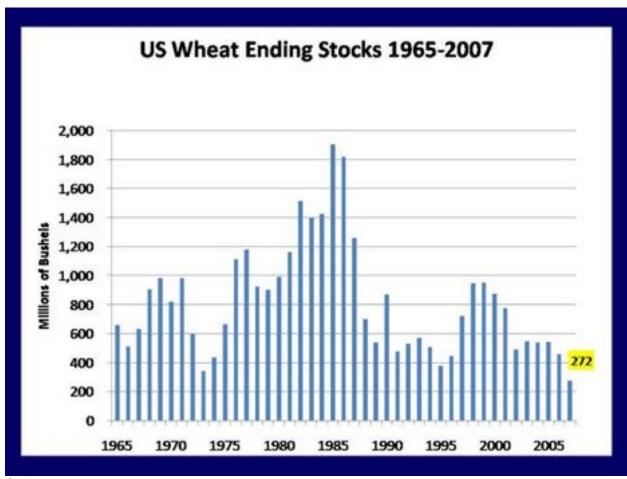
The U.S. wheat stocks to use ratio shows an inverse relationship between the record low stocks to use and price. This is shown in slide 42. Slide 43 shows the historic low wheat ending stocks in graphical form and over time. You are beginning to form your opinion about what wheat prices will do this year, aren't you? Things look good so far.





Slide 42. The relationship between wheat stocks to use ratio and price over time





Slide 43. Wheat ending stocks over time

Slide 44 shows that the price quote for the July 2008 wheat futures contract hit a high of over \$12.50 per bushel in early March of 2008, but then fell back down to the \$10.00 range.





Slide 44. Daily quotes for the July 2008 wheat futures contract

Slide 45 is the synthesis slide for wheat. The recommended alternatives are similar to those of corn and soybeans. Wheat prices are expected to stay high until either export demand slows down or more acreage is put into wheat production.



Marketing Wheat

- At time of writing market is still trying to ration demand and prices are trying to establish where that will occur. Exports are attractive because of the cheap US dollar.
 - W-Mar 08 trading @ \$10.96
 - W-Jul 08 trading @ \$9.92
- Current new crop bids in NC are around \$6.09-8.47
 - Basis levels should improve
- A Jul 08 put option with a strike of \$9.50 is trading @ 65 cents
 - use puts to establish price floor but leaving upside open
 - might be cheaper price insurance using revenue insurance coverage
- Can wheat prices go higher? Yes. The strong demand (led by exports) has to be further rationed given the shrinking supplies.

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Slide 45. Wheat marketing alternatives

A wrap-up slide (46) contains some final thoughts the author wants the audience to remember. First, it had to be a perfect storm for all three prices to be high at the same time, which means that this will probably be a rare occurrence once markets adjust. The second "take-home" thought is a reminder that, just because prices are high doesn't mean that risk management isn't important. In fact risk management is more important with high prices and higher price volatilities. Finally, the author gives a summary of the potentially helpful marketing and production strategies in this market environment. The audience is left to choose which ones to use.

The next slide (47) shows a url on which your audience can look for more information. Sometimes it's good to alert them to several urls that might be helpful for them as producers. You can see other sources of information listed in the other examples of outlook talks that we provide for you on the website on this slide.



Some Final Thoughts

- A perfect storm of factors has led to these opportunities.
- Substantially higher prices and price volatilities means that much more at risk
 - The need to manage price and production risk has never been greater
- Key strategies to consider:
 - establish price floors using tools available (options, revenue insurance) and let the upside ride
 - be diligent with efficient production practices to ensure you have the yield to sell at these prices
 - consider purchasing revenue crop insurance (CRC or RA) (premiums are heavily subsidized)

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Slide 46. Some final thoughts

NC State Grain Marketing Homepage

www.ag-econ.ncsu.edu/faculty/piggott/outlook.html

Slide 47. Where to go for more information

And, finally, we come to the end of the outlook talk. Slide 49 shows Uncle Sam forsaking the barrel of oil and sidling up to a corn cob. This slide drives home the main factor affecting the corn market and, thus, the markets for the other two commodities. It also is a very effective way to end the slide show. "Leave 'em laughin' " is the best way to end your talk.





Slide 48. The punch line



6. Final Thoughts

We hope this manual has been helpful in getting you started with your outlook talks. Of course, keeping up with the current situation in the agricultural economy in the U.S., your state, and your audience's crops is key to being able to discern what factors might be important in driving commodity prices at a particular point in time. Regular reading of a few of the farm press publications, either in paper form or online, will keep you in the loop.

Most times are not as exciting and volatile as early 2008, but crop producers still need information about where prices are headed so they can make their production, marketing, and risk management decisions, especially in the early spring when these opportunities arise. Now that you've had a lesson in basic economics and gone through the nuts and bolts of an outlook talk that was actually given in several places in North Carolina in the spring of 2008, we hope that you will be able to strike out on your own to give an outlook talk or that you, at least, will know where to look to find information about agricultural markets that you can convey to your audiences.

