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Understanding the Grain Basis

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Learning about the local cash market and the futures market is crucial to understanding and using the grain basis. Grain basis affects farm profitability and it is important to have a solid grasp of tools, markets and historical numbers when making grain marketing decisions.

Maryland farmers sell their cash grain locally to a few principal users. Most grain in the Delmarva region is produced to feed broilers on the Eastern Shore. Other grain is exported from Norfolk, Virginia. Farmers' grain in Western Maryland supports the cattle industry in the Shenandoah Valley and feed mills in Pennsylvania.

'Local markets' is a relative term. Maryland is a local market compared to the United States. However, farmers should be more "local" than this if they intend to improve their marketing skills. Generally, the regions defined by the Maryland Department of Agriculture (MDA) are specific enough. These are Western Maryland, Central Maryland, Southern Maryland, and the Upper and Lower Eastern Shore of Maryland.

Price differences can exist within a given region primarily due to transportation costs. For example, Upper Eastern Shore prices tend to be less than Lower Shore prices because most grain will be shipped to the Salisbury vicinity. Farmers should understand the price relationship in their region and what affects their local market.

Local cash prices represent averages for each region defined by MDA. MDA collects these prices midweek and publishes them in the *Maryland Grain*

and Livestock Report. However, a farmer can be more "local" by collecting cash prices by calling his or her elevator. It is best to take quotes midweek for data collection purposes, since Monday and Friday prices are more variable.

The futures market drives the local cash market as it does all the individual U.S. cash markets. An increase in the Chicago futures price will raise the price in Salisbury, and a drop will decrease the Salisbury price. Collectively, the cash markets determine futures prices.

Basis Measures, in Cents per Bushel, the Difference between Local Cash Prices and Futures Markets

Basis varies by region and by elevator depending on the demand for that commodity.

Basis = Local Cash Price – Futures Price

Example - if the Eastern Shore cash price for corn is equal to $3.40 and the December futures price equals $3.30, the Eastern shore December basis is ($3.40-$3.30) or +10 cents.

You might often hear references to *over* or *even* or *under* when basis is discussed. Ten over means the cash price is 10 cents *over* the respective futures price (a basis of + 10). Alternatively, 10 *under* means the cash price is 10 cents under the futures price (a basis of -10) while *even* means the cash price is the same as the futures price (a basis of 0).

Each locational basis (such as the Eastern Shore) in the state has several different basis depending on which futures month and cash price are compared. For example, in October of any given year, there are six futures contracts being traded. There is the December contract of that year; and the March, May, July, September and December contracts of the following year.

Many farm websites and some local papers carry daily futures prices with the most visited website being the CME Group (former Chicago Board of Trade). When recording the futures price, you need to be careful that these prices correspond to the same time the cash price is quoted. For example, if you call the local elevator for prices late Wednesday, you should record the futures prices as of the close of the market Wednesday.

Farmers following the basis usually are faced with too much information, rather than too little. In terms of time management, you need to focus on certain key months to make the critical marketing decisions. Commonly, the nearby, harvest and the storage basis are the most useful marketing tools.

Nearby Basis Compares Cash Price to the Closest Futures Month

For example, on June 1 in the corn market, the closest futures contract is July since May is already expired. To obtain the nearby basis, compare the local cash price to the July contract until approximately July 20 when that contract expires. After that, you compute the nearby basis by subtracting the September futures price from the

local cash price until September 20 and so forth. To avoid confusion, the nearby futures contract is nearly always listed at the top of the column in a commodity section.

When you call an elevator for a price quotation for immediate grain delivery grain, the nearby basis is often quoted. For example, the elevator operator might state that the bid is 15 cents under (-15). It is generally understood that the buyer is referring to the nearby contract and the cash price is 15 cents less than the price of the futures contract.

Table 1. Nearby basis example when corn cash price is $3.58 on April 6

Cash Price	Futures Price	Basis (cents/bu)
3.58	May 3.48	+10
	Jul 3.59	-1
	Sep 3.69	-11
	Dec 3.81	-23

***Harvest Basis* is a Type of Nearby Basis**

The harvest basis compares the cash price at harvest to the harvest futures contract:

To obtain the harvest basis*:

Corn	Compare cash prices and December corn futures prices between September 1 and December 20
Soybeans	Compare the cash prices and the November soybean futures prices between September 1 and November 20
Winter Wheat	Compare cash prices and July wheat futures prices between June 1 and July 20
Barley	Compare cash prices and July barley futures prices between June 1 and July 20

**These dates are arbitrarily set and should be adapted to your individual situation. If you rarely harvest corn before October 1, for example, there is no need to collect cash prices in September.*

The harvest basis has many uses. This information helps you forecast harvest prices, evaluate forward contract bids for harvest delivery, and decide whether to sell your grain at harvest or store it.

Forecasting - With a reliable harvest basis, you can forecast fall prices in the spring. On February 14, if the November soybean futures contract is trading at $6.50 per bushel, a harvest basis of -20 suggests that Eastern Shore soybean cash prices will be $6.30 in the fall. Of course, the cash estimate is based on two precarious assumptions: that the November contract will maintain that price from February until November and growing conditions will be normal in Maryland. The odds of both proving true are unlikely.

These problems aside, it is still a useful estimate for helping you establish marketing goals at that time. The futures market prices incorporate all relevant information to that point. If you want $8 for beans, you will not obtain that price unless current conditions change, such as drought in the Corn Belt

or problems in Brazil. Similarly, if you expect $5 for beans, requirements for selling the beans should be raised.

Evaluating - Directly related to forecasting prices is evaluating forward contract bids. If the harvest basis suggests that the fall prices for beans will be $6.30, then that price can be compared directly to the new crop bids offered by local elevators. A forward contract bid of $6 may not look as attractive under these circumstances. You should not automatically reject this $6 bid, but should exercise caution.

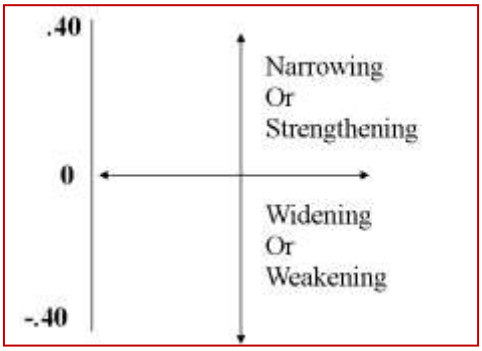
Sell or Store - The harvest basis provides you with important signals about whether to sell or store your crop. When a basis is less negative or more positive than the historical average, it is considered *narrow*. This is a signal for you to sell promptly and not store your crop. The cash price is higher than usual because local buyers need the crop immediately and are willing to pay a premium. This often happens when there is a short crop in Maryland, and buyers want to purchase their yearly needs quickly to protect them from running out later.

When a basis is more negative or less positive than the historical average, it is considered *wide*. A wide basis means there is a surplus of beans locally, for example, and buyers are in no hurry to purchase their feed needs.

The "rule of the basis" is: when it is wider than usual, store; when it is narrower, sell.

Successful marketing is part science and part art, however. The rule of basis is widely applicable throughout the year. The same principles apply to any nearby basis, or to the storage basis which is discussed in the section below. The key is accurate recordkeeping so a farmer knows the historical basis.

So, how wide is wide, and how narrow is narrow? It is not useful to know that the average basis is -10 cents for example, if the farmer does not know the variability underlying that estimate. A basis of +60 and -80 gives an average basis of -10, but that type of variability invalidates "the rule of the basis".



Standard Deviations can be Useful in Evaluating Variability

A standard deviation (SD) of 7 cents for a particular basis which averages -20 cents is interpreted this way. Two-thirds of the time, the basis for that month will fall between -13 and -27(-20 plus or minus 7).

This knowledge helps a farmer in two ways:

1.) the normal variability that can be expected for a particular basis is known

2.) "rule of the basis" is more accurately applied. In the previous example, a basis of -8 or -33 would be significantly narrower or wider than the average, respectively, and the farmer would have greater confidence in the decision to sell or store.

Storage Basis is Identical to Nearby Basis (Cash Minus Futures) Except that Cash Prices are Compared to One Particular Futures Contract Over Entire Storage Season

The corn storage basis, for example, is computed by subtracting the July futures contract (or another contract month if it better fits the individual situation) from cash prices between September 1 and July 20 of the following year. This process creates a stream of weekly basis estimates by subtracting the current July futures price from that week's local cash price.

Typically, over this 9-month period, the storage basis narrows from a wider basis at harvest to a narrower one in the spring. Cash prices are generally lowest at harvest from the glut of farmer selling. Cash prices usually increase after harvest because supplies are limited (no more corn will be harvested until next fall) and are continually being reduced. Also, farmers would not store the corn unless they anticipated the elevators rewarding them by offering a higher price for their effort.

For more grain marketing factsheets and information visit:
www.extension.umd.edu/grainmarketing

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