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## Grain Basis in South Dakota; Corn and Soybean Price Outlook

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## Grain Basis in South Dakota

by

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For successful marketing and merchandising in commodity markets, it is important to understand the relationship between cash and futures contract prices. The principal measure for relating cash and futures price is the Local Basis or "Basis". Following the grain industry norm, basis is defined as the difference between the local cash price and the nearby futures price, i.e., cash price minus settle price for the nearest delivery month futures contract.

The main purpose of this article is to present a short review of the 1991 basis for major grains in South Dakota. The article presents a brief description of the method used to calculate the basis for South Dakota's four major grains (corn, soybeans, spring wheat, and oats) for selected locations in the state. The basis for each grain at Watertown is discussed and compared with the basis for other locations. Finally, attention is drawn to several possible uses of basis in grain marketing decisions and how you can obtain more information on this topic.

### Calculating Basis:

The Sisseton, Watertown, Brookings, Madison, and Mitchell markets were selected for all four grains. In addition, Aberdeen, Vermillion, and Canton were selected to represent important grains in these areas (Aberdeen for spring wheat; Vermillion for corn and soybeans; and Canton for corn, soybeans, and spring wheat). To represent local cash prices for different locations, daily closing elevator bids for no. 2 yellow corn, no. 2 yellow soybeans, 14% spring wheat, and no. 2 oats were collected.

(Continued on p. 2)



## Corn and Soybean Price Outlook

by

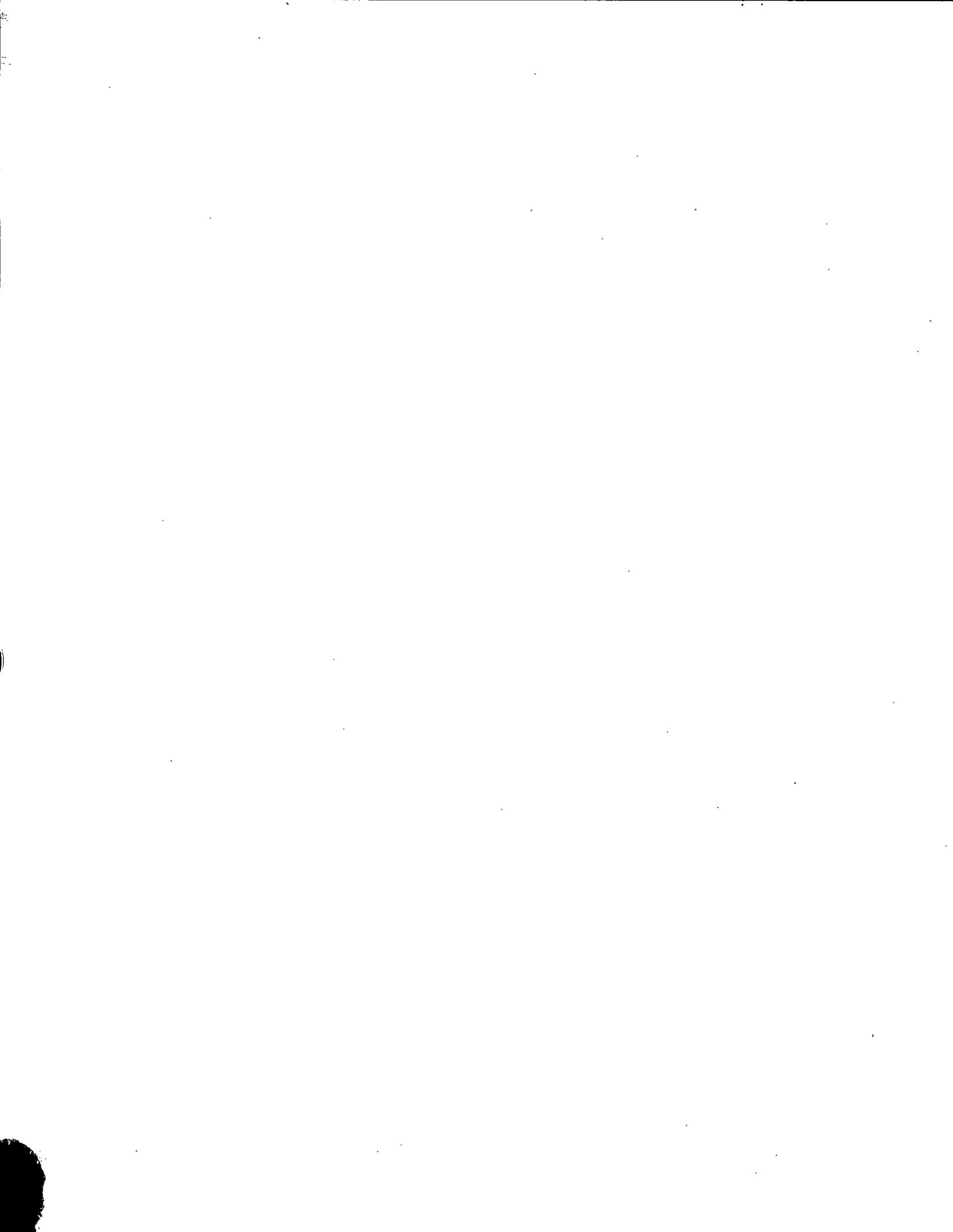
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Frost damage to corn and soybeans has been interpreted as minimal by the grain trade and attention now turns to harvest weather and export demand. The late September frost that hit SD, MN, northern IA and WI had the potential to damage about 500 mil. bu. of expected 1992 production. The Sept. 27 USDA progress report indicated 88% of these states' corn crop was out of frost danger. Realistically, only about 250 mil. bu. received any damage and probably half of that will be cut for forage. Only about 100-125 mil. bu. remain to be lost due to frost and the market reacted by holding prices firm to slightly higher. As for soybeans, frost damage was minimal and ignored by the market.

So, as of the end of September, the grain trade is expecting record US corn and soybean yields of 121.4 and 35.9 bu/ac., respectively. If early yields are higher than expected, corn and soybean prices will most likely move another leg lower. December corn futures could drop to near \$2.00/bu. and November soybeans futures could drop to around \$5.15/bu. But, lower than expected or near expected yields will help firm markets and move prices into a sideways range until harvest is nearly completed.

Storage of corn and soybeans is being considered by most producers. If export demand continues strong with credit allocations to the former Soviet Union, post harvest prices for corn should rally enough to cover costs of storage. Soybean rallies, historically, do not cover the cost of storage. If basis is narrow at harvest, consider selling soybeans and replacing the beans with futures, options or minimum price contracts. These alter-

(Continued on page 4)



Grain Basis ... cont. from p.1)

In practice, the cash grain trade in corn, soybeans, and oats in South Dakota is linked to the Chicago Board of Trade (CBT) futures, whereas cash spring wheat trading is linked to the Minneapolis Grain Exchange (MPLS) futures. Accordingly, the weekly bases (plural for basis) for corn, soybeans, and oats, for different locations, were calculated by deducting the respective local cash prices from the corresponding nearby CBT futures settle prices for Thursdays. Weekly bases for spring wheat were calculated by deducting the respective local cash prices from the nearby spring wheat MPLS futures settle prices for Thursdays. In case the market was closed on Thursday, the data for Wednesday or other nearest market day in the week was used. Calculated in this way, when the local cash price is lower than the futures price, the basis is negative. A relatively large negative basis is referred to as a wide basis. Similarly, a relatively small negative basis is referred to as a narrow basis.

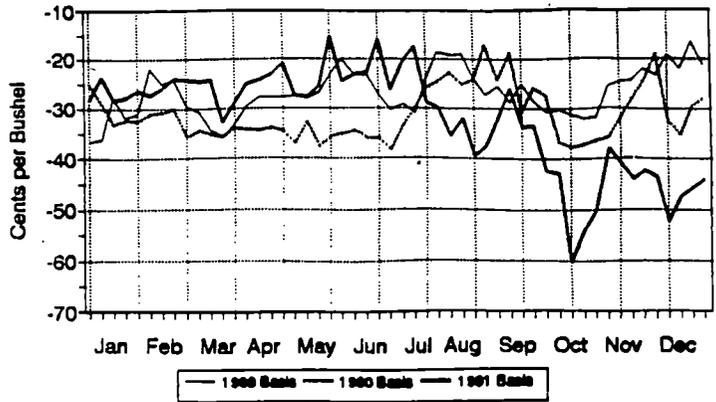
When the cash price at a location is higher than the futures price, the basis is positive. Basis is said to be getting narrower when the cash price increases relative to the futures price, even though in reality the basis may be changing from a small positive basis to a large positive basis. Similarly, when the cash price decreases relative to the futures price, the basis is said to be getting wider.

**Corn Basis:**

During 1991, the weekly corn basis at Watertown ranged from -15¢ in the fourth week of May to -60¢ in the second week of October and averaged -32¢ per bushel for the year (Fig 1). The Watertown corn basis during January averaged -27¢ and then started to narrow. By June 1991, it narrowed to -23¢, and then started getting wider again. By October, the Watertown corn basis widened to about -50¢. For November and December, it averaged -43¢ and -47¢, respectively. Compared to 1989 and 1990, the 1991 Watertown corn basis was relatively narrower in the first and second quarters and relatively wider in the third and fourth quarters.

The corn basis for other selected locations showed generally similar seasonal movements. However, as compared to Watertown, the average 1991 corn bases

**Fig 1. Watertown Corn Basis**  
(Off CBT Fut., Weekly, 1989-91)

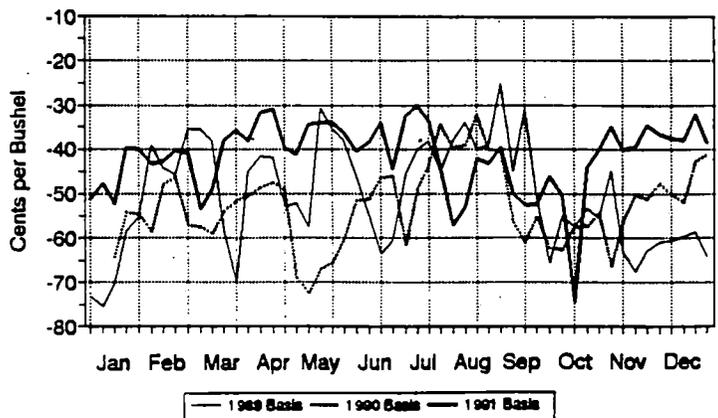


at both Sisseton and Mitchell were about 2¢ narrower. The average corn basis at Canton was about 3¢ narrower and the average corn bases at Madison and Brookings were about 2¢ and 6¢ wider, respectively.

**Soybean Basis:**

During 1991, the weekly soybean basis at Watertown ranged from -30¢ in the second week of July to -75¢ in the second week of October, and averaged -42¢ (Fig 2). The soybean basis for January averaged about -46¢, and narrowed until July when it averaged -34¢. After July, the soybean basis at Watertown started moving wider and by October reached the widest level for the year, averaging -50¢ for the month. After October, the soybean basis at Watertown started narrowing. In December, it averaged -35¢. Compared to 1989 and 1990, the 1991 soybean basis at Watertown was generally narrower with the exceptions of August, September, and October.

**Fig 2. Watertown Soybean Basis**  
(Off CBT Fut., Weekly, 1989-91)



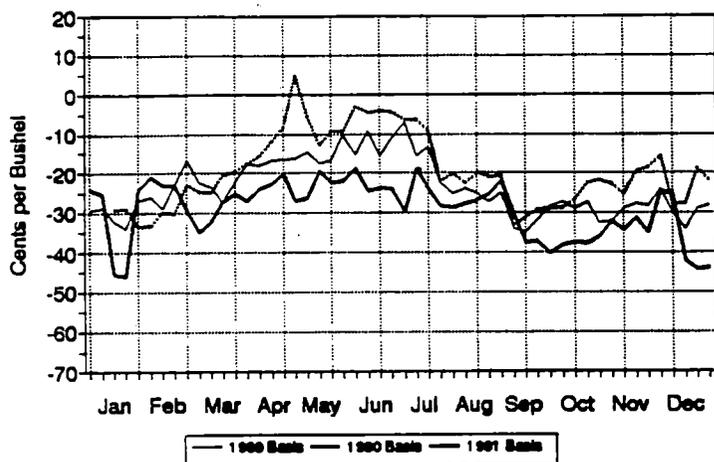


The soybean basis for other selected locations displayed a generally similar seasonal pattern during 1991. However, as compared to Watertown, the 1991 soybean bases for Madison and Brookings were, on average, 2¢ and 3¢ wider, respectively. The average 1991 soybean bases for Sisseton, Mitchell and Canton were narrower by 4¢, 6¢, and 7¢, respectively. The average 1991 soybean basis for Vermillion was narrower by 10¢.

#### Spring Wheat Basis:

During 1991, the weekly spring wheat basis at Watertown ranged from -19¢ in the third week of May, the first week of June, and the second week of July to -46¢ in the third week of January (Fig 3). The average for the year was -29¢. The spring wheat basis in Watertown averaged -33¢ for January. By April, the monthly average narrowed to -23¢ and remained at about that level until June. After June, the basis widened and averaged -36¢ for September. The average basis for December was -39¢. Compared to 1989 and 1990, the 1991 spring wheat basis at Watertown was relatively wider.

**Fig 3. Watertown Spring Wheat Basis**  
(Off MPLS Fut., Weekly, 1989-91)



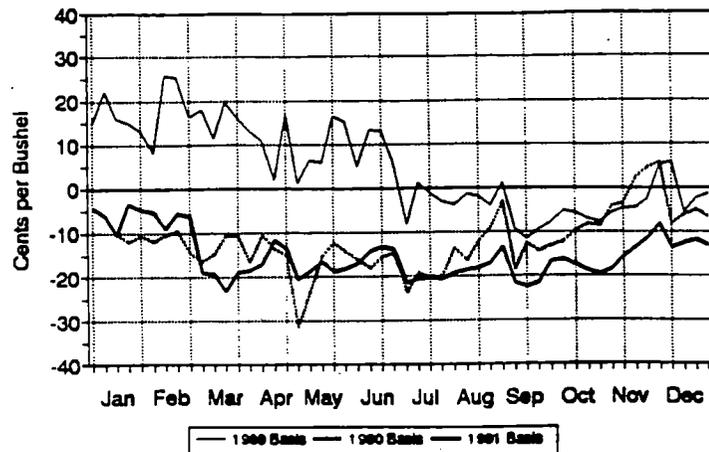
The spring wheat basis during 1991 for other selected locations showed a generally similar seasonal pattern. However, as compared to Watertown, the average 1991 spring wheat bases for both Aberdeen and Sisseton were 3¢ narrower. The average 1991 spring wheat bases were 7¢ wider at both Madison and Brookings and 12¢ wider at Mitchell.

#### Oats Basis:

During 1991, the oats basis at

Watertown ranged from -3¢ in the fourth week of January to -23¢ in the third week of March and in the second week of September with an average of -15¢ (Fig 4). It averaged -6¢ for January. By the first week of March, the basis widened to -19¢. Thereafter, it generally fluctuated between -17¢ to -21¢ until the end of October. By December, it narrowed to -13¢. Compared to 1989 and 1990, the 1991 oats bases at Watertown were 20¢ and 3¢ wider, respectively.

**Fig 4. Watertown Oats Basis**  
(Off CBT Fut., Weekly, 1989-91)



Compared to Watertown, the 1991 oats basis for other selected locations showed a generally similar seasonal pattern. However, the average 1991 oat basis for Canton was about 1¢ narrower as compared to Watertown. Similarly, the average 1991 oats bases for Sisseton, Madison, and Mitchell were wider by 5¢, 2¢, and 1¢, respectively.

#### Uses of Basis in Grain Marketing by Farmers:

The historical information on basis, along with appropriate information on futures contracts and options, can be used to: a) derive an expected local cash price, b) evaluate a cash forward contract, c) determine the profitability of storage and timing of sale, d) evaluate a basis contract, e) calculate the expected hedge price, and f) calculate the maximum and minimum prices when utilizing puts and calls. For more detailed information on estimated bases in SD and illustrations of how this information can be used to make marketing decisions write for a copy of "Grain Basis Patterns for Selected Locations in South Dakota", SDSU Econ.





Address Correction Requested

Research Report 92-6, by Bashir A. Qasmi, addressed to SDSU Economics Department, Box 504A, Brookings, SD 57007.

The review of bases for selected markets shows that grain bases: a) are wider at some locations and narrower at others, b) vary seasonally and are generally wider during the period following harvest, and c) vary from year to year. These differences are attributable to differences in local supply and demand conditions and the degree of competition in the local markets.

All other factors constant, a seller will benefit from a narrow basis. Therefore, producers should try to sell their grain at a place and at a time with the narrowest basis. However, what really matters is the cash price received by the producer net of any transportation and storage costs. The information presented here can help producers in choosing the best location to market their grain. For example, during 1991, compared to Watertown, the Brookings bases for corn, soybeans, and spring wheat were wider by 6¢, 3¢, and 7¢, respectively. Therefore, producers who can market their grain in both Watertown and Brookings should obtain price quotes from elevators in Watertown as well as Brookings, estimate their per bushel cost of transportation to both markets, and sell in a market which will bring a higher per bushel price net of transportation cost.

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(Shane -- Corn and soybean ...)

natives allow you to take advantage of a price rally just as stored grain speculates but storage costs and quality risks are eliminated. If basis is wide at harvest, 30-90 day storage may pay off.

In case of larger than expected crops, be prepared for local corn and soybean prices to fall below the loan rate. If this occurs, be prepared to store corn and use the loan proceeds to meet cash flow obligations. For soybeans, be ready to cash in on possible moves using the loan deficiency payment (LDP). The LDP is the difference between the Posted County Price and the loan rate and can be realized even though beans aren't stored long term. Contact your local ASCS office to be sure you meet all ownership requirements for LDP before selling the beans locally. A loan origination fee will be charged against your payment.

If short of storage space, history tells us to store corn and sell soybeans at harvest time. Prices this year seem to be following historical seasonal patterns fairly well.

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**ECONOMICS COMMENTATOR**



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