

# **Testimony on the Value of the Mississippi River for U.S. Agriculture**

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## **TESTIMONY ON THE VALUE OF THE MISSISSIPPI RIVER FOR U.S. AGRICULTURE**

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The Mississippi River is the most critical artery of the inland waterway system, supporting between 50 and 60 percent of total U.S. corn exports and 30 to 45 percent of total U.S. soybean exports. In calendar year 2002, 1.1 billion bushels of corn, 389 million bushels of soybeans, and 32 million bushels of wheat were transported to the Gulf via the Mississippi River. Over 90 percent of the corn and soybean exports from the Gulf were transported via barges on the Mississippi River.

The low cost of barge transportation for delivery to export markets has made it the preferred mode of transportation when compared to rail or truck transportation. For example, during the first half of 2004, barge rates from Minnesota to lower Mississippi River ports have averaged approximately half of per ton rail rates. Concurrently, barge rates from Iowa to lower Mississippi River ports averaged 40 percent of rail rates.

The lower cost of barge transportation has increased the selling price of corn and soybeans for farmers along the Mississippi, Illinois, Ohio and Missouri Rivers relative to land locked areas. Grain flow studies for Iowa and Minnesota have shown that within a 180 mile corridor on either side of the river, a significant amount of grain moves to the Mississippi River in response to higher commodity prices on the river. At some locations in Iowa, higher grain prices on the Mississippi River drew commodities from as far as 275 miles away.

In order to illustrate the impact of the inland waterway system on commodity prices, please consider the map of actual corn prices reported by DTN at 2,000 terminals across the Corn Belt on September 25, 2002, presented in Figure 1. Note that in September, 2003, the Mississippi, Illinois, Ohio and Missouri Rivers were open for barge traffic. The color scheme of the map reflects local terminal prices. White, red, orange and yellow regions represent prices that are in the \$2.45 to \$2.60 per bushel range. Green to light blue represents prices that are in the \$2.25 to \$2.40 per bushel range. Dark blue to purple represents prices that are below \$2.25 per bushel. It's not the absolute level of prices that matters, but rather the geographic pattern of relative prices. Corn prices along the inland waterways and areas with a concentration of livestock feeding or processing plants are generally higher than other areas.

Now consider what happens when the upper Mississippi River freezes over in January and the Missouri River is closed for the season. Figure 2 presents a map of actual corn prices at various terminals across the Corn Belt on January 14, 2004. Interestingly, the red, orange and yellow regions now appear on the lower Mississippi below St. Louis and on the Ohio River. Much of Iowa, Missouri and Illinois has become dark blue to green and nearly all of Minnesota has become dark blue. This suggests that when the Mississippi River is closed to barge traffic, farmers within reach of the river receive significantly lower prices for their corn than when the river is open.

Figure 1. Spot Corn Prices on September 25, 2002

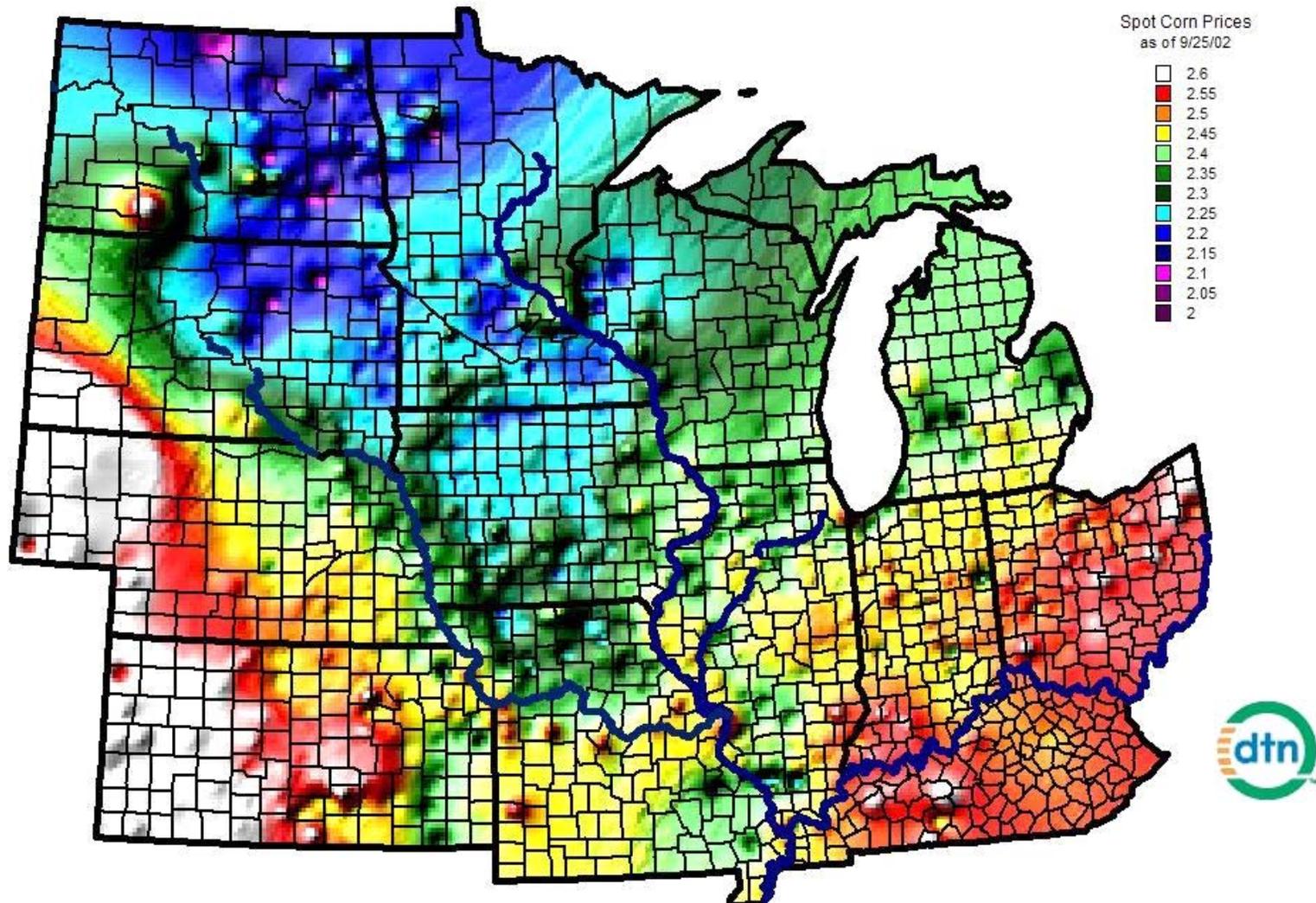
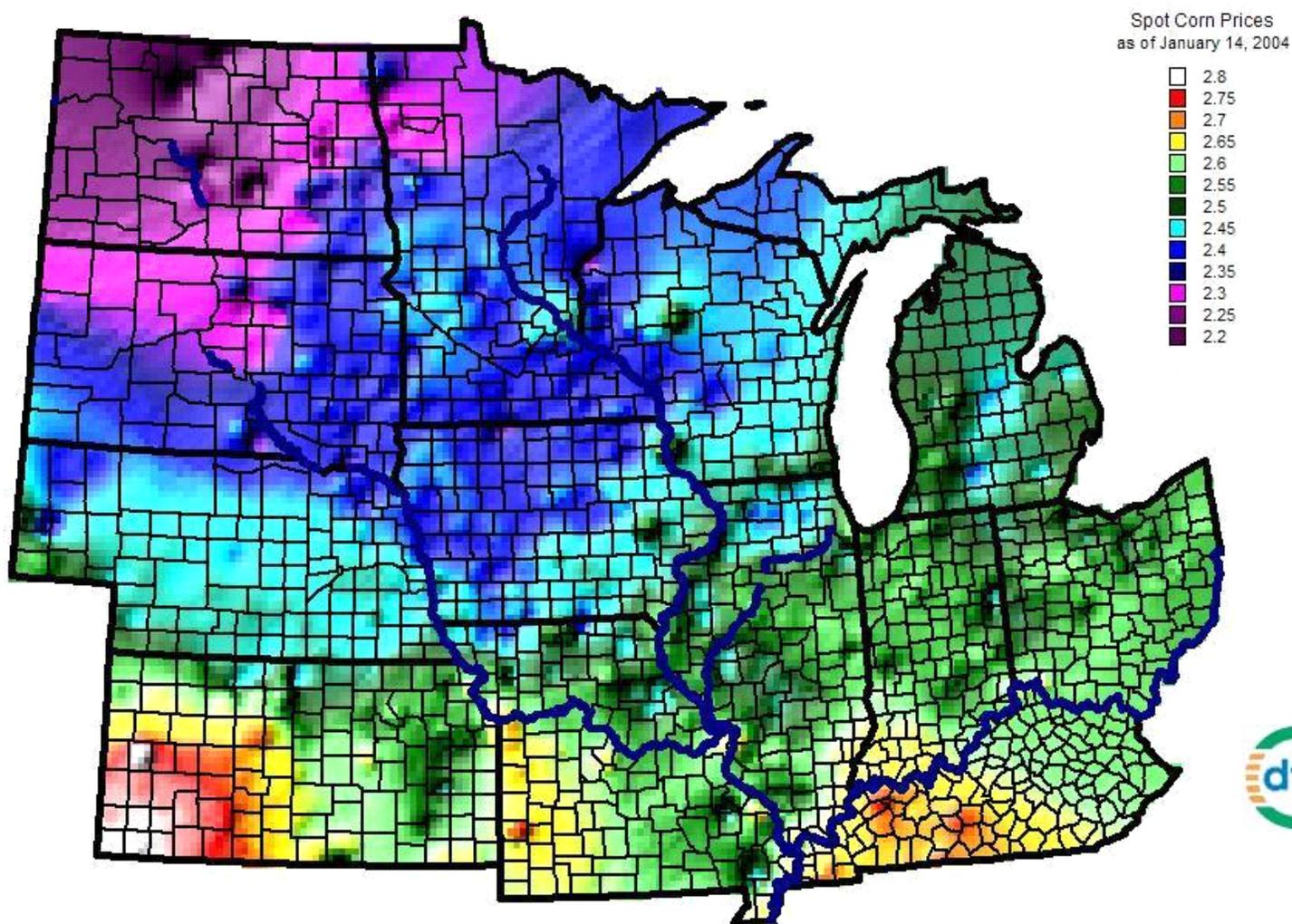


Figure 2. Spot Corn Prices on January 14, 2004



The story is a little more pronounced for soybeans because soybeans prices are currently more export dependent than corn prices. In 2003, 37 percent of soybean production was exported compared with 20 percent of corn production. Figure 3 presents a map of actual soybean prices at over 2,000 terminals across the Corn Belt on September 25, 2002, when all rivers were open for barge traffic. As in the case of corn, areas along the Mississippi, Illinois, Ohio and Missouri rivers, as well as areas with a concentration of livestock feeding or processing plants, received higher prices than other areas as indicated by the white, red, orange and yellow regions.

Finally, as illustrated in Figure 4, if we look at soybean prices on January 14, 2004, when the upper Mississippi and Missouri Rivers were closed to barge traffic, nearly all of Iowa and the western half of Missouri have switched over to greens and light blue indicating a significant decline in local terminal prices. Note that the white, red, orange and yellow regions now appear on the lower Mississippi below St. Louis and the Ohio River.

In 1998, using a spatial inter-temporal equilibrium model, researchers at Texas A&M University conservatively estimated the impact on commodity prices of losing the Upper Mississippi and Illinois Rivers for barge traffic, reducing gross market receipts to farmers by 350 million dollars per year, assuming that rail rates did not change from current levels. Working with researchers at Texas A&M University, FAPRI seeks to update and enhance this analysis by linking it with the FAPRI commodity modeling system creating a dynamic system and endogenizing freight rates.

Figure 3. Spot Soybean Prices on September 25, 2002

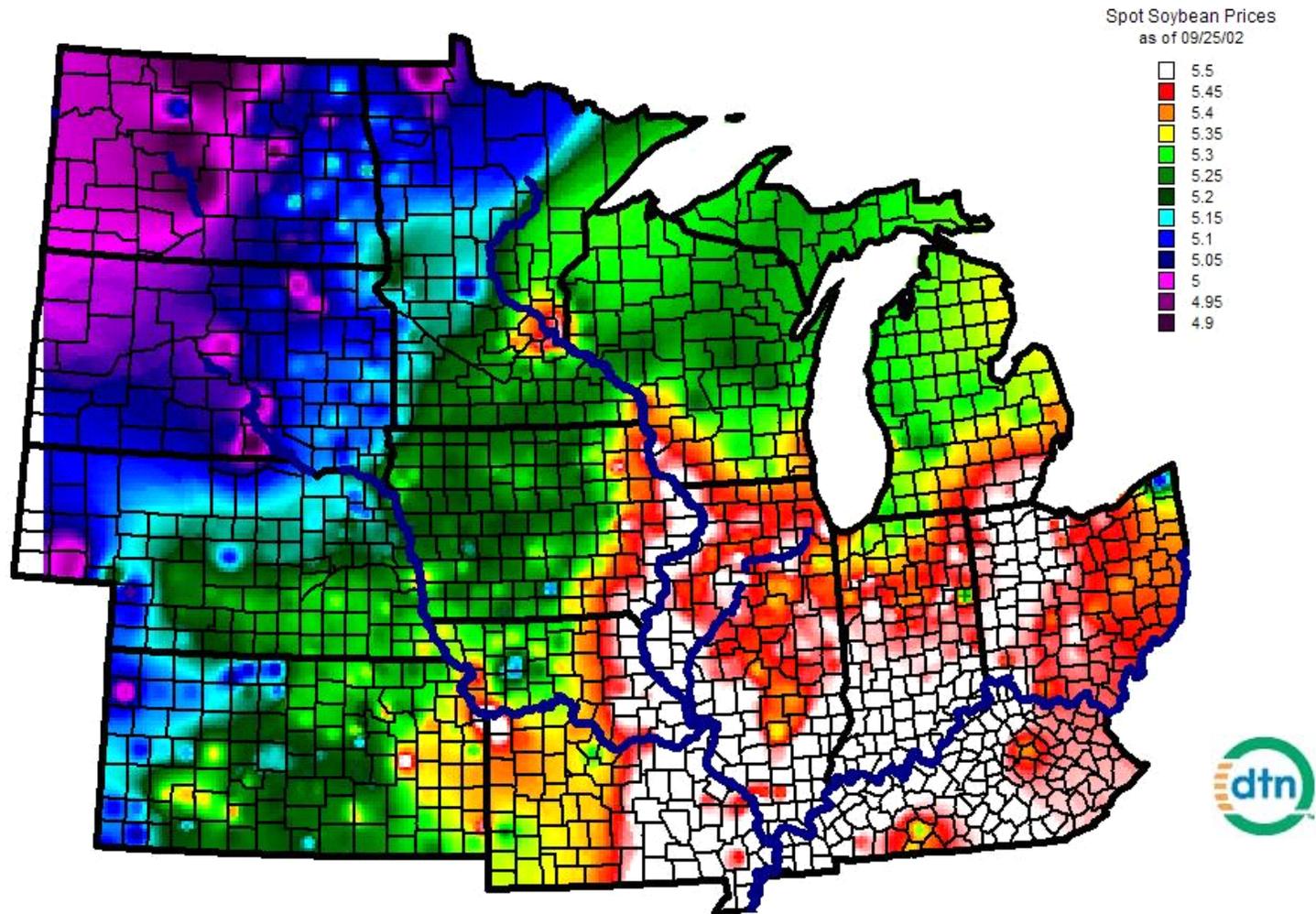
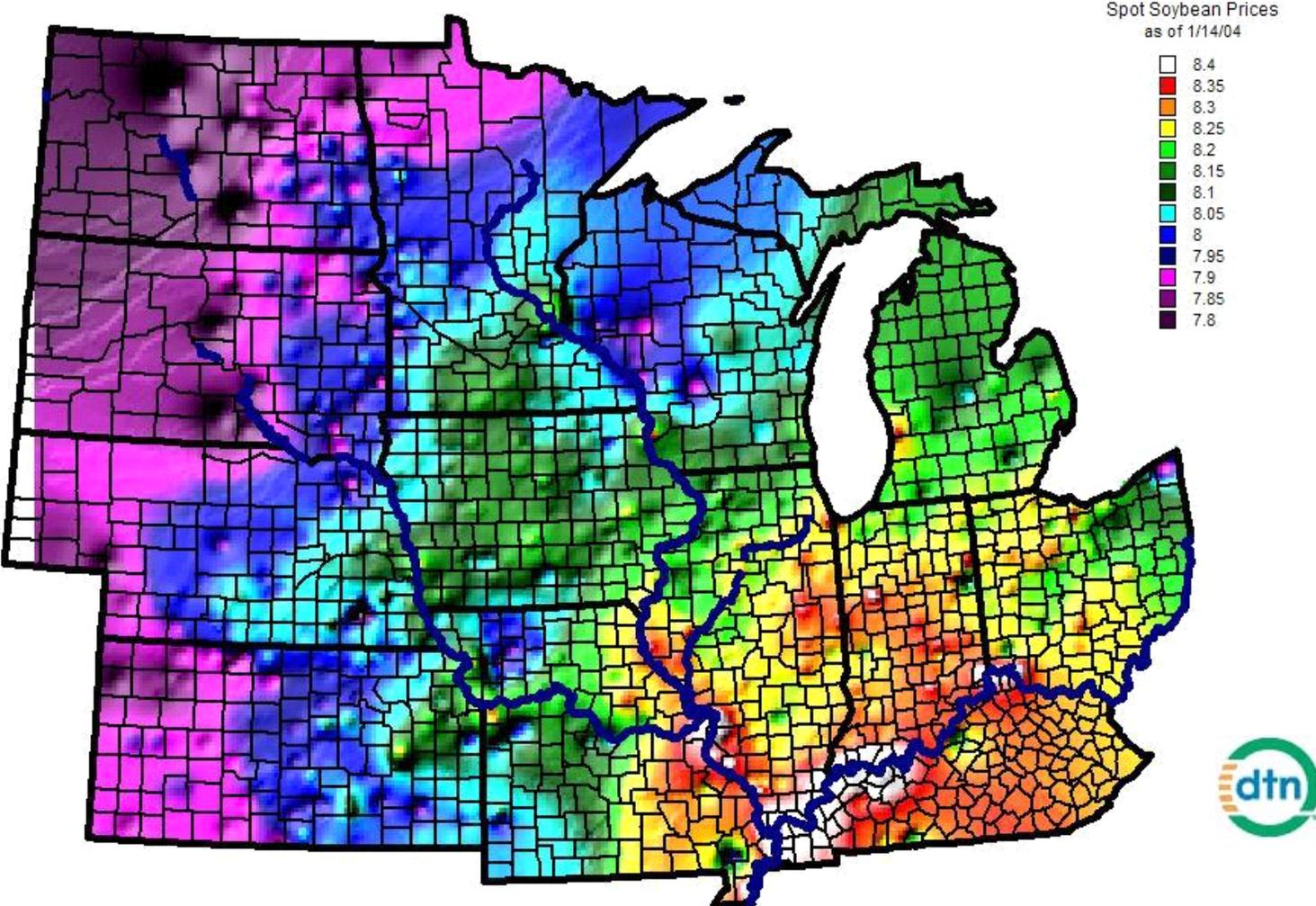


Figure 4. Spot Soybean Prices on January 14, 2004



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