

# SOYBEAN PRODUCTION SYSTEMS

## Where Do Indiana Soybean Producers Sell?

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Due to intense international competition and rising input prices, soybean profit margins have narrowed, generating producer interest in market alternatives, including specialty and value-added markets. Today, more than ever, producers' market alternatives may have a major impact on their income. The objective of this project is to identify and understand the types of markets available to Indiana soybean producers as well as the distance to those markets.

What types of markets do Indiana soybean producers have access to? How far are producers willing to haul their soybeans?

To answer these questions, Purdue Extension, in consultation with the Indiana Agricultural Statistics Service (IASS), sent surveys to a sample of Indiana soybean producers representing various farm sizes and regions around the state in 2005.

This publication will focus on what the survey revealed about the markets available to growers (representing different sizes and regions) and the distances they have to travel to markets (other publications focus on other issues such as forward pricing and production practices).

In the survey, farm sizes were grouped by total cropland:

- 0-99 acres
- 100-249 acres
- 250-499 acres
- 500-999 acres
- 1,000 acres or more

For this survey, there were three regions: north, central, and south.

### Perception of Available Markets

The first set of survey results focused on the markets where growers are delivering their soybeans. The survey results showed that local elevators dominate the Indiana soybean market. Regardless of farm size, the majority of producers (87.1 percent) said they



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deliver their grain to local elevators (Table 1). When it comes to regional differences, northern Indiana producers were more likely to say they deliver to local elevators than central and southern Indiana producers (Table 2).

### **Larger Producers Have More Options**

Overall, farm size played a larger role in market selection (Table 1). Large-scale producers were significantly more likely to say they deliver their soybeans to crushing plants, elevators more than 30 miles away, seed companies, and specialty soybean markets. As we discuss in more detail below, this difference may be attributed partly to large-scale growers' willingness to haul their soybeans farther. Because of their larger production volume, large-scale farmers may be more likely to explore alternative markets for their crops. Large-scale farmers also may have access to more market information and be more willing to exert more effort in order to produce under contract for seed or specialty markets.

### **Southern Producers Travel Farther**

Region also plays a significant role in Indiana soybean markets. Central Indiana producers were significantly more likely to say they have access to crushing plants, a reflection of the several large soybean-crushing plants in the region.

Southern Indiana producers were significantly more likely to say they deliver to elevators more than 30

miles away, which could reflect either the pull of the terminal markets along the Ohio River, or the larger distances between buyers in the region.

Central and northern Indiana producers were significantly more likely to say they deliver to seed companies, probably a reflection of the several major seed companies located in the region.

### **Non-GMO Beans Dominate Specialty Markets**

Specialty soybean buyers and seed companies offer price premiums on value-added soybeans. The survey asked producers who have access to such buyers to describe their available market alternatives. The survey showed that the dominant specialty soybean market is for non-GMO soybeans (60 percent), followed by STS soybeans (12 percent), tofu or food-grade soybeans (12 percent), and low linolenic soybeans (5 percent).

Given that the low linolenic soybean market is relatively new, 5 percent of the specialty soybean production is significant. While there are regional differences in specialty soybean markets (with more central and southern Indiana farmers delivering to specialty markets than their northern counterparts) these differences were not statistically significant.

Very few producers (2.7 percent) indicated that they deliver to "other" markets. These "other" markets include deliveries to river terminals (52 percent) and

**Table 1. Types of Markets Soybean Producers Perceive as Available Based on Farm Size.**

Farm Size (acres)	Available Market						Mean Number of Available Markets
	Local Elevator	Crushing Plant	Elevator > 30 Miles Away	Specialty Soybean Market	Seed Company	Other	
Percent of Respondents							
1-99	88.7	12.9	15.6	3.2	8.6	3.2	1.32
100-249	84.6	17.3	17.3	1.9	9.3	3.5	1.34
250-499	88.6	22.8	20.5	3.9	14.6	2.8	1.53
500-999	88.8	37.2	29.5	8.5	12.8	3.1	1.80
1,000+	86.4	51.9	35.3	9.7	24.8	1.2	2.09
Average	87.1	28.8	24.0	5.4	13.9	2.7	

**Table 2. Types of Markets Perceived as Available to Soybean Producers Based on Region.**

Region	Available Market						Mean Number of Available Markets
	Local Elevator	Crushing Plant	Elevator > 30 Miles Away	Specialty Soybean Market	Seed Company	Other	
Percent of Respondents							
North	94.3	23.7	18.5	3.9	13.4	1.4	1.53
Central	86.3	38.8	23.2	7.2	18.7	1.7	1.76
South	80.1	22.6	33.1	5.1	8.1	6.0	1.55

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**Table 3. Distance to Market (One-Way) Based on Farm Size.**

Farm Size (acres)	One-Way Distance to Market (miles)				
	0-5	6-10	11-25	26-50	More Than 50
	Percent of Respondents				
1-99	28.0	36.3	25.0	8.3	2.4
100-249	19.2	29.6	30.8	13.9	6.5
250-499	18.4	30.0	36.7	12.1	2.9
500-999	21.8	26.2	30.7	15.6	5.8
1,000+	10.9	26.5	31.3	24.4	7.0
Total	19.1	29.2	31.0	15.6	5.1

directly to livestock operations (18 percent). While farm size was not a factor, southern Indiana producers were significantly more likely to deliver to these “other” markets. This is logical given that the majority of these “other” markets are located in the region along the Ohio River.

### Distance to Market and Hauling Method

The second set of survey results focused on the distances producers have to travel to the markets and what they use to bring their grain there.

Distance to market is generally a good indicator of the number of buyers in an area — shorter distances may indicate more nearby buyers. But producers who are willing to haul their soybeans farther will have access to more markets. Ultimately, distance to market affects the cost of delivering soybeans and the producer’s bottom line.

### Larger Farmers Haul Beans Farther

Overall, the survey results showed that large-scale farmers were far more likely to haul their soybeans longer distances, thereby increasing their market alternatives (Table 3). More than 60 percent of the smallest farms (1-99 acres) hauled their soybeans less than 10 miles. That number fell to roughly 50 percent for medium farms (100-999 acres) and 37 percent for the largest farms (1,000+ acres).

Notably, specialty soybean producers also hauled their soybeans farther. While only 20 percent of commodity producers hauled their soybeans more than 25 miles, 28 percent of specialty producers hauled their soybeans more than 25 miles.

### Region Plays a Big Role in Hauling Charges

The survey results revealed significant regional differences in the average hauling charges producers paid (Table 4). Northern Indiana producers tend to haul their soybeans shorter distances and have the lowest average hauling charges for hired trucks, followed by central Indiana. Southern Indiana producers, who haul their soybeans the longest distances, not surprisingly, pay the highest average hauling charges.

Only 38 percent of northern Indiana producers haul more than 10 miles, while 52 percent of central Indiana producers, and 74 percent of southern Indiana producers do. These longer distances and higher average hauling charges in southern Indiana may reflect the lay of the land (the Hoosier National Forest dominates south central Indiana), or it may reflect the higher prices at terminal markets on the Ohio River.

### Smaller Growers More Likely to Hire Trucks

The survey showed that large-scale farmers are significantly more likely to transport soybeans with their

**Table 4. Distance to Market (One-Way) Based on Region and Average Commercial Hauling Charges.**

Region	One-Way Distance to Market (miles)					Average Commercial Hauling Charge (\$/bushel)
	0-5	6-10	11-25	26-50	More Than 50	
	Percent of Respondents					
North	25.1	37.3	23.0	8.8	5.8	0.116
Central	18.3	29.6	34.6	14.3	3.2	0.128
South	10.5	15.4	38.4	28.6	7.1	0.140

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**Table 5. Method of Soybean Transport to Market Based on Farm Size.**

Farm Size (acres)	Own Truck	Hire Truck	Both
	Percent of Respondents		
1-99	58.5	40.2	1.2
100-249	62.5	32.0	5.5
250-499	63.1	26.1	10.8
500-999	70.2	19.6	10.2
1,000+	83.5	8.7	7.8
Overall	68.0	24.6	7.4

**Table 6. Method of Soybean Transport to Market Based on Distance to Market.**

Distance (miles)	Own Truck	Hire Truck	Both
	Percent of Respondents		
0-5	21.6	11.6	15.0
6-10	33.8	19.0	21.3
11-25	30.6	33.2	33.8
26-50	11.1	24.6	26.3
More than 50	2.9	11.6	3.8

own trucks than small-scale farmers (Table 5). Small-scale farmers are significantly less likely to own trucks, hiring someone else to haul their soybeans instead. For instance, 40 percent of farms with 1-99 acres hire someone to haul their beans, compared to 9 percent of farms with more 1,000 acres.

But farmers who travel longer distances to get their soybeans to market appear to be more likely to hire someone else to haul their soybeans (Table 6). Of those producers who haul their own soybeans, only 45 percent travel more than 10 miles, while 69 percent of producers who hire someone to haul their soybeans go more than 10 miles.

## Conclusions

The survey results suggest that farm size and geographic location influence producers' perception of viable market alternatives in terms of both market type and distance to market. Large-scale producers are more willing to haul soybeans farther, increasing the number of markets available to them. This finding is especially true for value-added or specialty soybean markets.

One reason for this may be that an individual small-scale producer does not have enough grain to fill a

semi-truck. That would increase per bushel hauling costs. One way small-scale producers might overcome this problem would be to pool their grain with others to travel greater distances to market.

Small-scale farmers may not perceive some markets as viable while their large-scale counterparts would. One possible reason is that large producers may spend more time searching for better market opportunities than their small-scale counterparts. With the advent of biofuels (and consequently at least one new soybean crushing facility being built in Indiana), the available markets are increasing. Purdue Extension will monitor market changes using these survey results as a benchmark to measure the impact these new markets will have on Indiana soybean growers.

*To read about other findings from this survey, and for more soybean information from Purdue Extension, visit [www.coolbean.info](http://www.coolbean.info).*

## Acknowledgements

The authors would like to thank the Indiana Soybean Board for funding this research and the Indiana Agricultural Statistics Service for their cooperation in developing, distributing, and tabulating the survey results.

NEW 11/06