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The Economic Contribution of the Sugarbeet Industry of Eastern North Dakota and Minnesota

Summary Report

by Randal C. Coon and F. Larry Leistritz

Eastern North Dakota and Minnesota have become one of the major sugar-producing areas in the United States. The industry in this area not only involves the production of the sugarbeets by farmers, but also includes the processing of the sugarbeets into packaged sweeteners ready for sale to consumer outlets. Processing agricultural products is an economically viable way to enhance economic development in this area.

The sugarbeet industry has made significant additions to the economies of North Dakota and Minnesota despite the fact that its acreage is small compared to the major crops of the respective states. About 450,000 acres of sugarbeets are grown for three cooperatives (American Crystal Sugar Company, Minn-Dak Farmers Coop, and Southern Minnesota Beet Sugar Cooperative) and processed at seven factories. The industry is capital intensive, includes farm production and processing factories, and makes a substantial economic contribution to the sugarbeet-growing area.

The purpose of this study was to estimate this economic contribution to North Dakota and Minnesota (collectively) in 1987 using an expenditures-side approach. Cash

expenditures in the two-state area were obtained from a combination of secondary data and a survey. Budgets were used to estimate 1987 farmer expenditures associated with the production of sugarbeets, and the cooperatives were surveyed to obtain the expenditures required to process the sugarbeets. Three-year average expenditures by the cooperatives were aggregated and assumed to represent 1987 factory outlays. Production and processing expenditures were totaled to obtain local industry expenditures. These expenditures were applied to an input-output model to estimate key economic outcomes.

The direct effects of the sugarbeet industry include additional employment and income for residents of the two-state area. Expenditures by the industry are recirculated within the local economy in the form of purchases of goods and services, tax revenues to the state government, and wages and salaries to households. These expenditures result in indirect and induced effects, such as increased employment and income, because of subsequent rounds of respending. This result is called the multiplier effect.

Determining the economic contribution of a given industry provides detailed information regarding its importance to a local economy. In the case of the sugarbeet industry, this type of analysis is appropriate because the industry is concentrated in a small geographic area. The importance of this industry in terms of employment, personal income, and tax revenues should not be underestimated.

This article summarizes detailed economic analysis of the benefits accruing to the local economies of North Dakota and Minnesota as a result of the sugarbeet industry. For further detailed information readers are referred to the larger report, Agr. Econ. Misc. Rpt. No. 115.

Sugarbeet production in eastern North Dakota and Minnesota is centered around the three producer-owned cooperatives and their seven processing factories (figure 1) because of the relatively high transportation costs of the raw product. Factories are operating in Renville, Minnesota (Southern Minnesota Beet Sugar Cooperative); Wahpeton, North Dakota (Minn-Dak Farmers Coop); and Moorhead, Crookston, East Grand Forks, Minnesota, and Hillsboro and Drayton, North Dakota (American Crystal Sugar Company). These factories collectively process over 7 million tons of sugarbeets annually and provide jobs for over 2,000 full-time-equivalent workers.

Methodology for this study will not be described in detail here. Again, readers should refer to the larger report. Local expenditures are defined as cash expenditures made by farmers for the items required for the production of sugarbeets and cash outlays by the factories to convert the sugarbeets into finished sweetener products.

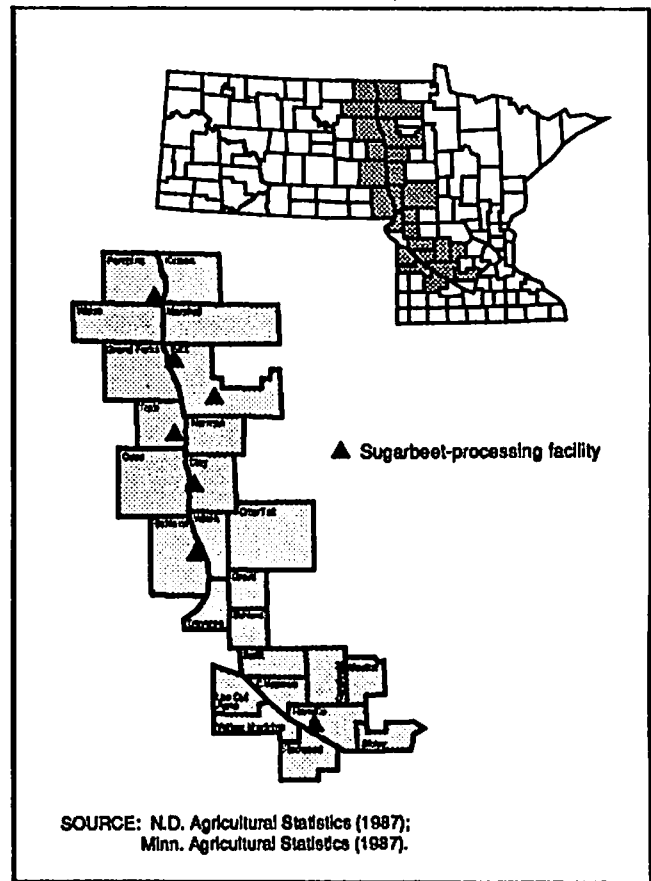


Figure 1. Counties producing sugarbeets with growers affiliated with the three sugar-processing cooperatives.

Because this analysis was conducted collectively for North Dakota and Minnesota, local expenditures made in either state are included.

Expenditures in North Dakota and Minnesota resulting from the production and processing of sugarbeets amounted to nearly \$345 million in 1987. These expenditures generated personal income of over \$314 million, accounted for over \$284 million in retail trade activity, and generated a total level of business activity of about \$986 million for 1987.

importance of the sugarcane industry to the economy of the two-state area. Relating these key economic measures to the coal industry (i.e., coal mining and conversion) of western North Dakota may help put these numbers in perspective. Total business activity generated in the two-state area by the sugarcane industry is slightly larger than that generated by the North Dakota lignite industry in 1987.

The magnitude of key economic measures clearly indicates that the sugarcane industry makes a significant contribution to the economies of these two states. The rural locations of the sugarcane factories have helped provide jobs and economic stability for many of the smaller towns in the two-state area. Dollars added to an economic unit by an industry, such as the sweetener industry, provides the impetus for economic growth (as reflected in the levels of personal income, retail trade, and total business activity) and also provides secondary benefits including tax collections and employment.

The level of personal income resulting from the industry's expenditures and the multiplier effect upon them. Retail purchases required for the production and processing of sugarcane have a strong influence on the retail sales level in the two-state area. The total level of business activity resulting from the industry's expenditures indicate the total amount of economic activity generated in the area during 1987. Overall, the sugarcane industry has a multiplier of 2.86, which is determined by dividing total business activity generated by the local expenditures.

Other benefits resulting from the sugarcane industry include 2,175 full-time-equivalent jobs for workers at the seven processing plants with many of these jobs being located in rural areas of North Dakota and Minnesota. The industry also creates many part-time employment opportunities for migrant workers (estimated at 5,000-6,000 in 1987) and truck drivers (estimated at 5,800) during the harvesting period.

Sugarcane industry expenditures also are responsible for creating secondary (indirect and induced) employment. Secondary employment includes those that arise to serve and support the industry and was estimated at 14,898 full-time equivalent jobs for 1987. In addition, estimated state and local tax revenues (not including farm real estate taxes) amounted to over \$27 million in 1987 because of activities associated with the sugarcane industry. The multiplier effect is very evident for the sugarcane industry where every dollar spent generates another \$1.86 giving a total of \$2.86.

These economic contributions present in absolute terms an indication of the

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