

Would a Spoonful of Sugar Help: Is Competition Structure in the U.S. Sugar Beet Sector Changing?

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Concentration in the U.S. sugar industry was highlighted when the U.S. Department of Justice (DOJ) sued to stop the United States Sugar Corporation from acquiring the sugar assets of the Louis Dreyfus Co. (a.k.a. Imperial Sugar Company) in 2021.¹ This EBOT—[the second in a series](#)—outlines the geographic and firm-level structure of the U.S. sugar beet growing and processing sectors. Based on loan activity, sugar beets are among the leading U.S. government supported commodities; thus, the farm structure of sugar beet production is compared to corn and soybean production which are also among the leading supported commodities based on USDA reported loan activity.

Beet sugar production involves two steps: growing and processing. As with sugarcane, transaction costs, perishability, high risk, and low processing returns have resulted in the U.S. beet sugar sector becoming vertically integrated over time. All currently operating U.S. beet sugar processing facilities are owned by grower cooperatives.² As a result, growing and processing operations tend to have similar levels of geographic concentration as well as high levels of firm concentration.

Table 1. Fiscal Year 2023 Beet Sugar Market Allocations

Processor	Location by State	FY 2023 Market Allocations (short tons, raw value)	Percent of Total Beet Sugar Marketing Allocations (percentage)
Amalgamated Sugar Co.	Idaho	1,193,737	21.4
American Crystal Sugar Co.	Minnesota and North Dakota	2,039,915	36.6
Michigan Sugar Co.	Michigan	707,281	12.7
Minn-Dak Farmers Co-op	North Dakota	419,754	7.5
Southern Minnesota Beet Sugar Co-op (including Spreckels)	Minnesota California	650,595	11.7
Western Sugar Co.	Colorado Wyoming Montana Nebraska	515,519	9.3
Wyoming Sugar Co. LLC	Wyoming	44,085	0.8

The U.S. sugar program regulates the supply of sugar for human consumption by setting flexible marketing allocations for domestic producers and limiting sugar imports with tariff rate quotas.³ The level of geographic and firm concentration is demonstrated by these allocations. About 85.6 percent of the FY2023 allocations were to five sugar beet processing firms with operations primarily located in Idaho, Minnesota, North Dakota, and Michigan (table 1).⁴ The processing plants in these four states represent approximately 82.5 percent of sugar beet processing capacity (table 2).

Geographic and firm level concentration of the sugar beet industry has increased over time. At the grower level, the four leading states represented 71.8 percent of harvested acreage in 1997, increasing

Source: 88 FR 70920 ([Domestic Sugar Program-FY2023](#)).

Note: Spreckels Sugar Company is a subsidiary of the Southern Minnesota Beet Sugar Co-op. USDA, NASS, [Quick Stats Database](#), accessed March 1, 2024.

¹ Office of Public Affairs, "[Justice Department Sues to Block U.S. Sugar's Proposed Acquisition of Imperial](#)," November 23, 2021.

² Hultgren, Nate, "[Challenges Facing the Beet Sugar Industry](#)," USDA 2023 Agricultural Outlook Forum.

³ For a summary of U.S. sugar policies see [USDA, ERS, Sugar and Sweeteners, Policy](#).

⁴ The sugar marketing year runs concurrent with the federal fiscal year from October 1 of one year to September 31 of the following year. Thus, sugar beets planted in the spring would generally be harvested and processed in the following marketing/fiscal year. Spreckels is the exception, processing sugar beets year-round. Spreckels Sugar represents about 5.4 percent (table 2) of national sugar processing capacity, and thus, about 37.0 percent of Southern Minnesota Beet Sugar Co-op's capacity. Sugar beets typically grow best in temperate climates with cool night temperatures. Corn Agronomy (blog), "[Sugar Beet](#)," accessed August 5, 2024.

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to 87.4 percent in 2022, including Minnesota (37.9 percent), North Dakota (21.9 percent), Idaho (15.0 percent), and Michigan (12.1 percent).⁵ At the sugar beet processing level, plants have been closing, increasing both firm and geographic concentration. Twenty-three beet sugar plants have closed since 1981,⁶ the most recent closures were plants in Torrington, Wyoming (2018), and Sydney, Montana (2023).⁷

Table 2. Sugar Beet Processing Capacity

Owner/Operator	State	Share of Daily Capacity (Percent)
American Crystal Sugar Co.		36.6
East Grand Forks	MN	8.4
Crookston	MN	6.0
Moorhead	MN	6.0
Drayton	ND	8.7
Hillsboro	ND	7.6
Michigan Sugar Company		12.0
Bay City	MI	4.3
Caro	MI	2.0
Croswell	MI	2.9
Sebewaing	MI	2.7
Minn-Dak Farmers Co-op		6.0
Wahpeton	ND	6.0
Southern Minnesota Beet Sugar Co-op		14.5
Renville	MN	9.5
Brawley (Spreckels)	CA	5.4
Amalgamated Sugar Co. LLC		18.4
Nampa	ID	5.4
Paul	ID	9.2
Twin Falls	ID	3.8
Western Sugar Co-op		10.1
Fort Morgan	CO	3.2
Billings	MT	2.6
Scottsbluff	NE	2.7
Lovell	WY	1.7
Wyoming Sugar Co. LLC		2.0
Worland	WY	2.0

Source: USITC estimates; S&P Global and Sugar Producer

Sugar beet production operations, though less concentrated than sugarcane operations,⁸ are more concentrated, both geographically and by firm-size, than other crops subject to U.S. commodity support programs, including corn and soybeans. During the 2023 crop year, \$754 million of loans were issued for beet sugar compared to more than \$1 billion for corn and \$465 million for soybeans.⁹ Geographically, corn and soybean harvested acres are less concentrated than sugar beet harvested acres; 48.9 percent, 39.1 percent, and 71.8 percent, in the top four states, respectively. Moreover, corn and soybean harvested acres have become less concentrated by state over time, down from 52.7 percent and 46.2 percent in the top four states, respectively, in 1997.¹⁰

Compared to corn or soybean harvested acres, sugar beet acres are less concentrated in smaller farms but similarly concentrated in the largest farms. Sugar beet farms that harvested less than 100 acres of beets accounted for just 26 percent of all acres harvested. Meanwhile, farms that harvested less than 100 acres of corn or soybeans accounted for nearly half (47.1 and 43.3 percent, respectively) of all corn and soybean acres harvested in 2022. Comparatively, farms that harvested 1,000 or more acres, harvested 6.5 percent, 6.3 percent, and 7.6 percent, of all sugar beets, corn, and soybeans, respectively. The distribution of sugar beets operations is also likely influenced by and would be consistent with higher fixed costs related to more specialized equipment required for sugar beet growing than corn or soybeans.

The third and final EBOT in the series will cover structure of raw cane sugar refining.

⁵ USDA, NASS, [Quick Stats Database](#), Census of Agriculture, accessed March 1, 2024.

⁶ Hultgren, Nate, "[Challenges Facing the Beet Sugar Industry](#)," USDA 2023 Agricultural Outlook Forum.

⁷ Milstead, Tom, "[After 95 years, Torrington Sugar Beet Plant to Stop Production](#)," The Sheridan Press, November, 28, 2018; Sterk, Ron, "[Montana Sugar Beet Plant to Close](#)," BakingBusiness.com, February 7, 2023.

⁸ More than 97 percent of U.S. cane sugar production takes place in Florida and Louisiana. See Gehrke, Brad, "[Would a Spoonful of Sugar Help](#)," USITC, October 2023.

⁹ During the 2023 crop year, cotton, corn, sugar (cane and beet), peanuts, and soybeans were the leading crops participating in USDA loan programs. USDA, FSA, "[Loan Summary – National Level](#)," accessed September 9, 2024. Moreover, corn and soybeans are produced in rotation with sugar beets in the leading production areas and are thus competing and complementary crops depending on relative prices and agronomic conditions.

¹⁰ USDA, NASS, "[Quick Stats Database](#)" Census of Agriculture, accessed March 1, 2024.

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