



Wisconsin Agricultural Land Prices

2018

Low commodity prices did not dampen average agricultural land prices in 2018. The WI Department of Revenue transfer return data finds average agricultural land values were higher in 2018.

Ag land
values up but
acres sold
down in 2018.

Wisconsin Agricultural Land Prices 2014-2018

A.J. Brannstrom¹ Simon Jette Nantel²*
University of Wisconsin Center for Dairy Profitability
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The weighted average price of agricultural land sold in Wisconsin in 2018 was \$4,345 per acre. This is an 8% increase from 2017. The number of acres sold in 2018 was lower than in 2017 by 11%. Low commodity prices and farm income, as well as higher interest rates dampened demand in 2018. Despite these difficult economic conditions and very large losses in the number of dairy farms across the state, land values have remained strong. The vast majority of landowners, even those forced to exit dairy, were not forced to sell their land. Most could continue cropping or rent the land, thus limiting the supply of land on the market. With cautious optimism regarding the 2019 commodity prices and farm income, and with stable or potentially lower interest rates, the demand for land could increase.

Farmland is generally the most valuable asset on a farmer’s balance sheet. However, estimating land values is always difficult. Individual land parcels are unique and local land markets differ. Reliable information on land values can be hard to come by. While many thousand homes are sold each year, only a small fraction (typically 1% to 2%) of the state’s agricultural land changes hands on the open market in any given year. Surveys of farmers, bankers, realtors and appraisers are sometimes used to estimate changes in land values. But these opinion surveys remain subjective and can be hard to interpret. Then, a few high-priced sales can make a lot of noise – but these sales are often exceptions and not reflective of the market in general.

Unbiased information from transfer return tax forms collected by The Wisconsin Department of Revenue (DOR) gives us an alternative source of agricultural land sales data. A transfer return tax is collected whenever a property is sold, and a transfer return form is collected with the tax payment. Information from these transfer return forms is the source for this paper.

Wisconsin’s agricultural land values are low compared to some of our neighboring states – but a larger portion of our land is not suitable for continuous row crop farming and more of our land is used for forage production, woodlots and pasture. The shorter growing season in northern Wisconsin also limits the potential agricultural value of the land.

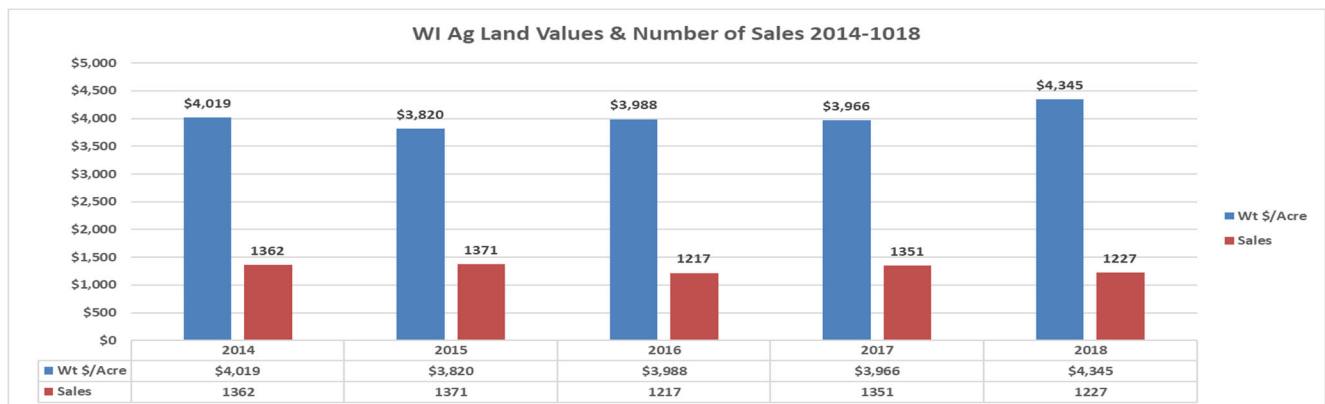


Figure 1. State-wide Ag Land Value Trends 2014-2018

¹ Arlin Brannstrom is a Faculty Associate Emeritus at the UW-Madison Center for Dairy Profitability and Secretary/Treasurer for the Wisconsin Chapter of the American Society of Farm Managers and Rural Appraisers.

² Simon Jette-Nantel is an Assistant Professor at UW- River Falls and a Farm Management Specialist for the UW-Madison Center for Dairy Profitability.

While the state average increased slightly in 2018, there were wide variations in sale price per acre. Around 20% of the sales were valued at less than \$1000/acre and only 17% of sales had prices above \$7,000/acre. High priced sales make good headlines; however, there were very few sales above \$10,000/acre.

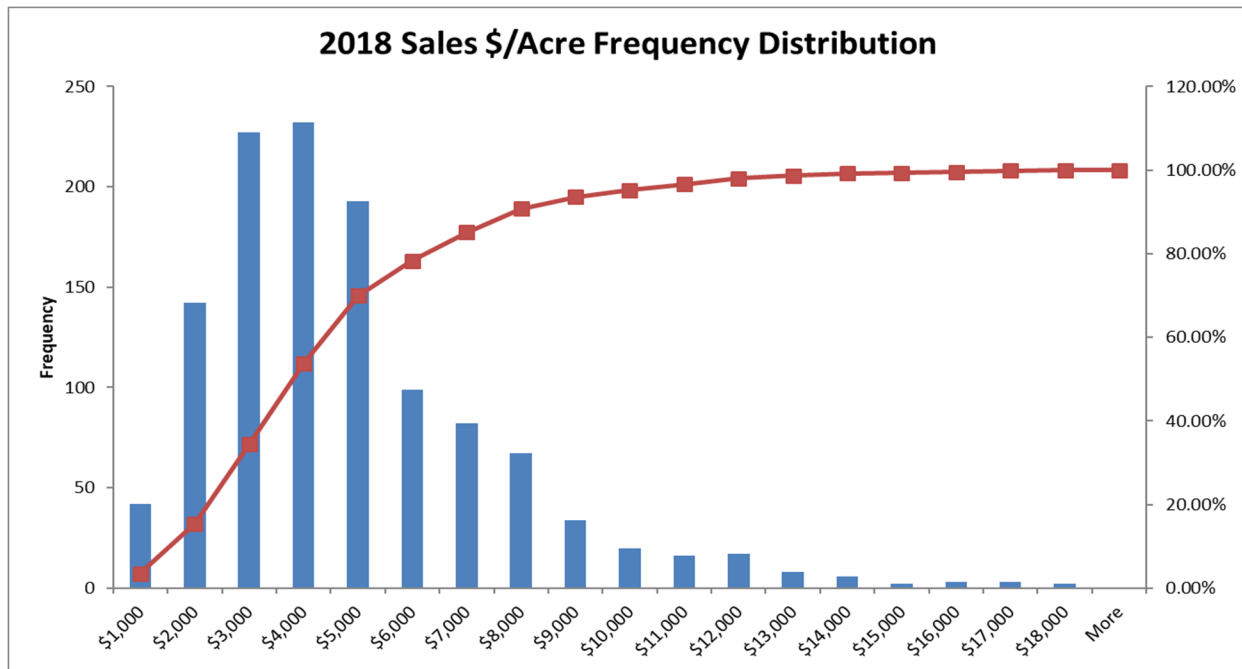


Figure 2. 2018 Distribution of weighted average \$/acre – statewide

Another way to emphasize the large range in the prices paid for bare land is illustrated in Appendix II. It reports the minimum and maximum sales price/acre for each county and NASS district between 2014-2018.

Methodology

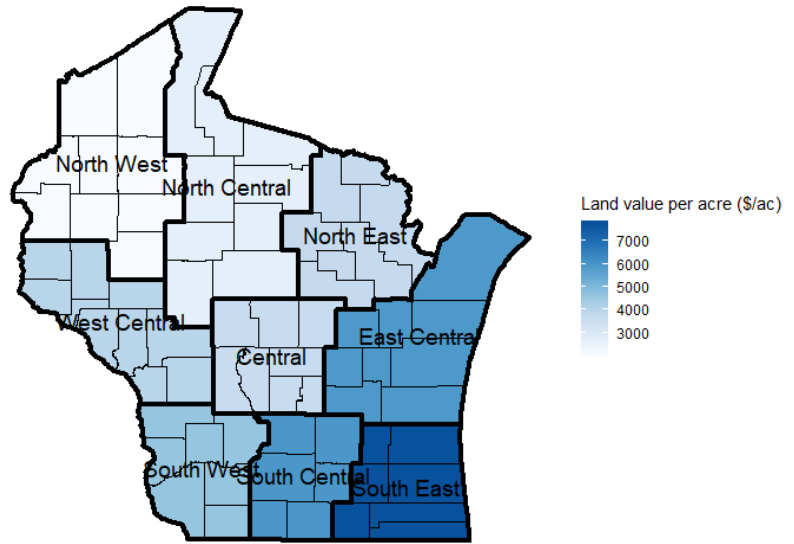
This report is based upon sales of bare land between non-related parties in Wisconsin. All transactions were between 35 acres and 2,000 acres and assessed for agricultural use at the time of the sale. Properties with water frontage and parcels sold with retained property rights were excluded.

The Department of Revenue’s transfer return data is an objective and relatively timely data source for measuring changes in agricultural land values over time. Later each year the Wisconsin Agricultural Statistics Service posts a summary of agricultural land sales – both bare land and improved properties. The NASS information uses the same transfer return data as this study, with one exception. The delay allows county assessors to collect and verify each parcel’s intended future use.

There are a few other differences in our approaches. The NASS summary is not limited to parcels 35 acres and above and includes properties in cities. Land markets can change quickly. Using only the transfer return data enables us to make an earlier assessment of the direction of land values. The NASS reports (which typically are updated in late summer) are another good alternative with more information about tillable land and land diverted from agriculture. The link to obtain the most current land summary is: http://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/Land_Sales/.

Between 2014 and 2018, more than 6500 bare agricultural land transfer returns were used to compute weighted average sale prices per acre. Weighted averages reduce the influence of sales with smaller acreage. Weighted averages are computed by summing the dollars paid for all sales and the total acres sold in the county or NASS unit and then dividing the totals. For example, if four 100-acre tracts sold for \$2000/acre and a 5th sold for \$4000, but was only 50 acres - the weighted average would be $(400 * \$2,000) + (50 * \$4,000) / 450$ or \$2,222/acre as opposed to the simple average of \$2,400.

Average Land Value by Agricultural District, 2018



Data source: Wisconsin Department of Revenue - Transfer Return Data

Location is an important determinant of value. In addition to the state-wide averages, the adjacent map and the figure below show the land prices for each of the NASS districts.

Table 1. Weighted Average Wisconsin Bare Ag Land Sales 2014-2018.

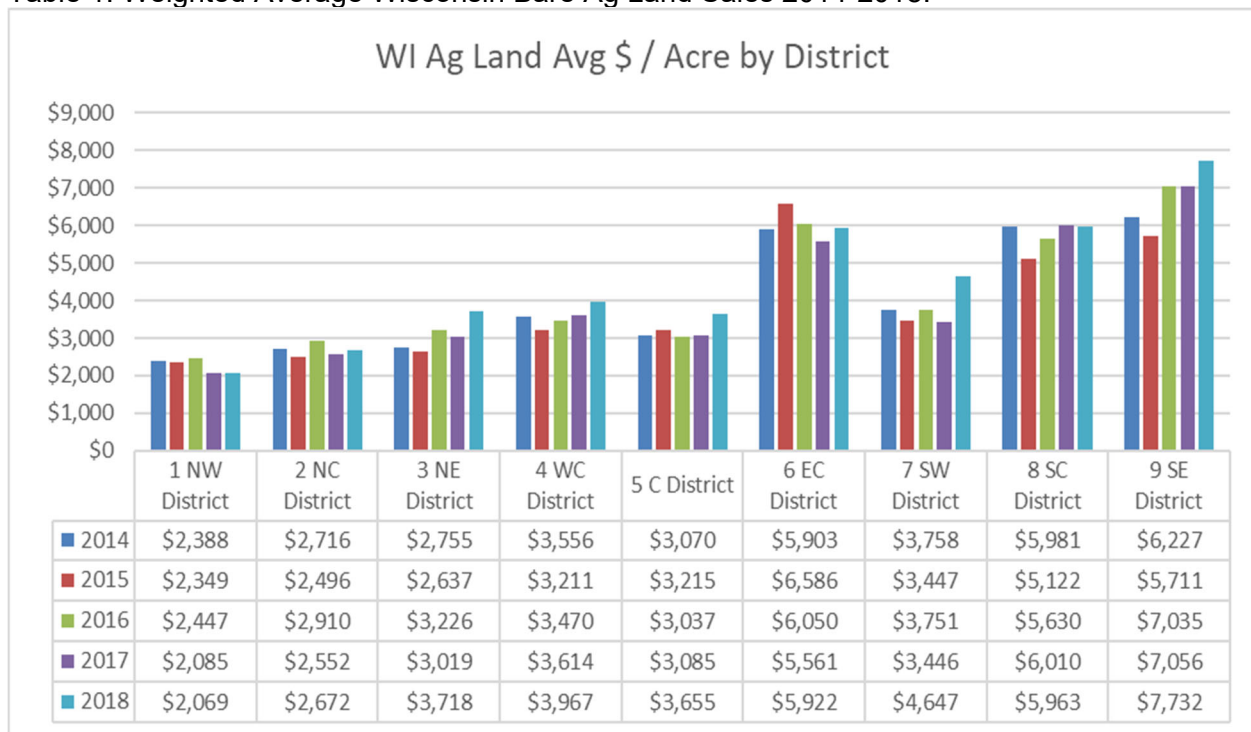


Table 1 lists the weighted average sales prices by district over the past decade in each of the nine NASS reporting districts. (Complete county details are included in Appendix I.) In 2018, there were higher average prices in eight of the nine districts. There are often wide variations in the value of individual parcels even within the same township or county.

Land Values vs Rental Rates

State-wide land rental rates are reported annually by NASS. Figure 5 on page six combines the state average land values with reported average rental rates. Even within a county, rental rates are highly variable. Some of the factors which affect rental rates are soil quality, field size, social contracts and demand for nutrient management. The 2018 NASS average rental rate was \$133/acre which is about 3.0% of the state-wide average sale price.

There has been a high demand for additional rented land in recent years and tenants bid up rental rates as a result. The following Wisconsin corn budget for 2019 illustrates the tight profit margins that are likely to exist this year if yields and harvest time prices are typical. Table 2 illustrates anticipated input costs associated with producing an acre of corn in 2019. Note that some of these costs are cash inputs and others non-cash such as repairs and depreciation. In the short run these fixed costs can be ignored – but they must be covered in the longer run.

Table 2 – 2019 Corn Budget

Variable Costs					
Input	Units	Cost	Cost/ Unit	Value	
NH3	140	\$600	0.30	\$42.00	
AMS	125	\$285	0.14	\$17.81	
K2O	100	\$300	0.15	\$15.00	
Starter	100	\$465	0.23	\$23.25	
Lime	0.5	\$18	15.00	\$7.50	
Seed	30000	\$280	0.00350	\$105.00	
Chemicals		\$35		\$35.00	
Insurance		\$28		\$28.00	
Testing & Scouting		\$10		\$10.00	
			Subtotal	\$283.56	44.50%
Field Operations					
Nitrogen Application		\$16		\$16.00	
Spreading Fertilizer		\$6		\$6.00	
Primary Tillage		\$16		\$16.00	
Secondary Tillage		\$16		\$16.00	
Planting		\$24		\$24.00	
Spraying		\$15		\$15.00	
Combining		\$32		\$32.00	
			Subtotal	\$125.00	19.67%
Trucking, Drying and Storage Costs					
Trucking		\$30		\$30.00	
Drying		\$35		\$35.00	
Storage		\$30		\$30.00	
			Subtotal	\$95.00	14.93%
Rent				\$133.00	20.90%
			Total Costs	\$636.56	

The returns to labor and management with different yield and corn price assumptions appear in table 3. As an example, with these revenue and cost projections (including the state average \$133/acre for rent) an operator would lose \$110 /acre with a yield of 150 bu. and average corn price of \$3.50/bu. In this case renters are not able to cover their full cost of production and must hope for above average yields or improved commodity prices or both. The outlook for higher commodity prices in 2019 is somewhat encouraging with contract prices near \$4/bu for corn at the time of writing this report.

Revenue/Acre						
Corn	Yield/Acre					
Price	100	125	150	175	200	225
\$2.75	\$ (360)	\$ (291)	\$ (222)	\$ (153)	\$ (85)	\$ (16)
\$3.00	\$ (335)	\$ (260)	\$ (185)	\$ (110)	\$ (35)	\$ 40
\$3.25	\$ (310)	\$ (228)	\$ (147)	\$ (66)	\$ 15	\$ 97
\$3.50	\$ (285)	\$ (197)	\$ (110)	\$ (22)	\$ 65	\$ 153
\$3.75	\$ (260)	\$ (166)	\$ (72)	\$ 22	\$ 115	\$ 209

Table 3. Projected net revenue per acre with various yield and price assumptions

In recent years, NASS rental rates have averaged between 2.4 and 3.4% of the average statewide ag land sales prices. Many more acres are rented than sold each year. With narrowing profitability going forward, there has been an increased use of flex lease contracts in the Midwest. Flex leases allow the owner and tenant to share the risks and rewards in good years and bad. (Examples of several types of agricultural leases can be found at <http://www.aglease101.org>.)

When the average cash rents are combined with land value appreciation, the returns to owning land look better than many other investment alternatives. Rents tend to be “sticky” when commodity prices soften – as we’ve seen in 2017 and 2018. But they tend to increase with commodity prices which might be our situation in 2019 and which may push up the competition and rental rate in 2020.

Implications for Farmers

Rising land values are a mixed blessing for established farmers. The appreciation in land value is only realized when the assets are sold. In most cases, the ongoing business is neither directly responsible for nor does it directly benefit from changes in land values. High land values provide the retirement cushion for “last generation” farm businesses. However, high land prices make it more difficult for new entrants to get started without significant help from family members or other benefactors.

Dairy farming is a capital-intensive business. A typical dairy cow and her replacement consumes approximately 7.5 tons of forage dry matter and 100 bushels of grain each year. Manure management and nutrient balancing are a growing challenge. The typical Wisconsin dairy farm requires 2-3 acres of cropland to grow the forages and grain consumed by each dairy cow. In recent years, the demands for agricultural land have made farmland acquisition very difficult to amortize.

Wisconsin’s farmland use value assessment has greatly reduced the costs of holding agricultural real estate. The real estate taxes for agricultural land are much lower than they once were. Record low interest rates and changing population demographics have also increased demands for open space. Expanding dairy businesses may need to rely on long-term leases or manure trading arrangements to assure compliance with environmental regulations and land use constraints.

Although dairy farming is well suited to the climate, topography and infrastructure of Wisconsin, the continued survival of a viable dairy industry depends upon access to affordable land resources.

Few things are as illiquid as land. Unlike stocks, bonds and commodities, one can only estimate the value of real estate until a willing buyer and seller consummate a sale. At the past, agricultural land has been a better investment than many other alternatives. However, past performance is not always a good predictor of the future! A fragile farm economy along with continued trade tensions could constrain future upward price pressures.

Appendix I on the following page contains a more detailed breakdown of real estate sale prices on a county by district basis for 2015 - 2018. The limited numbers of sales in each county can cause wide variations from year to year, and the weighted average prices reported may not truly represent the local market. These figures should not substitute for an independent appraisal by a qualified professional. For this reason, Appendix II reports the maximum and minimum sales price per acre during this same period.

