

2012 Agricultural Land Values

Agricultural Land Values Increasing for 2012

Just prior to the end of the year the Tax Department certified the agricultural land values for 2012 and distributed them to the 53 counties. The information shows that on average agricultural land values for 2012 increased 29% over 2011 values across the state. This is a significant increase and has generated questions about what is causing the large increases.

Let me begin by reviewing for you briefly how agricultural land values are determined.

Agricultural Land Values Not Based on Market Value

Agricultural land values, for assessment and taxation purposes, are not based on market value. Agricultural land values are based on the land's agricultural value, known in law as the capitalized average annual gross return. Calculating the capitalized average annual gross return, which is performed prior to December 1 each year by the Department of Agribusiness and Applied Economics at North Dakota State University (NDSU), takes into consideration a number of factors; including production (acres X yield X price), input costs, along with interest rates. This calculation results in an average agricultural value per acre of cropland, non-cropland and inundated agricultural land for each county. NDSU calculates the average values per acre and provides that information to the Tax Department. The Tax Department certifies and distributes these values to the 53 counties at the end of each year. The counties use these average values when setting their agricultural land values for assessment and taxation purposes.

NDSU considers three main factors, which are integral to the calculation of agricultural land values. These factors include:

1. Production Data
2. The Cost of Production Index
3. The Capitalization Rate

1 Production Data

Production data is the annual gross returns for cropland and non-cropland.

Prior to 2012, production data from USDA's National Agricultural Statistics Service (NASS) was used. However, in recent years, production data from NASS has been incomplete. For 2012, production data from USDA's Risk Management Agency (RMA) was used for the 2010 production and NASS data was used for years 2001 through 2009. The RMA data proved to be much more complete and reliable compared to NASS data, with the exception of alfalfa, hay, and winter wheat. For those crops NASS data was used.

Production data from the most recent ten years is considered. For 2012, production for 2001 through 2010 was used. The high and low production years were removed and the remaining eight years are averaged. After removing the high and low production years, some years of good production and record high prices were left to calculate the eight-year average, including 2007 and 2008, which, before 2010, were record production years for most counties. Please note, production data from NASS would have resulted in the same high and low years being removed, leaving the same eight years of production to calculate into the eight-year average.

What does this mean? Higher production contributes to higher values. In the case of 2012 agricultural land values, cropland production increases ranged from 5.86% to 17.42%, depending on the county. Non-cropland production increased 1.89% for all counties.

2. Cost of Production Index

The Cost of Production Index factors into agricultural land values by reducing the landowners share of gross returns. The various costs that go into the cost of production include:

- Input costs, fuel, fertilizer, equipment, and other capital expenditures;
- Wages and benefits;
- Taxes; and
- Other input costs

Like with the production data, the Cost of Production Index was calculated using the most recent ten years. For 2012, 2001 through 2010 indexes were used and the high and low years were removed and the remaining eight years were averaged. The eight-year average index was divided by the base index, which is 102.

What does this mean? A higher Cost of Production Index contributes to lower values. In the case of 2012 agricultural values, the Cost of Production Index increased from 1.39 in 2011 to 1.47 in 2012, reducing agricultural land values by 5.4% across all counties.

3. Capitalization Rate

The capitalization rate is based on a ten-year average of mortgage rates on North Dakota farmland loans determined by Agribank mortgage rate of interest for North Dakota. According to Agribank, the rate is the average of various loan products that range in rate duration from short (for example, a loan that resets after 2 or 3 years) to long (fixed to maturity of 20 or 30 years). The average is weighted by loan amount not maturity.

Prior to 2012, rather than relying on a calculated capitalization rate, the law provided for a capitalization rate minimum or “floor” that started at 9.5% in 2004 and ratcheted down to 7.4% in 2011. This statutory capitalization rate floor resulted in an artificially higher rate than the calculated capitalization rate, which was declining during those same years due to lower mortgage interest rates. In 2012, the statutory capitalization rate floor sunset in the law, resulting in the calculated capitalization rate being in effect once again for 2012.

The calculated capitalization rate was based on the most recent 12 years, 1999 through 2010, and the high and low years were removed and the remaining ten years were averaged.

What does this mean? A lower capitalization rate raises land values. In the case of 2012 agricultural land values, the capitalization rate decreased from the statutory minimum of 7.4% in 2011 to the calculated capitalization rate of 5.864% in 2012. This accounts for 26% of the 29% increase in agricultural land values across all counties.

Cap Rate is Major Contributor to Increasing Ag Land Values

Taken together, these three factors: value of production, the Cost of Production Index, and the capitalization rate; resulted in agricultural land values increasing by 29% (average for the state) over 2011.

While the good production years being included contributed somewhat to the increase in agricultural land values for 2012, the major contributor is the capitalization rate, which was reduced from 7.4% to 5.864% as a result of the sunset of the statutory capitalization rate minimum, or “floor.” The change in the capitalization rate, alone, accounted for 26% of the 29% average increase in agricultural land values.

For More Information

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Calculation for Cropland Value

1. Production Data

Annual gross returns for cropland
Most recent 10 years of available data

Multiplied by

20%
Sugarbeets &
Potatoes
production

30% of other
crops
including hay

30% of
Government
Payments

50% of
CRP Program
Payments

Equals

Annual landowner share of gross returns
Most recent 10 years of available data

Eight Year average annual landowner share
of gross returns (highest year of production
and lowest year of production are excluded)

Corresponding
Eight-Year annual
average acres

Divided by

2. Cost of Production Index

Equals

Eight-Year Landowner Share of Gross Returns per Acre

Divided by

3. Capitalization Rate

Equals

Cropland Value per Acre
(Capitalized average annual gross return per acre)

Calculation for Non-Cropland Value

1. Production Data

Annual gross returns for non-cropland
Most recent 10 years of available data

Multiplied by

25% of income potential based
on carrying capacity

Equals

Annual landowner share of gross returns
Most recent 10 years of available data

Eight Year average annual landowner share
of gross returns (highest year of production
and lowest year of production are excluded)

Corresponding
Eight-Year annual
average acres

Divided by

2. Cost of Production Index

Equals

Eight-Year Landowner Share of Gross Returns per Acre

Divided by

3. Capitalization Rate

Equals

Non-Cropland Value per Acre
(Capitalized average annual gross return per acre)