How much tax should you pay on your land?

That's an important question for landowners everywhere, but particularly in South Dakota, where there is no income tax. State government runs, in significant part, on the taxes paid by the state's landowners. But what is a fair way to distribute this tax burden? How much should each landowner pay?

THE PROBLEM:

Until 2009, the amount of tax required from a certain parcel of land was determined by looking at recent sales of nearby land. Most agricultural land across the country is still assessed this way. This was a problem around cities, because when agricultural land was sold for development purposes at high prices, the rate at which surrounding ag land was taxed would increase dramatically.

THE SOLUTION FROM THE S.D. LEGISLATURE (2009):

Don't look at sales at all. Instead, base taxes on how much money the land can make by growing crops (or, in the case of non-cropland, in cash rent). This is called the **productivity value** of the land.

Here's the main formula:

$$\text{productivity value} = \frac{\text{gross revenue} \times \text{landlord share percentage}}{\text{capitalization rate}}$$

(Don't worry, we'll break that down.)

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HERE'S A SIMPLE WAY TO LOOK AT GROSS REVENUE:

Add up all the money made from all the different crops grown on all the acres in a county.

Then divide that by the number of acres of cropland in the county to figure out how much the average acre in the county made.

$$\text{gross revenue of the average acre in a county} = \frac{\text{money made from crops}}{\text{number of acres planted to crops}}$$

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Every year, farmers report how many acres they plant in certain crops, and after harvest they report how many bushels they produced. Those numbers are a fairly exact count. But the amount of money they made from these crops is not a number taken from farmers' reports. Instead, it's figured by using the average price for each crop over the course of a year.

Example: In 2004 in Brown County, farmers reported they harvested 34,932,000 bushels of corn. The average amount paid per bushel of corn in South Dakota for the year was $1.82. So the state figures Brown County farmers made somewhere around $63,576,240 on corn.

$$\text{gross revenue of the average acre in a county} = \frac{\text{money made from crops}}{\text{number of acres planted to crops}}$$

In this part of the formula, the number of acres planted to crops is used. It is not determined by soil type.

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Here are the crops grown in 2004 in Brown County, and the revenue they made, based on average price:

Barley All	2,600 acres	$323,200
Corn For Grain	273,000 acres	$63,576,240
Hay All (Dry)	70,000 acres	$10,337,500
Oats	2,500 acres	$390,380
Rye	600 acres	$113,100
Soybeans	318,000 acres	$59,170,320
Sunflower All	800 acres	$160,344
Wheat All	64,700 acres	$12,950,910
TOTAL	**732,200 acres**	**$147,021,994**

$$\frac{\$147{,}021{,}994 \textit{ (money made from all crops)}}{732{,}200 \textit{ (acres planted to crops)}} = \textbf{\$200.79} \textit{ (gross revenue per acre for 2004, Brown Co.)}$$

To find income data for your county, go to this website:
www.state.sd.us/drr2/propspectax/property/productivity.htm

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The actual formula for gross revenue is more complicated because it takes into account variability from one year to the next. The formula looks at the last eight years, but throws out the high and low years before figuring out the average of the remaining six years, which is called an **Olympic average**.

Here are the gross revenues for Brown County from 2004 to 2011, the years used to figure taxes for 2013:

Brown County gross revenues:

2004	$200.79
2005	$208.97
~~2006~~	~~$194.90~~
2007	$429.97
2008	$381.15
2009	$381.32
2010	$498.32
~~2011~~	~~$614.63~~

Olympic average:
$350.09

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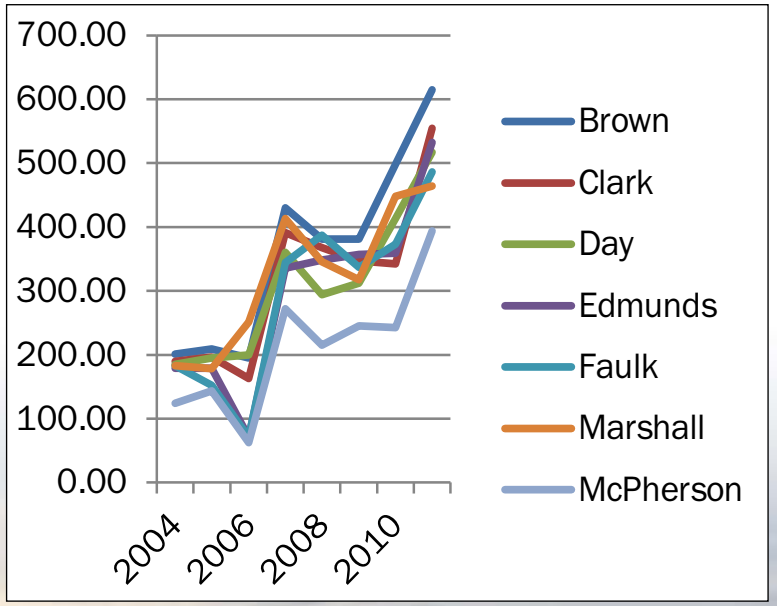
Olympic average:
$350.09

You might see why this makes landowners nervous: If crop prices remain high, the Olympic average will climb also—which means the amount they pay in taxes will climb, too.

At right are the gross revenues for the last eight years from the counties in the Dakotafire region:



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HOW IS NON-CROPLAND FIGURED?

The amount of money made from non-cropland is determined by using cash rents as reported in a survey of farmers. Otherwise, the formula for figuring out gross revenue is the same.

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The landowner doesn't get all the money the land made, of course—the inputs of seed, machinery and more take part of that revenue, and if the land is rented the renter takes a share.

Instead of trying to figure how much the landowner would get for every acre, the percentage is set by state statute at 35 percent for cropland and 100 percent for non-cropland (since that's determined by cash rents, and all of that goes to the landowner).

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The capitalization rate is set by state statute at 6.6 percent.

Here's how the S.D. Department of Revenue explains why they set the landlord share percentages and the capitalization rate at those amounts:

> In a "pure" productivity valuation system, the landlord share percentages would be determined by examining contracts between landlords and tenants. The capitalization rate would be determined by analyzing the market for agricultural land and would change as market conditions change. For South Dakota's productivity valuation system, these parts of the formula were calculated to produce a "revenue neutral" result. The old valuation system produced a total statewide agricultural value of $18.5 billion; 85% of the value was cropland and 15% of the value was non-cropland. The landlord share percentages and the capitalization rate were calculated to produce the same amount of statewide agricultural value, with the same percentages of cropland and non-cropland.
>
> — *http://www.state.sd.us/drr2/propspectax/property/productivity/valualtion%20explanation.pdf*

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USING THIS EXAMPLE, THE PRODUCTIVITY VALUE PER ACRE FOR BROWN COUNTY IS:

$$\frac{\text{gross revenue (\$350.09)} \times \text{landlord share \% (0.35)}}{\text{capitalization rate (0.066)}} = \$1{,}856.54$$

The **taxable value** is actually 85 percent of that, or: **= $1,578.05**

All property is taxed, or "equalized," at 85 percent of its assessed value in South Dakota.

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MODERATING THE JUMP:

When the Legislature changed the ag land valuation process, they knew the assessed value was going to jump on some parcels of land, so they set a limit: The assessed value could only increase 10 percent a year. With recent years of high crop prices, that was not even close to keeping pace with the assessed value based on productivity, so last year the Legislature removed that rule. The taxable value can now increase up to 25 percent a year in counties that are farthest from the assessed value. The value of many acres of South Dakota land jumped by that 25 percent this year.

For example, the value for taxation in Brown County in 2012 was $874.12, so the taxable value is limited to a 25 percent jump, to **$1,092.65**.

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LAND RATED BY SOIL TYPE:

The number arrived at through all this figuring is the taxable value of the average acre of cropland in Brown County. But there's no such thing as an "average" acre; land varies in quality, so some acres typically produce more than others.

To figure out how productive a certain parcel of land is, the land is rated based on its soil type. Over the past 125 years, surveyors for the U.S. government have assigned soil types to nearly every acre of crop or pasture land in the U.S. Some soil types are declared not good enough for growing crops, and so that land is taxed as non-cropland. It is the soil type that determines whether land is deemed cropland or non-cropland—*not* how the land is being used.

Cropland soil is rated on a scale of 0.1 to 1, with 1 being the best; non-cropland soil is also rated on a scale of 0.1 to 1, with 1 as the best. The starting point for figuring is the county's *average* soil rating.

> So, for example, the average soil in Brown County is rated 0.726159; an acre of cropland in Brown County with a soil rated at 0.726159 would be taxed based on the average acre number: **$1,092.65**. Soils with ratings higher than that would be based on a higher value, and lower-rated soils would have a lower tax basis.

This is the starting point for taxing the land. County boards of equalization can adjust the values, and landowners can petition for changes.

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WHERE MIGHT THERE BE PROBLEMS IN THIS SYSTEM?

POTENTIAL PROBLEM 1:

The soil surveys upon which these valuations are based were not initially intended to be used for taxation purposes.

For example, NRCS employees use the soil surveys as a starting point for land-use decisions, but they are required to go to the land to check the soil classifications themselves before approval of projects. Sometimes the soil classifications were generalized—especially if the land was used as pasture when it was first surveyed. New GIS tools allow assessors to measure land on maps down to a hundredth of an acre—but the soil surveyors do not measure areas smaller than four acres. The maps give the impression of more precision than the surveys actually have.

The surveys are updated as users' needs change; newer surveys have better imaging and are backed by better data on the soils. But information for many parcels of land is still decades old: Only about 10 to 15 percent of soil surveys have been updated since 2000, while another 20 percent have been updated since 1990.

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WHERE MIGHT THERE BE PROBLEMS IN THIS SYSTEM?

POTENTIAL PROBLEM 2:

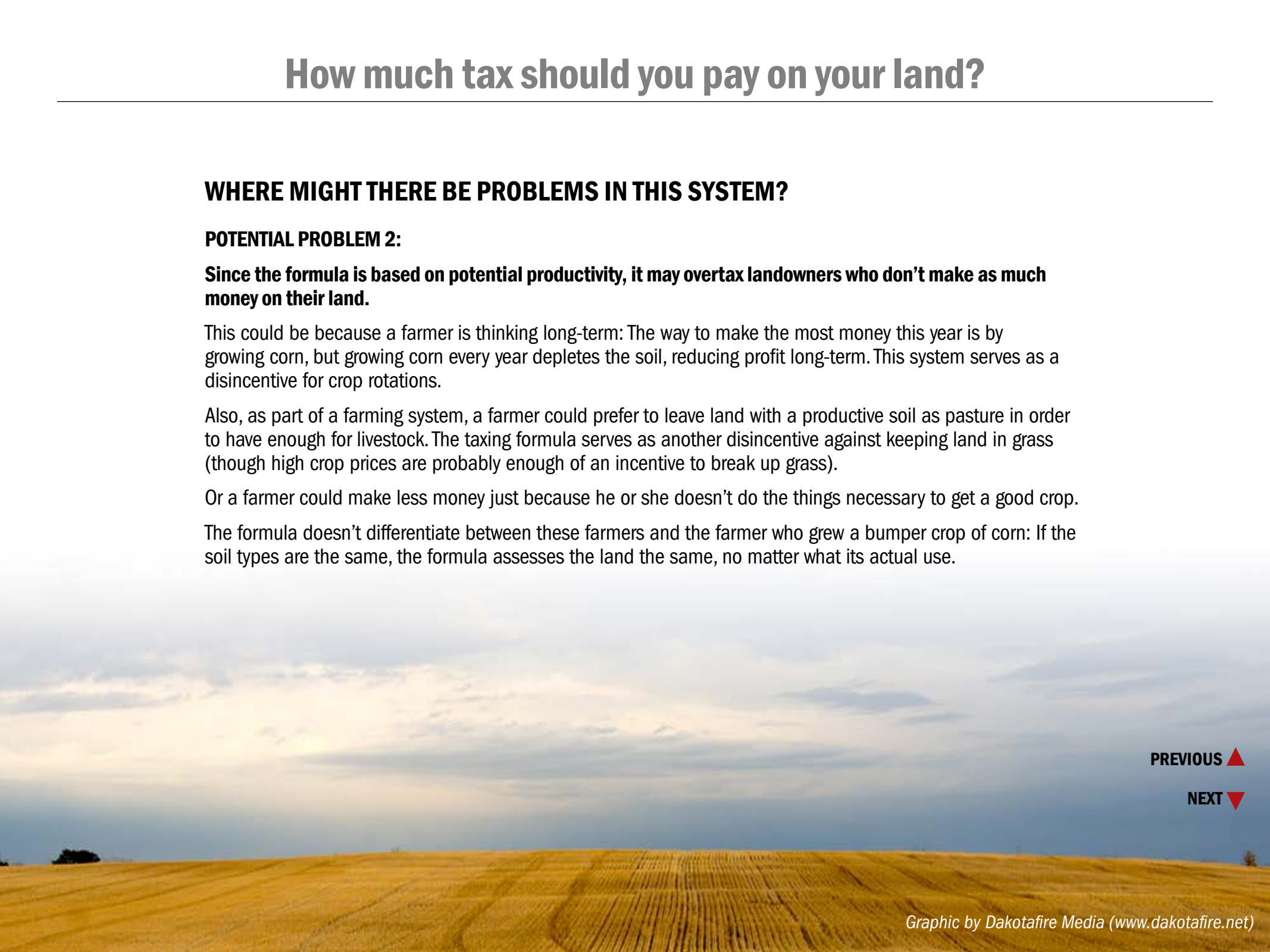
Since the formula is based on potential productivity, it may overtax landowners who don't make as much money on their land.

This could be because a farmer is thinking long-term: The way to make the most money this year is by growing corn, but growing corn every year depletes the soil, reducing profit long-term. This system serves as a disincentive for crop rotations.

Also, as part of a farming system, a farmer could prefer to leave land with a productive soil as pasture in order to have enough for livestock. The taxing formula serves as another disincentive against keeping land in grass (though high crop prices are probably enough of an incentive to break up grass).

Or a farmer could make less money just because he or she doesn't do the things necessary to get a good crop.

The formula doesn't differentiate between these farmers and the farmer who grew a bumper crop of corn: If the soil types are the same, the formula assesses the land the same, no matter what its actual use.



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FOR MORE INFORMATION:

South Dakota Department of Revenue:

http://www.state.sd.us/drr2/propspectax/property/productivity.htm

Some information in this document also provided by NRCS employees.

WHAT DO YOU THINK?

Do you think the productivity valuation system is a good way to tax land?
Has it affected your land-use decisions in any way?
Would you prefer a sales-based valuation system?
Share your thoughts:

http://www.dakotafirecafe.com/taxing-land

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