1-14-2010

Empathy Conditioned Conservation: "Walking-in-the-Shoes-of-Others" as a Conservation Farmer

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January 14, 2009

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http://www.agecon.unl.edu/Cornhuskereconomics.html

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Market Report	Yr Ago	4 Wks Ago	1/9/09
Livestock and Products*, *Weekly Average			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight	$92.97	$82.51	$83.00
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb.	116.13	99.96	111.30
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb.	100.75	96.25	98.12
Choice Boxed Beef, 600-750 lb. Carcass	145.08	143.13	144.50
Western Corn Belt Base Hog Price Carcass, Negotiated	47.57	53.47	56.71
Feeder Pigs, National Direct 50 lbs, FOB	47.23	59.48	69.87
Pork Carcass Cutout, 185 lb. Carcass, 51-52% Lean	5.21	60.45	58.50
Slaughter Lambs, Ch. & Pr., Heavy, Wooled, South Dakota, Direct	92.63	91.00	97.25
National Carcass Lamb Cutout, FOB	262.11	265.66	255.91
Crops*, *Daily Spot Prices			
Wheat, No. 1, H.W. Imperial, bu	8.76	4.58	5.15
Corn, No. 2, Yellow Omaha, bu	4.49	3.64	3.53
Soybeans, No. 1, Yellow Omaha, bu	11.70	8.42	9.24
Grain Sorghum, No. 2, Yellow Dorchester, cwt	7.89	4.73	5.11
Oats, No. 2, Heavy Minneapolis, MN , bu	3.33	2.13	2.16
Feed			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton	135.00	202.50	185.00
Alfalfa, Large Rounds, Good Platte Valley, ton	85.00	77.50	87.50
Grass Hay, Large Rounds, Premium Nebraska, ton	*	75.00	77.50
Dried Distillers Grains, 10% Moisture, Nebraska Average	177.50	125.00	146.00
Wet Distillers Grains, 65-70% Moisture, Nebraska Average	76.00	42.00	50.87

*No Market

Since the destruction and despair caused by the dust bowl of the 1930's, Americans and their government have taken a keen interest in natural resource conservation policy on agricultural land. The Soil Conservation and Domestic Allotment Act of 1936 was the first farm bill to include provisions that provided payments to farmers willing to employ soil conservation measures (Cain and Lovejoy, 2004). While the main purpose of this bill was to provide financial support to impoverished farmers, the fact remains that natural resource conservation was starting to become an important issue for the American public.

Over time, conservation titles in the farm bill have evolved into legislation that protects several resources, including surface water. Expenditures have also significantly increased: the United States Department of Agriculture (USDA) provided nearly $4.5 billion for conservation programs in the farm bill for fiscal year 2005, compared to $500 million for fiscal year 1983 (ERS, 2007).

While giving monetary payments to individual producers engaging in conservation activities is ultimately a policy decision, the underlying assumption for these payments is one outlined in traditional microeconomic theory, which presumes producers are engaging in activities that will maximize profits. Since conservation activities are not inherently profitable to the individual farmer, payments are provided under the presumption that the only way to increase conservation efforts is to increase profits.

The environmental results from these payment schemes have been mixed. With this in mind, the USDA has begun funding research that examines the underlying factors that motivate producers to engage in conservation activities. As part of this new research, a collaboration of researchers from a group of Midwestern universities and government agencies recently engaged in a study of conservation behavior exhibited by producers located in the Blue River/Tuttle Creek Lake Watershed of Nebraska and

Kansas. Examination of this particular watershed was conducted because it currently provides drinking water to areas of Northeast Kansas that are exhibiting rapid population expansion, such as Manhattan, Lawrence and Kansas City.

The Blue River/Tuttle Creek Lake Watershed covers a large portion of Southcentral and Southeast Nebraska, as well as Northeast Kansas. However, the use of natural resource assessment maps and empirical surface water quality data served to identify a critical four-county area of nonpoint source runoff near the Nebraska-Kansas border that may have the largest impact on Tuttle Creek Lake. This critical area includes Jefferson and Gage counties in Nebraska, as well as Washington and Marshall counties in Kansas. Efforts to understand factors that motivate a producer to engage in conservation practices were targeted to this four-county area of the watershed. Particular attention was paid to the adoption of no-till/conservation tillage strategies, as Tuttle Creek Lake appears to be impacted most by issues of sedimentation.

Data was obtained on farmers in the four-county target area through the use of a mail survey. Overall, the response rate was 17.1 percent (639 survey responses). Due to missing responses on the proposed dependent variables, 498 surveys were used for statistical analysis.

Several independent variables were used to assess what motivates farmers to engage in conservation tillage technologies. These variables included income capacity; psychological tendencies for pursuing self-interest and an empathy conditioned, shared other-interest; habitual tendencies; and preferences for control over farming operations. Results confirmed some old notions, and added several new insights into what actually motivates being a conservation farmer. As economic (and policy) tradition suggests, we confirmed that income (i.e. financial capacity) was a significant variable. However, the models showed that a one thousand dollar increase in income only increased the odds of conservation tillage adoption by 0.4 to 0.6 percent (i.e. less than 1 percent).

The first new insight suggests that farmers who recognize the water quality problem in the watershed and subsequently empathize with downstream water users (i.e. "walk-in-their-shoes"), are much more likely to engage in conservation tillage strategies. In fact, we show that farmers with even a small interest in identifying with downstream water users are anywhere from four to nine percent more likely to use conservation tillage technologies.

Related to this empathy phenomenon, we also show that people other than the individual farmer can influence the decision to use conservation tillage. We found that the odds of conservation tillage adoption increase by nine percent for those farmers that think farm entities (i.e. lenders, chemical and seed suppliers, equipment dealers, etc.) believe that they should use conservation tillage technologies. Intriguingly though, we also found that the opinions of family members and downstream water users do not have a significant impact on the tillage decision.

Another new insight points to how preferences for control impact the decision. Our results indicated that a farmer that believes the use of conservation tillage results in a loss of control over farming operations is less likely to use the technology. In fact, the odds of conservation tillage adoption decrease by about nine percent for those that perceive just a small loss of control over farm operations when using conservation tillage technologies.

Finally, we find that a farmer's habitual tendencies play a large role on the tillage adoption decision in the study area, with the odds of conservation tillage adoption increasing by nearly forty percent if a farmer has used conservation tillage in the past. While some would argue that "we always knew that current choice is affected by past (habit) choice," the underpinnings are in fact quite new. Only in recent years have behavioral economists and brain biologists documented that we "run on automatic" far more than traditional thinking acknowledges. So, it takes greater financial incentives to move a farmer to a conservation path (i.e. change habits) than it does to keep someone on that path.

So what is the bottom line? We concluded that a single over-arching conservation policy will not work. In addition to financial incentives, policy needs to recognize habits and control, and especially the role of empathy, i.e. "walking-in-the-shoes" of others. Solving environmental quality problems depends on understanding the human dimension of conservation decisions.

References:

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