The Effects of Sugarbeet Production on Montana Land Prices

Gary W. Brester¹ and Mykel Matthews²
¹.Professor, Department of Agricultural Economics and Economics, Montana State University. ². Extension Assistant, Department of Agricultural Economics Kansas State University

Montana State University – Bozeman, P.O. Box 172920
Bozeman, MT 59717-2920
Telephone: 406-994-7883, Fax: 406-994-4838
E-Mail: gbrester@montana.edu

This study quantifies the effects of sugarbeet production on irrigated land prices in Montana. A hedonic regression model is estimated to determine impacts of sugarbeet price and other land characteristics on land prices.

Data were collected from a private agricultural lender who finances a substantial portion of agricultural land debt in Montana. The land transactions data includes 569 observations on land sales occurring in 15 counties for the period 1986, 1988-1999 (no observations were available for 1987).

Data were collected in those counties which either produced sugarbeets in 1999, or which had irrigated land suitable for sugarbeet production. Because agricultural lenders and real estate appraisers often share sales data for use as comparables, our appraisal data include land sales beyond those financed by this particular lender. The transactions data include information on parcel size and location, date of sale, and per acre sale price.

The statistical results indicate quality-adjusted expected prices of sugarbeets positively influence land price. Population density, parcel size, and the location of parcels in sugarbeet producing counties also impact land prices in the manner described by the theoretical model. County-level expected cash receipts from crop sales did not
have significant explanatory power in the model.

Several implications follow from the regression results. First, expected sugarbeet prices that have been adjusted for quality are important for explaining Montana irrigated farmland prices. Models that fail to account for quality differences among land parcels may not capture the full effect of sugarbeet production on land prices. Second, sugarbeet production affects irrigated farmland prices in counties which do not produce sugarbeets. Third, significant reductions in Montana irrigated farmland prices (19 percent to 35 percent depending upon county) can be expected in the absence of sugarbeet production. This is an important result when capacity issues of processing plants are considered. Fourth, if sugarbeet prices declined to current world levels, then irrigated farmland prices would decline by 12 percent in sugarbeet producing counties and by 6 percent in non-sugarbeet producing counties.