REGIONAL PRICE VARIATIONS OF U.S. ALFALFA HAY

by

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STATEMENT BY AUTHOR

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ABSTRACT

Alfalfa hay is one of the most important field crops in the United States, its regional price differences are driven by variations in quality, location, seasonality, and other features. This thesis investigates the impact of dairy cow inventories, lagged milk prices, corn prices, and alfalfa hay exports on alfalfa hay prices across regions and states utilizing a panel data. Furthermore, I analyze and depict a spatial economic distribution of alfalfa hay price variations with the support of SAS, ArcMap, and GeoDa. Results indicate that alfalfa hay exports are greatly contributing to higher alfalfa hay prices for the seven exporting states. Domestically, grain markets are highly linked to alfalfa hay markets and lagged milk prices as a derived demand have more influence than dairy cow inventories as a primary demand on alfalfa hay prices. Also, alfalfa hay prices are significantly and considerably different, and have positive spatial autocorrelation across states, following a consistent pattern with the lowest prices in the Midwest. Empirical evidence of this thesis may shed light on optimizing profit for dairy industries with an alternative ratio of fees crops and predicting when/where to sell/buy alfalfa hay for hay industries.

Keywords: alfalfa hay, dairy, exports, price differences, and spatial economic pattern