

Public Abstract

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Title:Transaction Costs and Market Thinness in Crop Byproduct Markets

Studies in crop byproduct literature have looked more at the nutrient impacts, rather than analytical cost implications of crop byproducts in livestock feed rations. Thin market studies stated the lack of product volume and player count in a market leads to transaction costs such as low market information, which leads to poor liquidity and inaccurate price discovery. This study compares the byproduct markets of dried distillers grains with solubles (DDGS), corn gluten feed (CGF), wheat middlings, soybean hulls, and rice bran, and the more mainstream feed options of corn and soybean meal (SBM). Through a series of interview responses, Chebyshev's inequality calculations, and regression work, this thesis addresses questions on crop byproduct market transaction costs, market size, contracting habits, and price influences. The thesis findings indicate that as markets thin, contracting frequency and substitute product purchasing increase, with byproduct prices shaped by the prices of corn, soybean meal, and substitute byproduct feed ingredients. In addition, this thesis finds that efficient handling and information technologies most effectively manage the transaction costs stemming from critical nutrient, transportation, storage, consistency, and compatibility issues in crop byproduct transactions.