MINIMIZING COST OF PRODUCTION PER POUND: CREATING EFFICIENT INPUT MARKETS USING THE INTERNET

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Abstract

Efficient markets are a function of low transaction costs and readily available information. Typical transaction costs in a commercial environment are the costs of collecting information (e.g. pricing information) and the cost of fulfilling a transaction (e.g. logistics, accounting). With the advent of the Internet, information is now available to anyone. This information, coupled with secure, reliable fulfillment and delivery services on a neutral, open Internet exchange for agricultural inputs, can bring about cost efficiencies of between $.03 and $.06 per pound of cotton to buyers by creating an efficient input market. Cotton growers can now use Internet technology to bring significant, measurable savings to inputs by using the bidding process (grower lists the products he needs and states the price he is willing to pay, then suppliers across the country 'bid' for his business) or purchasing posted product offerings. WWW.XSAg.com provides users national pricing information and transaction capability for inputs on a completely neutral, secure, private and dependable website at no cost to buyers.

Introduction

Trends in the agricultural industry are dramatically changing the economics of cotton production. Deregulation of trade has greatly increased the global nature of competition as economic "friction" (e.g. tariffs) is reduced. Additionally, the Freedom to Farm Act allows growers to freely plant what they choose greatly exacerbating supply dislocations of production inputs. Pricing information for cotton is readily available to all buyers and sellers providing cotton sellers a liquid market and cotton buyers global price leverage. Prices reflected on the New York Cotton Exchange are a function of supply and demand economics given total price transparency. These prices are constantly changing as demand and supply are continuously seeking equilibrium. Supply and demand is constantly changing as a function of weather, pestilence, commodity prices and other external factors. This dynamic pricing leads to changes in production decisions which directly impact crop input decisions. Crop inputs often have long production lead times. Complex molecules require months to manufacture and formulate (agricultural chemicals) and biological inputs such as seed, require entire seasons to produce sufficient quantities for subsequent years' supply. The long lead times required to produce key crop inputs coupled with the variable demand for these inputs often creates supply dislocations (excesses and shortages) that result in the inefficient use of resources.

Discussion

An exchange floor for crop production inputs has been created to bring the same efficiencies to inputs as is available to buyers and sellers of outputs. Supply and demand characteristics of outputs and inputs are often linked with the primary difference being that inputs previously had no mechanism for price discovery or to relieve supply imbalances.

A survey was conducted to determine the expected cost savings for chemical inputs using the neutral Internet exchange located on the Internet at www.XSAg.com. The survey was conducted by measuring the cost savings to buyers of agricultural savings as compared to the published list prices of these goods for all trades made from January 29, 1999 (site inception) until December 15, 1999. The aggregate savings reflect the weighted average of all transactions, which was 29.4%. Using USDA production information and applying the average Internet savings percentages to chemical input costs, the resulting savings per pound were found to be between $.03 and $.06 per pound.

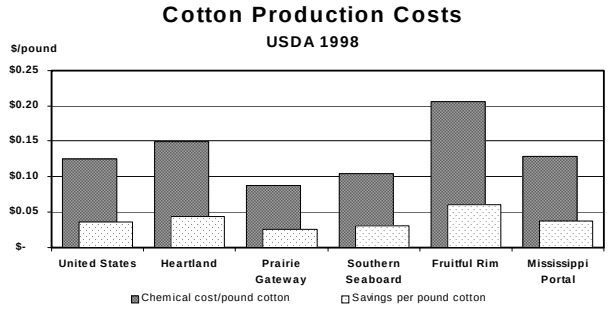

Figure 1. Actual chemical costs per region as defined by the new Economic Research Service of the USDA.

Table 1. 1998 USDA Cotton Production Data. USDA Regions follow the new basis established by the Economic Research Service of the USDA. All figures are 1998 and stated in lbs. or dollars per acre except the last column which is in dollars per lb produced.

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Production Figures By Region (USDA, 1998)

USDA Regions	Yield	Total Oper. Costs	Chemicals As % cost	XS avg. Savings	XS $/lb. Saved
United States	503	$ 244	26%	$ 18.28	$ 0.04
Heartland	537	$ 237	34%	$ 23.36	$ 0.04
Prairie Gateway	288	$ 142	18%	$ 7.33	$ 0.03
Southern Seaboard	685	$ 271	26%	$ 20.84	$ 0.03
Fruitful Rim	546	$ 438	26%	$ 32.96	$ 0.06
Mississippi Portal	715	$ 288	32%	$ 26.79	$ 0.04

Summary

Crop production inputs will invariably be subjected to supply imbalances as a function of long lead times and variable demand. The use of an exchange floor for crop production inputs can dramatically reduce input costs as pricing information becomes available to suppliers and demanders. The world dominance of American Agri-business is increasingly being challenged as the globalization of agriculture continues. Our response to change and increasing competition must continue to rely on innovation, willingness to adapt and use of proven economic concepts. American agriculture can be differentiated from her global competitors in many regards but most notably because technology is embraced and its value is constantly being tested for economic viability.

References

Pindyck, Robert S., Rubinfeld, Daniel L. 1995. Microeconomics. Efficiency in Exchange. pp. 562-570.

XS, Inc. transaction data, January 29, 1999 through December 15, 1999.