



Current Report

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Possibility of an Electronic Market for Pecans

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Electronic markets involve using computers or electronic communications technology to facilitate buying and selling agricultural commodities. Oklahoma producers have marketed several commodities through electronic markets since the mid-1970's. (See available Extension publications at the end of this Current Report.) Examples include; a computerized market for cotton and slaughter lambs, a teleauction for slaughter lambs, video auctions for feeder cattle, and a computer-assisted market for alfalfa and grass hays.

Pecan industry leaders expressed an interest in an electronic market for pecans. Consequently, research was conducted at OSU to study the possibility. This Current Report summarizes results of that research and discusses one possible type of electronic market that may be applicable for pecans.

Grower Marketing

Current marketing practices of growers are important when considering forming an electronic market. Seventy members of the Oklahoma Pecan Growers Association cooperated in the research by providing information. Those 70 growers reported having 17,776 acres of pecans or 44,109 trees. For about 40 percent of these growers, pecans represented more than 10 percent of their total income.

Most growers marketed pecans by more than one method. Nearly 70 percent of the growers marketed some pecans directly to consumers. About 50 percent marketed to accumulators or truckers and almost 30 percent marketed through a grower-owned cooperative. The highest percentage of pecans were marketed through accumulators or truckers, and through the cooperative.

Overall, growers chose a marketing method where they received the highest price. Low marketing costs and financial soundness of buyers were next most important. Low marketing costs were more important to growers of improved varieties of pecans (papershell pecans) than to growers of native pecans. Financial soundness of buyers increased in importance as the size of grower operation increased. In contrast, convenience became more important as size of grower operation decreased. Buyer competition was most important to growers marketing to accumulators or truckers.

Buyer Procurement

How buyers purchase pecans is also important when considering forming an electronic market. Thirty-seven pecan buyers also cooperated in the research. Those buyers purchased 600 thousand pounds of Oklahoma pecans in 1983.

Most buyers relied on one procurement method for most of their pecans. The most popular method was purchasing pecans at the buyer's location, followed by buying pecans at the orchard. Buyers who bought pecans at their location purchased nearly 90 percent of their total purchases there.

Burlap bags that hold 75-120 pounds of pecans were the most common container size in which pecans were purchased. Several buyers purchased pecans on a graded basis. Thus, buyers tested the pecans to determine the proportion of nut meat from whole pecans.

Buyers used alternative methods to purchase pecans. Buyers chose a procurement method that enabled them to buy pecans in large lots. Next most important were lowest prices, followed by grower reputation and integrity. Buyers of native pecans were more concerned about buyer competition than buyers of improved varieties. The concern about buying in large lots increased as size of buyer operation increased. The same was found regarding grower reputation and integrity.

Electronic Market Requirements

The previous sections indicate the importance of knowing how growers market pecans and how buyers purchase pecans. Other information is also needed to assess the potential for an electronic market. For example, industry problems or concerns, how the commodity will be described to buyers, and what organization might operate an electronic market.

Marketing Problems or Concerns

Evaluations of electronic markets suggest that several problems can be addressed by electronic markets. However, no single electronic market will address all marketing problems. Marketing problems that electronic markets can address include: (1) lack of accurate, complete, and timely market information; (2) inability of prices to reflect quality differences

among farm products; (3) inability of prices to quickly and accurately reflect changing market conditions; (4) high costs of moving farm products from sellers to buyers; (5) high costs of finding trading partners and completing transactions; (6) sellers' inability to inform all buyers of farm products for sale; (7) buyers' inability to bid on all available supplies of farm products from sellers; and (8) low prices resulting from inadequate competition.

Growers' Views

Inadequate demand for nut meats was the most important problem or concern according to growers (table 1). Other important concerns were insufficient price premium for higher quality pecans, inadequate market information, insufficient buyer competition, and excessive price fluctuations.

Native pecan growers were more concerned about the demand for nut meats than growers of improved varieties. Growers of improved varieties were more concerned about insufficient buyer competition.

Inadequate demand for nut meats became more important and inadequate market information less important as size of grower operation increased. Insufficient premiums for higher quality pecans were more important to smaller and medium size grower operations, than to larger size grower operations. Insufficient buyer competition was more important to smaller size grower operations than to medium and larger size ones.

Growers marketing to a cooperative were most concerned about inadequate premiums for higher quality pecans. Growers marketing direct to consumers were most concerned about inadequate grading.

Buyers' Views

Buyers were most concerned about poor pecan quality (table 1). Following that were: insufficient premium for higher quality pecans, inadequate market information, inadequate demand for nut meats, and excessive price fluctuations.

Poor pecan quality was the primary concern both for buyers of native pecans and improved varieties. Buyers of native pecans were more concerned about demand for nut meats and excessive buyer competition than were buyers of improved varieties. Buyers of improved varieties were more concerned about inadequate market information and excessive buying costs than native pecan buyers.

Excessive buying costs increased in importance as size of buyer operation increased. Inadequate grading was of more concern to buyers purchasing pecans at the orchard than to other buyers.

Describing Pecans

One characteristic of nearly all electronic markets is that farm products are sold by description. Often, buyers do not see the products they purchase before the transaction is finalized. Therefore, buyers and sellers must be able to describe the farm product accurately and consistently.

Also, one objective of many electronic markets is to reward producers of higher quality products. That occurs by enabling buyers to better match price with quality. Thus, characteristics of a product that reflect quality must be measured as closely and consistently as possible, and must be communicated from sellers to buyers.

Native Pecans

Growers thought the most descriptive characteristic of native pecans was grade (table 2). The pecan industry uses the term grade, but what is meant is the yield of nut meats from whole pecans.

Other important descriptive traits were insect damage, lot size, pecan size, quoted price, grading procedures, moisture content, pecan location, and storage conditions.

There was considerable agreement between growers and buyers. Buyers of native pecans ranked insect damage most important. Other important traits to buyers were pecan size, grade, quoted price, moisture content, lot size, and grading procedures.

Improved Varieties

Growers rated pecan size most important for improved varieties of pecans (table 2). Other traits growers considered important were grade, insect damage, quoted price, lot size, appearance, and moisture content.

Buyers also rated pecan size as the most important descriptive trait for improved varieties. Other important descriptive traits were insect damage, grade, quoted price, moisture content, grading procedures, appearance, and lot size.

Again, growers and buyers were in close agreement on the importance of several descriptive traits. However, buyers thought grading procedures were more important than did growers.

Electronic Market Sponsor

Another important question concerning electronic markets pertains to the sponsoring organization. Electronic markets operating in Oklahoma and throughout the world have a variety of sponsors. Sponsors in Oklahoma include producer-owned cooperatives, an individual, a marketing firm, and grower associations in conjunction with OSU.

Table 3 shows the preferred sponsors of an electronic market for pecans, according to buyers and sellers. Both buyers and growers preferred the Oklahoma Pecan Growers Association (OPGA) first and the OSU Cooperative Extension Service second. When first and second choices were weighted, results were the same. The OPGA was the preferred sponsor, followed by the OSU Cooperative Extension Service.

Summary of Research Findings

Three of the leading marketing concerns of growers (insufficient price premium for higher quality pecans, inadequate market information, and inadequate buyer competition) are problems which have been reduced or eliminated with electronic markets. Buyers also cited two of those (insufficient price premium for higher quality pecans and inadequate market information) among their most important concerns.

Experience with electronic markets indicates that some of the other concerns cannot be addressed directly, such as poor pecan quality. However, by increasing the price premium for quality, growers might have the incentive needed to better manage their orchards, thereby improving pecan quality.

Growers and buyers were both concerned about inadequate market information. One way an electronic market might improve market information is by reporting prices for various qualities of pecans, thereby allowing growers to see the benefits of better managing their pecan crop.

Buyers and growers agreed that several types of information are needed for buyers to purchase pecans sight unseen but with a clear indication of pecan quality. Some information can be obtained relatively easily (for example, name of grower, location of pecans, sale lot size, whether pecans are cracked or whole, container size and type, and native or improved varieties). Other types of information may require a third party evaluator or test (for example, insect

TABLE 1: Importance of marketing problems or concerns, growers' and buyers' viewpoints.

PROBLEM OR CONCERN	IMPORTANCE	
	<u>GROWERS</u>	<u>BUYERS</u>
Inadequate demand for pecan nut meats	1	4
Poor pecan quality	-	1
Insufficient premium for higher quality pecans	2	2
Inadequate market information	3	3
Insufficient (excessive) buyer competition	4	10
Excessive price fluctuations	5	5
Inadequate Co-op marketing results	6	-
Inadequate grading	7	6
Excessive marketing fees (buying costs)	8	7
Excessive transportation costs	9	8
Excessive price discounts for lower quality pecans	10	12
Excessive storage costs	11	9
Excessive container costs	12	11
Too small sale lots	-	13

damage, pecan size, grade, moisture content, and pecan appearance).

Lastly, both growers and buyers agreed on the first and second choice of a sponsor for an electronic market for pecans.

PECAN-MART - An Example

This section outlines some basic features of a possible electronic market for pecans. For illustration purposes, the market is referred to as PECAN-MART and is a computer-assisted marketing system. Basic concepts for PECAN-MART are patterned after HAYMARKET, a computer-assisted marketing system for alfalfa hay in Oklahoma.

First, PECAN-MART would be a joint project of the Oklahoma Pecan Growers Association (OPGA) and OSU's Cooperative Extension Service. OPGA would hire a part-time employee to be the market coordinator for the marketing system. The coordinator would act as a clearing house for information about PECAN-MART, arrange for evaluating pecans, and maintain the computerized listing of pecans for sale. Initially, a computer at an extension office could be used on a time-share basis.

The marketing program would operate as follows. Growers would notify the market coordinator that they have pecans for sale. The market coordinator would arrange for a third-party person to collect information

TABLE 2: Information believed important in describing pecans.

DESCRIPTIVE TRAITS	RANK			
	<u>NATIVE</u>		<u>IMPROVED</u>	
	<u>Grower</u>	<u>Buyer</u>	<u>Grower</u>	<u>Buyer</u>
Insect damage	2	1	3	2
Pecan size (nuts/lb.)	4	2	1	1
Grade (percent nut meat)	1	2	2	2
Quoted price	5	4	4	2
Moisture content	7	4	7	5
Lot size (lbs.)	2	6	5	7
Grading procedures	6	7	11	5
Pecan location	7	8	8	9
Whole or cracked	10	8	9	14
Appearance	12	10	6	7
Container size	11	10	10	9
Harvest date	15	10	15	14
Cracks and splits	14	13	14	9
Color	12	14	11	9
Storage conditions	7	15	11	9

and evaluate the pecans. Evaluators may be paid part-time people, official graders from the Oklahoma Department of Agriculture, or extension employees.

Evaluators would collect information such as name, address, and phone number of seller; number of pecans for sale; type of pecans (native or improved varieties); form of pecans (whole or cracked); container size and type. One or more samples of the pecans would be taken and later tested for yield, size, and moisture content. Evaluators would visually evaluate pecans for insect damage and appearance.

Evaluators would also collect the marketing fee. The marketing fee would cover costs associated with having a market coordinator, using a computer, mailing the list of sale lots, and evaluating pecans.

After all information is obtained, sale lots of pecans would be entered into the computer. Lists of pecans for sale could be mailed to prospective buyers, or buyers might access the information directly from the computer. Buyers could select lots and contact growers concerning sale price and delivery conditions.

Growers would report sales to the market coordinator in order to keep the list updated. Sale data would remain confidential. The coordinator periodically could release market price summaries by type and quality of pecans. Also, analysts from OSU would study PECAN-MART sale data in order to provide useful information to growers on management practices that will enable them to produce pecans that better meet buyers' needs.

TABLE 3: Potential sponsor of an electronic market for pecans.

POTENTIAL SPONSOR	PREFERENCE			
	GROWERS		BUYERS	
	1st Choice	2nd Choice	1st Choice	2nd Choice
Oklahoma Pecan Growers Association	1	3	1	2
OSU Cooperative Extension Service	2	2	2	1
New organization	4	6	3	5
Federal or State government agency	5	3	5	6
Southern Oklahoma Pecan Growers Association	3	5	6	3
No preference	6	1	4	3

Summary

Initial research suggests an electronic market for pecans may be possible, but more work is necessary. The specific operating procedures of such an electronic market will affect operating costs. And operating costs in turn will affect the economic feasibility of an electronic market. Pecan buyers and sellers must determine whether they are interested in pursuing further the feasibility of developing an electronic market.

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