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Focus Group Approach to Gauging Social Acceptance of Agricultural Biotechnology: Some Preliminary Findings

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Contributions of Technology to Agri-Food Chains

Focus Group Approach to Gauging Social Acceptance of Agricultural Biotechnology: Some Preliminary Findings

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Abstract

Using producer and consumer focus group meetings, this paper examines reactions to selected questions on agricultural biotechnology in selected states in southern United States. These reactions provide input for a questionnaire developed for use in a nationwide study on social acceptability of agricultural biotechnology in the United States. The paper analyzes how socio-economic factors may influence attitudes toward genetically modified crops and genetically modified ingredients in the food system. The discussion in the paper is limited to consumer and producer reaction to genetically modified foods. Qualitative techniques are used in analyzing data collected.

Key words: Genetically modified, agricultural biotechnology, focus groups, and social acceptability.

Problem Statement and Significance

Since their introduction in the 1990's, Genetically Modified Organisms (GMOs) have generated many controversies. The issues upon which the controversies have focused are broad and cut across discipline in the physical and social sciences, environment and sustainability fields, politics, law, and economics, among others. The limited and incomplete information that the public has regarding many aspects of agricultural biotechnology may, in fact, contribute to the diverse reactions to the technology. As the debate expands to include issues such as labeling, many countries are now in a quandary on how to formulate rules and guidelines that will safeguard consumer safety without limiting free trade. Although the

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paper does not discuss the labeling issue, it uses producer and consumer focus group meetings to uncover issues that are of interest in discussing social dimensions of agricultural biotechnology. Although focus group technique can yield valuable information about attitudes towards biotechnology, it is less frequently used in investigating attitudes in this important area of research. This paper contributes to the literature by using the technique to unveil producers' and consumers' preferences and attitudes towards biotechnology. Instead of developing a questionnaire based on currently available information on agricultural biotechnology, the project discussed in this paper uses a unique and relevant approach of gathering input from locally seated focus groups in discovering what issues are considered important by consumers and producers for inclusion in a survey instrument developed for use in a larger study. This approach lends credence to the items included in the finalized survey.

Introduction

The introduction, in the marketplace, of genetically modified crops and foods derived from them ushered in controversies and debates that have continued to the present. Most of the debates have centered on the issues raised by the differing interests and players attempting to sway reactions of consumers in favor of their positions. In addition to safety concerns, environmental/health effects of modification, the issue of plant diversity, moral and social dilemma of tampering with nature, legal/ownership of genetic materials, and religious concerns (Chen and Chern, 2002; Pew Initiative on Food and Biotechnology, 2001a,b), have also arisen. Years after the introduction of genetically modified crops, the controversies have only been amplified and the debates louder (Marks, Kalaitzandonakes, Zakharova, 2002; Krueger, 2001). Some have suggested that the lack of convincing, specific and clear scientific

information on the benefits and risks of genetically modified foods or ingredients are partially to blame for the discord. With this much controversy, it is important to assess the perceptions and attitudes and consumers and producers towards agricultural biotechnology, in general, and genetically modified foods, in particular. Focus group responses to targeted questions can be used in assessing how ordinary consumers perceive these risks and benefits. As the debate on the use of genetically modified inputs in agriculture continues (Tangley, 1999; Nelson et al., 1999; Manning, 2000; Fernandez-Cornejo et al., 1999; Nuffield Council on Bioethics, 1999), so will the question of what modified inputs/ingredients should be accepted in the foods that are consumed. Because of the complexity of the issues involved in agricultural biotechnology, the debate surrounding genetically modified foods will continue. The perceptions and attitudes of consumers will continue to influence their behavior which, in turn, may have serious implications for food marketing and distribution research for years to come (Hurt, 1994; Drabentstott, 1994, 2000; Harl, 2000; Chen and Chern, 2002).

Objectives

Using focus groups from selected counties in selected states to collect producer and consumer responses to specific questions, this paper (1) examines responses to agricultural biotechnology-related questions (genetically modified foods) to better understand the importance of social factors that influence attitudes towards biotechnology, (2) analyzes socio-economic factors that influence attitudes toward GMOs/Genetically Modified Foods, and agricultural biotechnology, and (3) discusses the economic and social implications of findings of the research for agribusiness.

Data and Methodology

The data reported in this paper were collected from consumer and producer focus groups meetings

organized from May through October 2002 in selected counties in Tennessee. The focus group methodology has many advantages over other methodologies for the kind of study reported here. There is extensive literature on organizing and implementing focus groups. Focus groups can be used in collecting data for a research interested in finding a range of opinions across several groups (Krueger and Casey, 2000; Edmunds, 1999). The method presents a more natural environment than that of an individual interview because participants are influencing and influenced by others “just as they are in life” (Krueger and Casey, 2000:11). In this context, a focused discussion will be used in providing better understanding of biotechnology in the three southern states defined in this study. Secondly, given the goals of this study, where more information is needed before designing a “large-scale quantitative study” (Krueger and Casey, 2000:24), focus groups can be effectively used in collecting information. The study reported in this paper gathered valuable insights about agricultural biotechnology with specific reference to genetically modified organisms (GMOs) in the food system. These insights provided the input used in designing a nationwide questionnaire survey for collecting consumer and producer attitudes towards and opinions of GMOs. As noted by Rhea and Parker (1997), focus groups represent one method of collecting information prior to the developing of a detailed questionnaire.

This paper is based on selected preliminary results from a larger project on social acceptability of agricultural biotechnology funded by the US Department of Agriculture. Only findings from focus group meetings conducted in Tennessee are reported. A short description on the focus group meeting process is described as follows. Based on pre-established criteria, individuals were recruited to participate in the consumer and producer groups established for the project. Groups of 5 – 15 members were recruited for the consumer and producer focus group meetings that were conducted in the three states participating in

the study. Each university, working with extension and other stakeholder groups, assembled a minimum of two focus groups (one consumer and one producer). Since there were two universities from Arkansas, a total of four groups were established in that state. Where feasible, a short telephone interview was used in establishing participant interest in screening potential members for the focus groups. Counties identified for conducting focus group meetings in were selected after consultations with extension specialists, county agents, and researchers with input from county and district extension directors. Researchers worked with extension agents in the counties selected for study in recruiting individuals for the focus groups.

Meetings were held in the County Extension Offices with assistance from county extension agents. Table 1 identifies the type of focus group convened, the counties, specific dates and location where meetings were held, and the number of participants in the meetings. Focus group meetings of farmers (producers) and consumers are used in collecting the primary data/information needed for accomplishing the objectives of this paper. Secondary information in various publications was used as background information for this paper. Microsoft Excel, and the Statistical Package for the Social Sciences (SPSS) were applied to data.

Results

There may be significant differences in attitudes towards biotechnology on the bases of differences in the socio-economic characteristics of group participants, vis-à-vis, producers and consumers. This paper provides findings that contribute to the literature on attitudes toward genetically modified organisms and genetically modified ingredients in the food system with implications for agribusiness firms.

More females (74%) than males (26%) participated in the consumer focus groups. About 59% of participants were African-Americans while 41% identified themselves as White. Educationally, a

majority of the meeting participants held bachelor's degree (56%) while 37% were high school graduates.

While 7% of the participants had graduate degrees, none had education of less than high school (Table 2).

Major issues and responses from Tennessee consumer focus group meetings

Consumer Reactions

One of the questions posed to the two groups dealt with the issue of genetically modified foods. Specifically, the following question was posed to the groups: "What do you think are some of the important issues that should be considered when discussing genetically modified foods?" Consumer and producer responses to this question revealed some differences between the groups. While both groups were very concerned with safety and nutrition, especially for young children, producers were additionally concerned with educating consumers about the new crops and foods, trade opportunities and barriers, other trade issues, and property rights. Most of the responses from consumers concerned the effects of the new introduction on consumers, both physically and financially. Some of the specific issues and concerns raised by consumers included the following:

- Food safety (why is there a need to modify?)
- How will the modified foods affect the food chain
- Nutritional value (major concern is children's health)
- Fear of the unknown (where will the line be drawn?)
- Jobs involved (how may the job market be impacted?)
- Acceptability varies with ethnicity
- How to implement and market what is formed (marketability of new crops and foods)

Producer Reactions

Using the same technique, the following producer reactions were captured from recorded comments during the focus group meetings:

- Consumers are important
- Food safety – new modified foods should be safe for consumption
- Educating consumers on the new crops and foods
- Trade barriers/propriety rights arising from the newly created foods
- Nutritional value must stay same if not more

Summary and Conclusions

As indicated earlier, the study findings reported in this paper are from an on-going research funded by the Cooperative State Research, Education, and Extension Service (CSREES) of the United States Department of Agriculture (USDA). Consumer and producer focus group meetings organized by research and extension professions in Arkansas, North Carolina and Tennessee were used in unveiling issues that are important to the social acceptability of agricultural biotechnology. Findings from focus group meetings from Arkansas, North Carolina and Tennessee have been incorporated into a questionnaire survey that will be used in a nationwide study to assess consumer and producer attitudes towards agricultural biotechnology and genetically modified foods.

Results from qualitative analysis of audiotape comments from focus group meetings show that there was a wide range of opinions as to what agricultural biotechnology was among consumer group participants. The producer group participants, however, were able to give more precise definitions of biotechnology.

To a large extent, there was agreement on what issues should be considered important when discussing genetically modified foods. Both groups were equally concerned for the health of the consumer, especially children's. They were also interested in the increased nutritional values that these new foods would provide.

Participants seem to be divided, however, when issues of benefits and risks of biotechnology were considered. For the most part, there also seemed to be a complete lack of consensus on what should be the role of government in regulating genetically modified foods. The higher percentage of respondents with better than bachelor's degree and the fact that respondents could be considered as "high income" may have affected the responses that were used in assessing attitudes towards genetically modified foods. The bigger survey will be used in further examination of how attitudes towards genetically modified foods may differ by socio-economic factors that separate the participants. An examination of producer reaction to genetic modification provides a valuable insight into what may lie ahead for agribusinesses of which producers are a part. Again, a larger survey will provide more definitive results.

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Table 1. Number of Participants, Dates, and Locations for Tennessee Consumer Focus Group Meetings

		Number of participants, Dates, and Location of Meeting				
Meeting Group		Coffee	Giles	Franklin	Shelby	Lincoln *
Consumer**	Number of Participants	10	8	6	10	9
	Date of Meeting	August 13, 2002	June 25, 2002	August 15, 2002	September 9, 2002	June 25, 2002
	Location of Meeting	Coffee County	Giles County	Franklin County	Shelby County	Lincoln County

* One producer focus group meeting was held in this county (no demographic information available). ** All of the scheduled meetings were held in the respective County Extension Offices, unless otherwise noted.

Table 2. Characteristics of Focus group Participants

<u>Characteristic</u>	<u>Percent of participants</u>
<u>Gender</u>	
Male	26.0
Female	74.0
<u>Race</u>	
African American	59.0
White	41.0
Other	0.0
<u>Educational Attainment</u>	
Graduate degree	7.0
Bachelor's degree	56.0
High School	37.0
Less than high school	0.0
<u>Income Level</u>	
Less than \$30,000	15.0
\$30,000 - \$39,999	11.0
\$40,000 - \$49,999	18.5
\$50,000 - \$59,999	18.5
\$60,000+	37.0