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A PRELIMINARY SURVEY OF USERS OF AGRICULTURAL ECONOMICS INFORMATION: PROCEDURES AND RESULTS

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Introduction

Provision and dissemination of information on agricultural markets, costs, and prices is a primary function of public-sector agricultural economists, both at the U.S. Department of Agriculture (USDA) and at land-grant universities. Publicly-provided information services are, fundamentally, a public good. Good information is a public good because it improves the competitiveness and the efficiency of markets. Yet information services are not pure public goods because exclusivity can occur. Historically, enhanced market efficiency was the central justification for government's role in providing information. The federal role in development of agricultural information dates back to 1839, when a portion of the patent fund was designated for collecting agricultural statistics (Rasmussen, 1960). The USDA has continued and extended this work since it was established in 1862.

Well into the twentieth century, the majority of farmers were independent small businesses who viewed themselves largely as price-takers. They had neither the discretionary resources nor the where-with-all to collect and analyze agricultural market information. This is less true today. In today's increasingly industrialized agricultural economy -- particularly in sectors with larger and fewer firms -- information is often most valuable to the extent that it is tailored to firm-specific markets and conditions. Information that is sufficiently specific to be valuable is often proprietary. Accordingly, the private sector’s role in collecting, analyzing and packaging data is expanding. Electronic media are revolutionizing information dissemination channels (in particular, the Internet and CD-ROM data bases), due to increasing ease of access and lower costs associated with exchanging and packaging information.

These rapid changes in the agriculture sector and in information technology make a review of the public role in agricultural economics information appropriate at this time. Agricultural economists at the Economic Research Service (ERS) are analyzing the changing public-private

balance in the management of data and the provision of information services on the U.S. and global agricultural economy, beginning with a review of information demands within the U.S. government. The purpose of this survey, conducted by economists in the Department of Agricultural Economics at Texas A&M University, was to make a preliminary contribution to the larger ERS project by targeting economists in the private sector. This research had three primary objectives: (1) to contact front-line private-sector analysts who handle economic issues in agriculture and ask them about the data and information they most value and why, (2) to experiment with measurement instruments to segment and describe information attributes which users value -- i.e. to characterize information sources that are most valued for statistical purposes, and those which are most valued for interpretative content, and (3) to assess the level of interest of front-line analysts in the changing public-private balance in information provision and their willingness to discuss these issues with researchers. The products of the Texas A&M survey effort include (1) a comprehensive list of publicly- and privately-provided information services used by a sample of economic analysts in agriculture, outside of government and academia, (2) descriptive responses indicating the value of the information sources to the users, and (3) statistical analysis relating the use of public information services to characteristics of the survey participants. These results are outlined in this final report, following a brief description of the survey procedures.

Survey Procedures

Telephone interviews conducted by a graduate research assistant in the Department of Agricultural Economics at Texas A&M University[1] formed the basis of this survey. The respondents were identified from a broad list of initial contacts and were not selected in a randomized method. Prospective respondents were contacted and, if they were willing to participate, they were included in the sample. Additional contacts were obtained from recommendations by participants and others active in the industry. Hence the sample was neither scientifically selected nor random, and thus the usual concept of response rate does not apply to

[1]The questionnaire was administered to 100 respondents in 22 days between August 4 and September 4, 1996. Ninety-four interviews were conducted by telephone, and six respondents preferred to respond in writing by facsimile.

this survey. The advantage of this approach is that it was well suited for the exploratory nature of the research and it identified key contacts in the field.

Lists of trade associations and agribusiness executives were the basis for development of the initial sampling frame. Contacts at 263 associations involved in agriculture were drawn from the *Handbook of National Trade and Professional Associations of the United States* (Russell *et al.*, 1996). Three general criteria were used to select associations for the sampling frame: (1) agriculturally-related mandate, (2) minimum operating budget of $100,000, and (3) involved with or sponsorship of commercial activities rather than strictly professional affairs. The association list was augmented with names of chief executive officers from agribusiness firms, provided by Kerry Litzenberg, an agribusiness professor at Texas A&M University. Further detail on the distribution of the sampling frame across commodities may be found in the preliminary report (Thurow *et al.*, 1996.)

The survey respondents themselves were an important source of additional contacts. At the end of each interview, the interviewer asked respondents to recommend colleagues who might be willing to be interviewed in conjunction with this survey research project. This question was very productive: 66 of the 100 respondents were contacted and interviewed as a result of recommendations by other survey participants. The references to other participants often converged on a single person who was considered a useful contact by several colleagues in the industry. Figure 1 illustrates how this cross-contact procedure identified participants from various types of organizations in an industry. While the referencing of contacts makes the sample non-random, it had the advantage of identifying participants who were considered knowledgeable by their peers.

Survey Questionnaire and Findings

Open-ended questions were used as the script for the telephone interviews. The full text of the survey instrument is attached in Appendix B. The first four questions are reproduced in this section, followed by some observations on the responses. The other survey questions were to collect demographic information on the respondents and their employment and educational

Figure 1. Example of Cross-Contacting Procedure Used to Obtain Survey Participants

experiences, issues which do not directly pertain to the objectives of this research. Descriptive information from the other questions is available from the authors upon request.

Question 1: Please list the sources of regular reading material you use to stay informed on general agricultural economic issues. What do you find of value in the material: statistics, economic interpretation, or both?

This question was intended to capture a broad overview of what front-line economic analysts in agriculture read to stay informed. No list of sources was provided to the respondent. If a respondent needed a cue, the *Wall Street Journal* was used as an example. The answers ranged from very broad ("I try to glance at a little of everything"), to short and defined lists of titles. Trade publications like *Successful Farming* and *Feedstuffs*, association newsletters, Knight-Ridder, and DTN were common responses. Some responses were related to the industry specialty. For example, dairy specialists read *Cheese Reporter* and grain industry specialists read *Milling and Baking News*.

When respondents distinguished between the statistical versus interpretive content of their regular reading material, 33% of the sources mentioned were valued for just interpretation, 22% of the sources were valued for statistics, and 45% were valued for both statistics and interpretation. If the response was that both statistics and interpretation were of value, a follow-up question asked if the weighting was more toward statistics, more interpretation, or about equal. Table 1 shows the breakdown of the regular reading sources by type of provider and by the attribute of statistical or interpretive content.

Table 1. What Analysts Read To Stay Informed, By Type of Provider and By Statistical or Interpretive Value

	Provider of Information Service:								
	Trade Publi-cations	USDA	News & Wires	Con-sultants	State gov't	Univ-ersity	Jour-nals	Other Gov't	Totals[1]
	Number of Responses								
Total	80	83	56	67	9	11	13	9	**328**
Of Which:									
Value Statistics	4	44	7	8	3	0	0	7	**73**
Value Interpretation	43	1	25	23	0	8	9	0	**109**
Value Both	33	38	24	36	6	3	4	2	**146**
Of Which:									
More Statistics	2	13	1	3	0	0	0	0	**19**
More Interpreta-tion	8	1	6	11	0	0	1	0	**27**
Equal	23	24	17	22	6	3	3	2	**100**

[1]Participants provided several sources of information, thus the total number of responses is greater than the number of survey respondents.

Question (2): If you were given the task to present a summary of the primary market conditions for your industry to your principal client -- what are the top 3-4 economic information sources you would use to prepare for this task? Is (the

source) important primarily because of its statistical value, interpretive value, or both? Please assign weights by distributing 100 points across the 3-4 sources.

This question was designed to elicit the specific information sources used when conducting analysis. Sometimes the answers were the same as the regular reading material, but most of the time the respondents were specific in identifying particular sources used.

Information from the USDA was a common source used as a reference in conducting market analysis. Sometimes specific departments and reports were mentioned, and even names of USDA employees were cited. However, USDA was also mentioned broadly. In that case, the interviewer asked if the respondent would like to name a specific report, but no leading questions that named a title or agency were used. Table 2 shows the distribution of sources among USDA agencies, when the responses were sufficiently detailed to make a classification.

The sources used for market analysis frequently were valued for their statistical content. Forty-two percent of the sources listed in response to this question were valued for statistics (Table 3). In conversation about this question, several respondents mentioned that their job is to do their own interpretation. Some respondents who collect their own private data use the USDA statistics to compare and see where their producers stand, or to check the accuracy of the USDA data.

It was difficult for many respondents to assign points as an indication of the value of an information source. Respondents often mentioned that the importance of the sources used would depend on the specific issue being analyzed. Most respondents tried to assign points, but a few refused because they felt that their weightings would not be meaningful. This experience suggests that the information attributes valued are context-specific.

Table 2. Number of USDA Information Sources Cited By Survey Participants, By USDA Agency and Type of Information

USDA agency	Regular Reading	Sources for Analysis
	Number of Responses	
Agricultural Marketing Service	13	11
Economic Research Service	26	29
Foreign Agricultural Service	20	12
National Agricultural Statistics Service	13	16
World Agricultural Outlook Board	4	5
Nonspecific USDA	27	44

Note: Some respondents named USDA generally as an information source and, in response to a follow-up request for a specific report or agency, listed titles of reports from more than one USDA agency. Therefore the total number of responses in this table exceeds the number of USDA sources in Tables 1 and 3.

Table 3. Sources Listed as Used for Market Analysis, By Provider Type and By Statistical or Interpretive Value

	Trade Publi-cations	USDA	News & Wires	Con-sultants	State	Univ-ersity	Jour-nals	Other Gov't	Totals[1]
	Number of Responses								
Total	37	106	21	80	8	6	1	17	**276**
Of Which:									
Value Statistics	13	68	8	12	3	0	0	12	**116**
Value Interpretation	11	2	7	26	1	2	0	1	**50**
Value Both	13	36	6	42	4	4	1	4	**110**
Of Which:									
More Statistics	3	13	0	1	0	2	0	3	**22**
More Interpreta-tion	2	1	3	11	0	0	0	0	**17**
Equal	8	22	3	30	4	2	1	1	**71**

[1]Participants provided several sources of information so the total number of responses is greater than the number of survey respondents.

Question (3) Is there additional information the state or federal government could provide which would help in performing your job?

Thirty-eight percent of the respondents were satisfied with the available information services. In general, respondents were understanding of budget constraints and were more concerned with budget cuts affecting existing information services than with receiving additional information. Several respondents emphasized that the USDA is the most objective, consistent, and complete source for agricultural time series data. Information on a more timely basis was a frequent suggestion, especially when referring to trade data. Appendix C contains a compilation of the paraphrased responses to this question.

Question (4) Of the information you use, how much (if any) is related to environmental management or concerns?

(4a) If yes, what sources do you rely on for this environmental information?
(4b) If no, who handles environmental issues facing your industry?

Fifty-three percent of the analysts interviewed monitor environmental issues which affect their industry. Several mentioned that they follow environmental issues, but that environmental concerns are rarely a central feature in their analysis. Others refer environmental questions from clients to technical experts (such as entomologists or agronomists) in their organizations or in allied organizations. The analysts who seemed the most concerned with environmental issues worked in the dairy industry and the forestry/lumber industry.

Summary

This selective review of survey questions and responses suggests that private-sector economic analysts in agriculture use a diverse mix of publicly- and privately-provided information services in performing their jobs. Both statistical data and the interpretive content of materials are important to these information users, although statistics appear somewhat more important for analytical tasks. The respondents indicated that their demand for information services depends in part upon the context or task they are performing.

A respondent's need for information services may also depend on factors specific to that information user. In the remainder of this paper, we report the results of statistical analysis relating the characteristics of the respondents to the decision to use USDA information. A large majority of the analysts interviewed use USDA information in their regular reading and in their market analysis work (75% and 82%, respectively). We examined this subsample of USDA information users to determine if their education, experience, subject area of interest, and organization type are related to the probability of using USDA information.

Before proceeding with further analysis of the respondents who used USDA information services, it may be of interest to consider what information services were used by the survey respondents who did not name USDA as an information resource. Eighteen percent of the respondents did not use USDA for conducting analysis for their principal client. These persons stated that they used consultants, trade publications, and, less often, news services. Those who did not use USDA tended to be concentrated in trade associations and working in the area of feed and grain crops. A tabulation of the affiliation and specialization of those who did not use USDA information sources may be found in table A1 in Appendix A.

Statistical Analysis

Statistical analysis of the survey results was conducted to examine the factors affecting the likelihood of survey respondents using USDA information services. A qualitative response model was used, in which the dependent variable is binary. The dependent variable equals 1 if the respondent used USDA, 0 otherwise. Probit models were estimated to relate the decision to use USDA information services to certain characteristics of the respondent and the respondent's employer.[2]

[2] The probit model has an underlying assumption that the probability that the dependent variable equals 1 is a normally distributed random variable (Greene, 1993, p. 637).

Respondent Characteristics

Educational attainment and years of experience were the two main characteristics of the survey respondents used in the statistical models. The respondents had extensive experience in their industry, averaging 16.4 years. The average educational attainment of these users was a master's degree. For more detail on the distribution of university degrees among the survey respondents, see Table 3 in the preliminary report (Thurow *et al.*, 1996).

Higher levels of education were associated with increased likelihood of using USDA information. The marginal contribution of a year of education to the probability that the respondent uses USDA information varied somewhat with model specification, but was generally around 0.045.[3] The positive relationship of education to USDA use held true for information sources used as regular reading (Appendix Tables A2-A12) and for sources used to conduct market analysis (Appendix Tables A13-A23). The marginal contribution of education to USDA use was slightly greater for sources used for market analysis than for sources used for regular reading.

A statistically significant negative relationship was found between experience and the use of USDA. The marginal contribution of a year of experience to the probability of using USDA as a regular reading source was -0.01 to -0.02 (Appendix Tables A2-A12). The relationship between experience and the probability of using USDA as a source for conducting market analysis was also negative, but the marginal contribution of experience was smaller (less than -0.01) and was not statistically significant in three of the models estimated (Appendix Tables A13-A23).

Employer Characteristics

The relationship between USDA information use and characteristics of the respondents' employment was examined, testing the hypothesis that a certain commodity area of interest or

[3]Marginal values were computed at the means of the numerical variables (Greene, 1993, page 639).

type of organization was associated with a higher probability of USDA use.[4] The respondents to the survey are employed in several different types of businesses and organizations. We classified the respondents' place of employment in two ways, as "function" and "organization." *Function* as used here relates to the subject or area of interest of the organization. Respondents were also characterized according to the organizational or business form of their employer. This classification is referred to as *organization type.* Functions were broken down into the following categories:

- *Multi-Commodity Companies/Brokerages*. Includes grain traders, cooperatives and businesses involved in several commodities but with a focus on grain and feed crops.
- *Livestock/Dairy.*
- *Specialty Crops*. Includes organizations interested in citrus, vegetable, and cotton crops.
- *General/Policy*. Organizations handling a wide range of farm policy issues, including private consulting firms and groups representing multiple commodities such as the Farm Bureau.
- *Food Products*. Distributors and marketers of processed foods and wholesale products.
- *Farm Input/Transportation*. Input supply firms, shipping agents, and associations representing these allied industries.
- *Natural Resource*. Associations and consultants primarily interested in agro-environmental and natural resource conservation issues.

[4] Dummy variables representing function and organization classifications were used in the probit model to analyze this question, following procedures outlined in Greene, 1993 (pg. 641). The dependent variable is the binary variable for USDA use, as before. Models were estimated in which one particular group represented by a dummy variable was included and the coefficient represents the effect of that included group compared with all others (aggregate). Another form of the dummy variable model includes all but one of the groups. In this case, the coefficient represents the effect of each included group compared with the omitted group. The marginal value shown in the Appendix tables is interpreted as the change in probability of using USDA associated with the included group, compared with the omitted group. The marginals are computed at the mean of the numerical variables.

The organizations are divided into five categories that cut across commodity or subject matter interests. The organization types are:

- *Agribusiness,* private and cooperative firms.
- *Associations,* trade associations.
- *Consulting firms,* including sole proprietorships as well as larger firms.
- *Brokerages,* commodity traders and firms involved in futures trading.
- *Journalists*.

The largest number of respondents by organization type were those employed by trade associations (32 of the 100 total responses). Agribusinesses (including cooperatives) accounted for 27 respondents, of which 11 worked for cooperative firms. Twenty-seven respondents were employed at large consulting firms and five as independent consultants.

Table 4 shows a cross classification of the respondents by function and type of organization. Survey respondents were widely distributed across the function categories and organization types. Persons employed at consulting firms involved with more than one commodity were the largest single group (14 of 100 responses). Livestock and dairy trade associations were the next largest group (10 responses). Of the respondents employed by cooperatives, the dairy sector was the predominant function of interest (7 of 11 responses). One-half of the respondents from agribusinesses (excluding cooperatives) worked for firms that produce and market processed foods.

Economists working in the livestock sector were significantly more likely than other groups to use USDA information services.[5] The marginal contributions of livestock affiliation to the probability of using USDA were sizeable and the statistical significance was at the 95% level or better. The livestock finding held when livestock specialists were compared with all other respondents in the aggregate and when the livestock group was compared with each other function type individually. Livestock affiliation increased the probability of using USDA for

[5]Fifteen of the 27 respondents in the livestock area were dairy specialists. The proportion of respondents using USDA was slightly lower among dairy specialists than among non-dairy livestock specialists.

Table 4. Classification of Respondents to Information User Survey, By Employer's Function and By Organization Type

	Organization Types:					
	Agri-business	Associa-tion	Consultant	Brokerage	Journalist	Subtotal
Function Types:			Number of Respondents			
Multi-Commodity	6	5	14	7	2	**34**
Livestock/Dairy	8	10	9	0	0	**27**
Specialty	4	5	3	0	0	**12**
General/Policy	0	5	3	0	0	**8**
Food Products	8	5	1	0	0	**14**
Farm Input/Transport	1	1	0	0	0	**2**
Natural Resource	0	1	2	0	0	**3**
Sub-totals	**27**	**32**	**32**	**7**	**2**	**100**

regular reading material by 0.27, compared with all other functions, aggregated (Appendix Table A9). In response to the question about sources used to analyze market conditions, the probability of USDA use for the livestock group was statistically greater compared with all other groups (aggregate, Appendix Table A21). The marginal contribution of livestock affiliation to the probability of using USDA for market analysis was 0.19 compared with all others in the sample. Livestock respondents were significantly more likely to use USDA as a source in preparing market analysis, compared with the grain commodity, food industry, policy, and input/transportation groups (Appendix Table A22). No other statistically significant relationships were discovered between subject matter specialties and the probability of using USDA information services.

In addition to subject matter specialization, respondents were classified by the employer's organization type. Relationships between trade association and agribusiness employees and the probability of using USDA information services had statistical significance. Both trade association and agribusiness employees were less likely to USDA than respondents working in other private sector settings. The statistical strength of these relationships was weaker than the relationship of livestock affiliation to the use of USDA information.

Agribusiness employees were slightly less likely than the remaining sample to use USDA as regular reading material. The marginal contribution of agribusiness employment to the probability of using USDA was -0.02 and the statistical significance was just above the 90% level (Appendix Table A2). Trade association employees were also less likely to use USDA for regular reading than all other groups in the aggregate (by -0.11, Appendix Table A6). Based on individual group comparisons, trade association employees were more likely to use USDA as regular reading than agribusiness employees (Appendix Tables A3 and A7). The marginal difference between agribusinesses and trade associations was large (0.16) but statistical significance was at the 90% level.

The results in response to the question about sources for market analysis were weaker, statistically, than those reported above with respect to regular reading material. Trade association employees were less likely to use USDA for analysis than all other groups in the aggregate (by -0.15, Appendix Table A17), and when individually compared with consultants and agribusiness employees (Appendix Table A18). Agribusiness employees did not differ significantly from the aggregate remaining sample in the probability of using USDA as a resource in conducting market analysis (Appendix Table A13), but agribusiness respondents were more likely than trade association employees to use USDA (Appendix Table A14).

Statistical or Interpretive Value of Information

The subset of the sample who used USDA information was further analyzed to determine what attributes of the information contributed to its value to the users. The relationship of user and employer characteristics to the assignment of value for statistics was examined, using a binary variable that equals one if USDA information is valued for statistics and zero otherwise. In addition, the point values assigned to sources used for market analysis were compared with the binary choice of valuing information for statistical content or for other content.[6]

[6]This procedure required aggregation in a few cases in which the respondent cited multiple USDA sources. The points assigned to USDA information were obtained by averaging the points assigned to each USDA sources (applied in 8 cases). Also, if a respondent valued one USDA information source for statistics and another for interpretation, then the entry for that respondent

The raw data indicate that statistical content is an important feature of USDA information in a majority of the users surveyed. Of the 100 respondents, 82 used USDA information services in preparing market analysis for their principal client. Forty-seven of the 82 (57%) valued the USDA information primarily for statistics, 2 valued USDA information primarily for interpretation, and 33 valued USDA information for both statistics and interpretation.

Econometric analysis was of limited use in identifying characteristics of the respondents that are associated with valuing statistics versus interpretation in a USDA information service. No significant relationship was found between education, experience, functional interest, or organizational type and the probability of valuing USDA information for statistical content using a probit model. Nor was any significant relationship found between point values and a binary variable indicating valuation of the USDA information for statistical content.

Some statistically significant relationships between the point values assigned to USDA information services and the characteristics of the respondent and the employer were obtained using ordinary least squares models, in which the point value was the dependent variable and education, experience, and the binary variables for respondent characteristics were the explanatory variables. Education was positively related to point value. A year of education was associated on average with 5 more points assigned to USDA information services (Tables A24 - A26). The group with responsibility in several grain and feed commodities tended to give higher points on average than all others (aggregated, Appendix Table A24). Users in the food industry and the specialty crop area assigned lower average points to USDA information than those in other functions (aggregated, Appendix Tables A23 and A24, respectively). No significant difference in average point values for USDA information was found for the livestock group and among the various organization types.

Conclusions

This survey targeted economic analysts working outside of government and universities to obtain a list of the data and information sources they most value and to examine measurement instruments that would help to segment information sources and the attributes that make the

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was “both” (applied in 6 cases).

sources valuable to these users. The results indicate that USDA information services are widely used among the economic analysts in the private sector who were contacted for this survey. Among the practicing agricultural economists contacted, 75% consulted USDA information for keeping up-to-date in their industry. An even larger share, 82%, used USDA information in preparing market analysis for their primary client.

Statistical analysis uncovered a few consistent relationships between the respondents' characteristics and the likelihood that they used USDA information services, but it was less useful in examining attributes of the information product that contribute to its "value-added." Educational attainment was associated with a higher probability of use of USDA information services, and with the assignment of larger point values to USDA information. Experience was associated with a lower probability of using USDA information. Affiliation with the livestock/dairy industries was associated with a higher probability of the use of USDA, compared with other subject matter specialities considered. Employment with a trade association or an agribusiness was linked with lower probability of the use of USDA information services, compared with other types of employer organizations. The statistical analysis did not identify characteristics of respondents that help to predict value according to the statistical versus interpretive attributes of the information sources.

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Appendix Tables

Table A1. Classification of Respondents Who Did Not Use USDA Information Services for Market Analysis, by Employer's Function and Organization Type

	Organization Types:					
	Agri-business	Associa-tion	Consultant	Brokerage	Journalist	Subtotal
Function Types:	Number of Respondents					
Multi-Commodity	3	1	2	2	0	**8**
Livestock/Dairy	1	1	0	0	0	**2**
Specialty	0	0	1	0	0	**1**
General/Policy	0	2	0	0	0	**2**
Wholesale/Market	0	3	0	0	0	**3**
Farm Input/Transport	0	1	0	0	0	**1**
Natural Resource	0	0	1	0	0	**1**
Sub-totals	**4**	**8**	**4**	**2**	**0**	**18**

Table A2. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Regular Reading

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-1.4611	NA	NA
EXPERIENCE	Years	-0.041	-0.00188	**
EDUCATION	Years	0.16988	0.00782	**
AGRIBUSINESS	Binary	-0.4393	-0.02022	*
f(scale factor) 0.04603				

Note: Omitted organization type is aggregate other than agribusiness.

[1] ** = significant at 95% level; * = significant at 90% level.

Table A3. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Regular Reading

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-1.583	NA	NA
EXPERIENCE	Years	-0.04061	-0.01229	**
EDUCATION	Years	0.15144	0.045842	*
ASSOCIATION	Binary	0.53408	0.16167	*
CONSULTANT	Binary	0.42002	0.127143	--
BROKER	Binary	0.41808	0.126556	--
JOURNALIST	Binary	-0.23088	-0.06989	--
f(scale factor) 0.302707				

Note: Agribusiness is the omitted organization type.

[1]** = significant at 95% level; * = significant at 90% level.

Table A4. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Regular Reading

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-1.5862	NA	NA
EXPERIENCE	Years	-0.040495	-0.001979	**
EDUCATION	Years	0.16601	0.008114	*
CONSULTANT	Binary	0.16437	0.008034	--
f(scale factor) 0.048875				

Note: Omitted organization type is aggregate other than consultants.

[1]** = significant at 95% level; * = significant at 90% level.

Table A5. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Regular Reading

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-1.163	NA	NA
EXPERIENCE	Years	-0.04061	-0.01229	**
EDUCATION	Years	0.15144	0.045842	*
ASSOCIATION	Binary	0.11406	0.034527	--
AGRIBUSINESS	Binary	-0.42002	-0.12714	--
BROKER	Binary	-0.00194	-0.00059	--
JOURNALIST	Binary	-0.6509	-0.19704	--
f(scale factor) 0.302712				

Note: Consultant is the omitted organization type.

[1]** = significant at 95% level; * = significant at 90% level.

Table A6. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Regular Reading

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-1.4978	NA	NA
EXPERIENCE	Years	-0.03581	-0.01242	**
EDUCATION	Years	0.15451	0.053583	*
ASSOCIATION	Binary	-0.31769	-0.11017	--
f(scale factor) 0.346791				

Note: Omitted organization type is aggregate other than association.

[1]** = significant at 95% level; * = significant at 90% level.

Table A7. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Regular Reading

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-1.049	NA	NA
EXPERIENCE	Years	-0.04061	-0.01229	**
EDUCATION	Years	0.15144	0.045845	*
AGRIBUSINESS	Binary	-0.53408	-0.16168	*
CONSULTANT	Binary	-0.11406	-0.03453	--
BROKER	Binary	-0.11601	-0.03512	--
JOURNALIST	Binary	-0.76496	-0.23157	--
f(scale factor) 0.302725				

Note: Association is the omitted organization type.

[1]** = significant at 95% level; * = significant at 90% level.

Table A8. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Regular Reading

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-1.231	NA	NA
EXPERIENCE	Years	-0.0381	-0.01166	**
EDUCATION	Years	0.15236	0.04665	*
MULTI-COMMODITY	Binary	-0.27948	-0.08557	--
f(scale factor) 0.306181				

Note: Omitted function type is aggregate other than multi-commodity.

[1]** = significant at 95% level; * = significant at 90% level.

Table A9. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Regular Reading

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-1.5926	NA	NA
EXPERIENCE	Years	-0.0482	-0.01412	**
EDUCATION	Years	0.16581	0.048584	*
LIVESTOCK	Binary	0.94059	0.2756	**
f(scale factor) 0.293008				

Note: Omitted function type is aggregate other than livestock.

[1]** = significant at 95% level; * = significant at 90% level.

Table A10. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Regular Reading

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-0.064211	NA	NA
EXPERIENCE	Years	-0.04922	-0.01422	**
EDUCATION	Years	0.16657	0.048121	*
MULTI-COMMODITY	Binary	-0.91657	-0.26479	*
SPECIALTY	Binary	-0.66396	-0.19182	--
POLICY	Binary	-1.0777	-0.31134	**
FOOD	Binary	-0.77661	-0.22436	*
INPUT	Binary	-2.0116	-0.58114	**
RESOURCE	Binary	-1.6291	-0.47064	**
f(scale factor) 0.288896				

Note: Livestock is the omitted function type.

[1]** = significant at 95% level; * = significant at 90% level.

Table A11. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Regular Reading

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-1.6078	NA	NA
EXPERIENCE	Years	-0.03753	-0.01213	**
EDUCATION	Years	0.16245	0.052519	*
SPECIALTY	Binary	0.13407	0.043344	--
f(scale factor) 0.323295				

Note: Omitted organization type is aggregate other than specialty.

[1]** = significant at 95% level; * = significant at 90% level.

Table A12. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Regular Reading

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-1.9357	NA	NA
EXPERIENCE	Years	-0.03675	-0.01126	**
EDUCATION	Years	0.18768	0.057495	**
POLICY	Binary	-0.42487	-0.13016	--
f(scale factor) 0.306346				

Note: Omitted organization type is aggregate other than policy.

[1]** = significant at 95% level; * = significant at 90% level.

Table A13. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Market Analysis

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-2.7983	NA	NA
EXPERIENCE	Years	-0.02051	-0.00509	--
EDUCATION	Years	0.23109	0.057356	**
AGRIBUSINESS	Binary	0.17185	0.042653	--
f(scale factor) 0.248197				

Note: Omitted organization type is aggregate other than agribusiness.

[1]** = significant at 95% level; * = significant at 90% level.

Table A14. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Market Analysis

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-3.1801	NA	NA
EXPERIENCE	Years	-0.02857	-0.00627	*
EDUCATION	Years	0.27116	0.059495	**
ASSOCIATION	Binary	-0.53936	-0.11834	*
CONSULTANT	Binary	0.18909	0.041488	--
BROKER	Binary	-0.17798	-0.03905	--
JOURNALIST	Binary	4.9905	1.09497	--
f(scale factor) 0.219411				

Note: Omitted organization type is agribusiness.

[1]** = significant at 95% level; * = significant at 90% level.

Table A15. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Market Analysis

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-2.6733	NA	NA
EXPERIENCE	Years	-0.02641	-0.00648	*
EDUCATION	Years	0.22479	0.055151	**
CONSULTANT	Binary	0.44006	0.107966	--
f(scale factor) 0.245345				

Note: Omitted organization type is aggregate other than consultant.

[1]** = significant at 95% level; * = significant at 90% level.

Table A16. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Market Analysis

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-2.991	NA	NA
EXPERIENCE	Years	-0.02857	-0.00624	*
EDUCATION	Years	0.27116	0.059267	**
AGRIBUSINESS	Binary	-0.18909	-0.04133	--
ASSOCIATION	Binary	-0.72845	-0.15922	**
BROKER	Binary	-0.36707	-0.08023	--
JOURNALIST	Binary	4.9768	1.087765	--
f(scale factor) 0.218567				

Note: Omitted organization type is consultants.

[1]** = significant at 95% level; * = significant at 90% level.

Table A17. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Market Analysis

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-3.173	NA	NA
EXPERIENCE	Years	-0.02763	-0.00664	*
EDUCATION	Years	0.275	0.066061	**
ASSOCIATION	Binary	-0.62806	-0.15087	**
f(scale factor) 0.24022				

Note: Omitted organization type is aggregate other than association.

[1]** = significant at 95% level; * = significant at 90% level.

Table A18. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Market Analysis

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-3.7195	NA	NA
EXPERIENCE	Years	-0.02857	-0.00632	*
EDUCATION	Years	0.27116	0.059978	**
AGRIBUSINESS	Binary	0.53936	0.119301	*
CONSULTANT	Binary	0.72845	0.161126	**
BROKER	Binary	0.36138	0.079934	--
JOURNALIST	Binary	5.1613	1.141629	--
f(scale factor) 0.22119				

Note: Omitted organization type is associations.

[1]** = significant at 95% level; * = significant at 90% level.

Table A19. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Market Analysis

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-2.4191	NA	NA
EXPERIENCE	Years	-0.02063	-0.00511	--
EDUCATION	Years	0.21652	0.053681	**
MULTI-COMMODITY	Binary	-0.21613	-0.05358	--
f(scale factor) 0.247925				

Note: Omitted function type is aggregate other than multi-commodity.

[1]** = significant at 95% level; * = significant at 90% level.

Table A20. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Market Analysis

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-3.2455	NA	NA
EXPERIENCE	Years	-0.03054	-0.00679	*
EDUCATION	Years	0.26261	0.058431	**
LIVESTOCK	Binary	0.81181	0.180628	**
SPECIALTY	Binary	0.46376	0.103187	--
POLICY	Binary	-0.23592	-0.05249	--
FOOD	Binary	-0.15424	-0.03432	--
INPUT	Binary	-1.2678	-0.28209	*
RESOURCE	Binary	0.04705	0.010469	--
f(scale factor) 0.222501				

Note: Omitted function type is commodity.

[1]** = significant at 95% level; * = significant at 90% level.

Table A21. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Market Analysis

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-2.9325	NA	NA
EXPERIENCE	Years	-0.02816	-0.00654	*
EDUCATION	Years	0.23934	0.055567	**
LIVESTOCK	Binary	0.84196	0.195474	**
f(scale factor) 0.232166				

Note: Omitted function type is aggregate other than livestock.

[1]** = significant at 95% level; * = significant at 90% level.

Table A22. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Market Analysis

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-2.4337	NA	NA
EXPERIENCE	Years	-0.03054	-0.00682	*
EDUCATION	Years	0.26261	0.05861	**
MULTI-COMMODITY	Binary	-0.81181	-0.18118	**
SPECIALTY	Binary	-0.34805	-0.07768	--
POLICY	Binary	-1.0477	-0.23383	*
FOOD	Binary	-0.96605	-0.2156	*
INPUT	Binary	-2.0796	-0.46413	**
RESOURCE	Binary	-0.85886	-0.19168	--
f(scale factor) 0.223181				

Note: Omitted function type is livestock.

[1]** = significant at 95% level; * = significant at 90% level.

Table A23. Relationship of Respondent Characteristics to Probability of Using USDA, Probit Model Results, for Sources Used for Market Analysis

DEPENDENT VARIABLE USDA1	Units	Coefficient	Marginal	Significance[1]
constant	NA	-2.7154	NA	NA
EXPERIENCE	Years	-0.01919	-0.00473	--
EDUCATION	Years	0.22533	0.055518	**
SPECIALTY	Binary	0.42154	0.103861	--
f(scale factor) 0.246385				

Note: Omitted organization type is aggregate other than specialty.

[1]** = significant at 95% level; * = significant at 90% level.

Table A24. Relationship of Respondent Characteristics to Point Values Given for USDA Information, OLS Model, for Sources Used for Market Analysis

DEPENDENT VARIABLE POINT	Units	Coefficient	Std. Error	Significance[1]
constant	NA	-62.659	29.6	
EXPERIENCE	Years	0.2306	0.2574	--
EDUCATION	Years	5.5309	1.677	**
AGRIBUSINESS	Binary	5.4497	5.101	--
MULTI-COMMODITY	Binary	10.262	4.939	**

Note: Omitted function type is other than multi-commodity (aggregate).

[1]** = significant at 95% level; * = significant at 90% level.

Table A25. Relationship of Respondent Characteristics to Point Values Given for USDA Information, OLS Model, for Sources Used for Market Analysis

DEPENDENT VARIABLE POINT	Units	Coefficient	Std. Error	Significance[1]
constant	NA	-56.025	29.45	
EXPERIENCE	Years	0.14107	0.2635	--
EDUCATION	Years	5.5347	1.694	**
AGRIBUSINESS	Binary	3.1533	4.969	--
SPECIALTY	Binary	-11.711	6.527	*

Note: Omitted function type is other than specialty crops (aggregate).

[1]** = significant at 95% level; * = significant at 90% level.

Table A26. Relationship of Respondent Characteristics to Point Values Given for USDA Information, OLS Model, for Sources Used for Market Analysis

DEPENDENT VARIABLE POINT	Units	Coefficient	Std. Error	Significance[1]
constant	NA	-48.988	28.85	
EXPERIENCE	Years	0.11216	0.2586	--
EDUCATION	Years	5.1314	1.649	**
AGRIBUSINESS	Binary	7.1115	5.191	--
FOOD	Binary	-17.4	7.074	**

Note: Omitted function type is other than food industry (aggregate).

[1]** = significant at 95% level; * = significant at 90% level.