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Food Systems Report



Coloradans' Trust in Sources of Information on Agriculture and Food Issues

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Starting in 1996, the Colorado Department of Agriculture identified the need to better understand how: a) the citizens of Colorado viewed the agricultural industry as a whole; b) the public perceives emerging policies meant to support or influence the role of agriculture in Colorado; c) the Department's own programs were valued. In 2016, as they have every five years since 1996, they partnered with Colorado State University to frame a survey that would evaluate the public's attitudes about a variety of issues.

A final report of all results was developed, and a set of shorter, focused reports on key topics is also available. This report demonstrates how a respondent's history and depth of experience in agriculture may influence their opinions on several key issues, including:

- 1) There is broad-based agreement that agriculture is an important part of Colorado's economy, and its quality of life and serves the state well in providing safe food at a reasonable cost.
- 2) There are some minor differences in the strength of support and confidence between those who live or were raised on a farm and those without such background.
- 3) Agricultural production practices are generally believed to be usually necessary to feed the population and safe; however, this is one area where there is some level of disagreement among our citizens, particularly related to Genetically Modified Organisms (GMOs).
- 4) There appears to be an important role for Colorado Department of Agriculture programs, information relayed through labels, produce calendars and contacts at food retail sites, and agritourism, so these programs should be a priority for additional funding in the future.

A Summary of Respondent Characteristics and their Background in Agriculture

Colorado State University contracted with TNS (www.tns-us.com) to disseminate an online survey in August-September of 2016 to 1000 Colorado residents. The respondents were a representative sample of Colorado's demographics in almost every respect. The survey instrument (see Appendix of the full report) contains multiple choice and open-ended questions. The average length of residence among respondents was just under 16 years, down from over 20 years in the 2011 survey. The average respondent was just below 50 years in age and the respondents were 42% male and 58% female. The median income for this survey was between \$50,000 and \$75,000, which is consistent with the state's median income.

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In order to understand a respondent's relationship to agriculture, the first question on the survey consisted of three parts: a) Do you currently live or work on a farm or ranch? b) Have you ever lived or worked on a farm or ranch? c) Does your household raise any of its own food products?

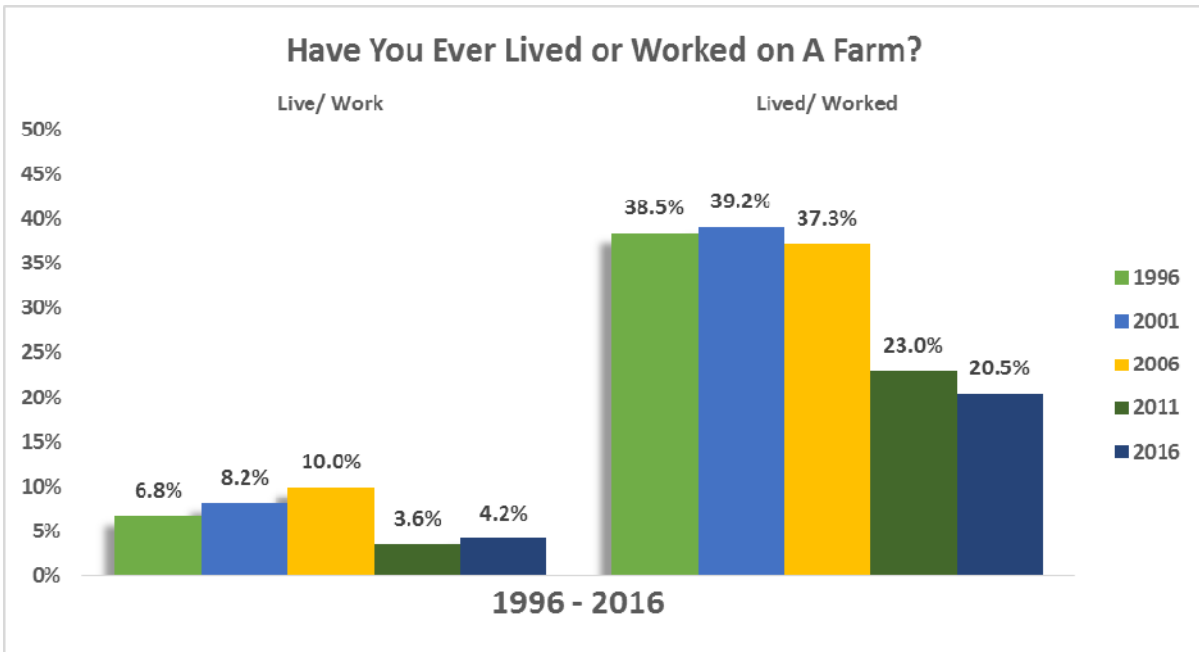


Figure 1

As Figure 1 shows, only about one-fifth of all respondents (20.5%) reported having lived or worked on a farm at some point in their lives, a number that is significantly lower than 1996 (38.5%), 2001 (39.2%) and 2006 (37.3%). Less than 5% currently live or work on a farm or ranch, down substantially from early surveys, but up slightly from 2011 (3.6%). No criteria were given to respondents as to what constituted living or working on a farm or ranch, and sampling design for each survey was slightly different (the 2011 and 2016 surveys were conducted online as compared to earlier surveys in 2006, 2001, and 1996 which were administered by telephone or mail, so changes in results should be interpreted carefully.

2016 was the first time we asked respondents about food they grow/raise, since there is a perception that households are increasingly interested in producing some of their own food (Figure 2). More than one-third (34.6%) of Coloradans raise at least some of their own vegetables and 13.3% raise fruits. A much smaller percentage raise poultry or livestock (3% total).

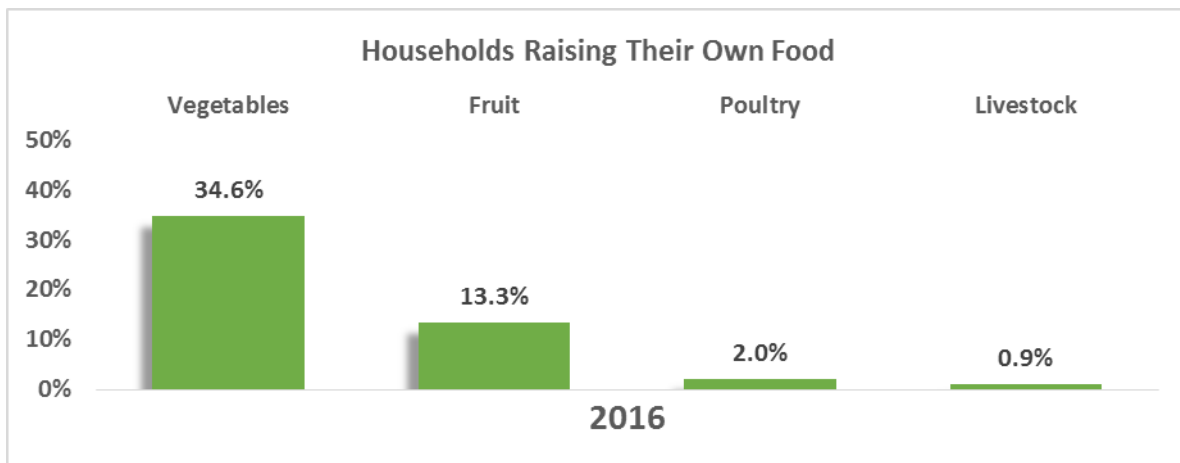


Figure 2

Likely Sources of Trusted Information on Agricultural Issues

Since 1996, Colorado consumers have been asked which sources of agricultural information they trust. The findings from this question have helped guide different public entities to develop strategies and policy for communicating with consumers. The question was slightly altered in 2011 and again in 2016 to include additional sources of agricultural information.

Almost half of all of respondents (40%) indicated that they were most likely to trust university and research organizations as sources of information on agriculture, followed by the Colorado Department of Agriculture (35%), the United States Department of Agriculture (28%) and farmers and ranchers themselves (27%).

The food industry (which only 5% cited as most trustworthy), news reports (4%) and social media (2%) garnered less trust from respondents. Figure 3 displays this information across all potential information sources.

Respondents' Rankings of their Trust in Sources of Information about Agriculture

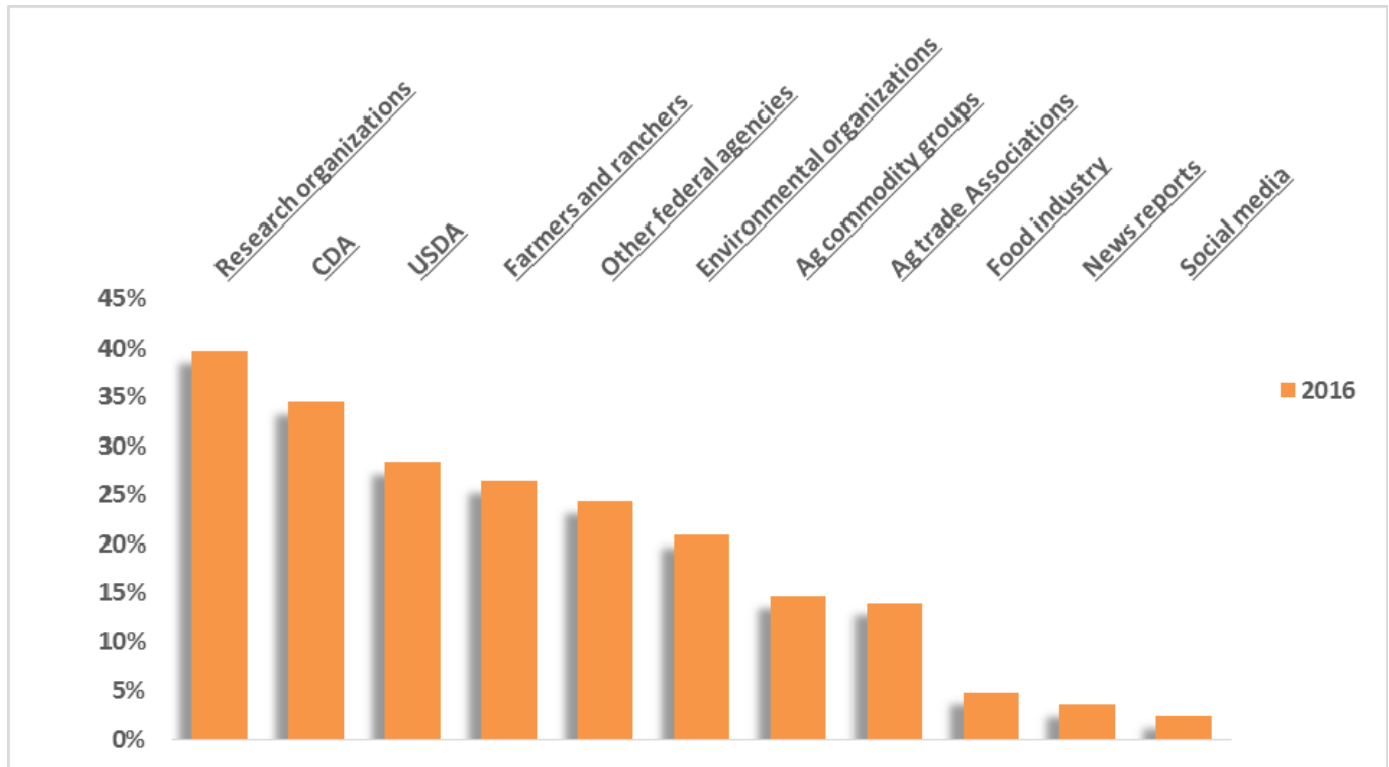


Figure 3

When comparing the results for 2011 and 2016, there were a variety of shifts, including the fact that university and resource organizations as well as farmers and ranchers decreased the most (5% and 10% respectively) as trusted sources of information about agriculture. However, despite this decrease, these two sources of agricultural information remain quite high on the list overall. The greatest increase in trust for agricultural information was in environmental organizations which grew by 6% from 2011 to 2016 (see Table 1).

Table 1 - Most Trusted Sources of Agricultural Information, 2011 and 2016

	University and Research Organizations	CDA	USDA	Other Federal Agencies	Farmers and Ranchers	Environmental Organizations
2011	45%	38%	25%	20%	37%	15%
2016	40%	35%	28%	24%	27%	21%
	Ag Commodity Groups	Ag Trade Associations	Food Industry	News Reports	Social media	
2011	Not Asked	Not Asked	5%	4%	3%	
2016	15%	14%	5%	4%	2%	

This same question has been asked since 1996, although the number of options from which respondents may choose has increased over the years, in addition to the fact that they may provide multiple responses. There are two interesting findings to discuss. First, the percentage of respondents who trusted farmers and ranchers to the greatest degree as sources of information on agriculture has fluctuated greatly through the years. Second, those who trusted governmental agencies (assuming that CDA and USDA were included within this category from 1996-2011) the most have increased since 1996. For historical reference, Figure 4 highlights the findings for 1996-2011.

Most Trusted Sources of Agricultural Information, 1996-2011

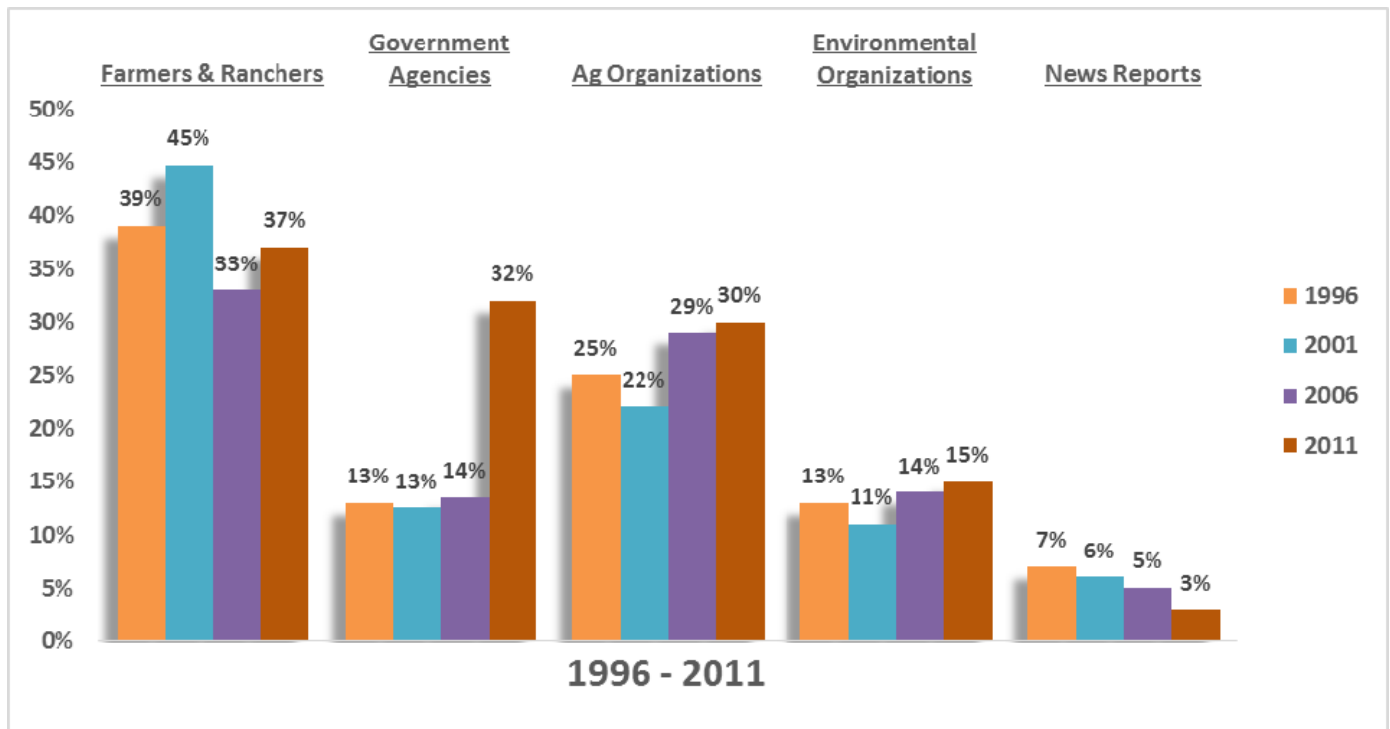


Figure 4

Coloradans were asked if they believed that farmers and ranchers treat their animals humanely. Results from this question include:

- 14% strongly believe that the animals are treated humanely;
- 41% believe that the animals are treated humanely;
- 19% slightly believe that the animals are treated humanely;
- 8% don't believe that the animals are treated humanely; and
- 18% don't know if animals are treated humanely.

Comparing the levels of trust for information on agricultural issues with production practices offers some interesting insights. Considering that beliefs about production practices can be benchmarks for defining the values of differing agricultural groups, understanding which sources of information can reach these differing segments of the population can be powerful. The trust scores for sources of agricultural information remained greatest (i.e., lower scores) for those who believe that animals are being treated humanely. For example, Coloradans who strongly believe that animals are treated humanely rated farmers and ranchers as somewhat likely to trust be a trusted source of agricultural information. Those who don't believe that animals are being treated humanely reported lower levels of trust (i.e., higher scores). For example, Coloradans who don't believe that animals are treated humanely rated farmers and ranchers as somewhat likely to be trusted sources of agricultural information. In other words, they don't trust the information and they don't believe animals are being treated humanely. For one source of agricultural information, however, this trend was reversed. Those who don't believe animals are being treated humanely

Table 2 - Respondents' Most Trusted Sources of Information on Agricultural Issues and their Beliefs in Humane Treatment of Animals in Agriculture

	University & Research Organizations	CDA	USDA	Other Federal Agencies	Farmers & Ranchers	Environ. Organizations
Strongly Believe (14%)	1.7	1.6	1.8	2.0	1.6	2.5
Moderately Believe (41%)	1.7	1.7	1.9	2.1	1.9	2.3
Slightly Believe (19%)	1.8	1.9	2.1	2.1	2.1	2.2
Don't Believe (8%)	1.9	2.1	2.2	2.2	2.3	2.2
	Ag Commodity Groups	Ag Trade Associations	Food Industry	News Reports	Social media	
Strongly Believe (14%)	1.8	1.9	2.3	2.8	3.4	
Moderately Believe (41%)	2.1	2.2	2.5	2.7	3.2	
Slightly Believe (19%)	2.3	2.3	2.8	2.8	3.3	
Don't Believe (8%)	2.9	2.9	3.3	2.9	3.5	

* 1=very likely to trust; 2=somewhat likely to trust; 3=not likely to trust; 4=not at all likely to trust

of trust in environmental organizations than those who strongly believe animals are being treated humanely (see Table 2). This finding highlights the importance of targeting the message and working with different messengers in outreach campaigns. For instance, an informational campaign trying to reach people who are concerned about animal care in agricultural operations should include collaboration with environmental and animal welfare organizations to ensure the message reaches the intended audiences.

Most Trusted Sources of Information on Food Quality, Nutrition, and Safety Issues

Starting in 2011, Coloradans were asked about sources of information they trust regarding food nutrition, quality, and safety issues. This question examines the other end of the supply chain, the food on their table. The only difference between the questions asked in 2011 and 2016 was the addition of two more sources of information: agricultural commodity groups and agricultural trade organizations.

Respondents reported that Universities and research organizations are still the most trusted (36%), followed by the Colorado Department of Agriculture (30%) and the USDA (26%), but farmers and ranchers dropped somewhat. Similar to the previous question about agricultural issues, respondents ranked the food industry, news reports and social media very low as trusted sources of information (see Figure 5).

Most Trusted Sources of Information about Food Nutrition, Quality, and Safety

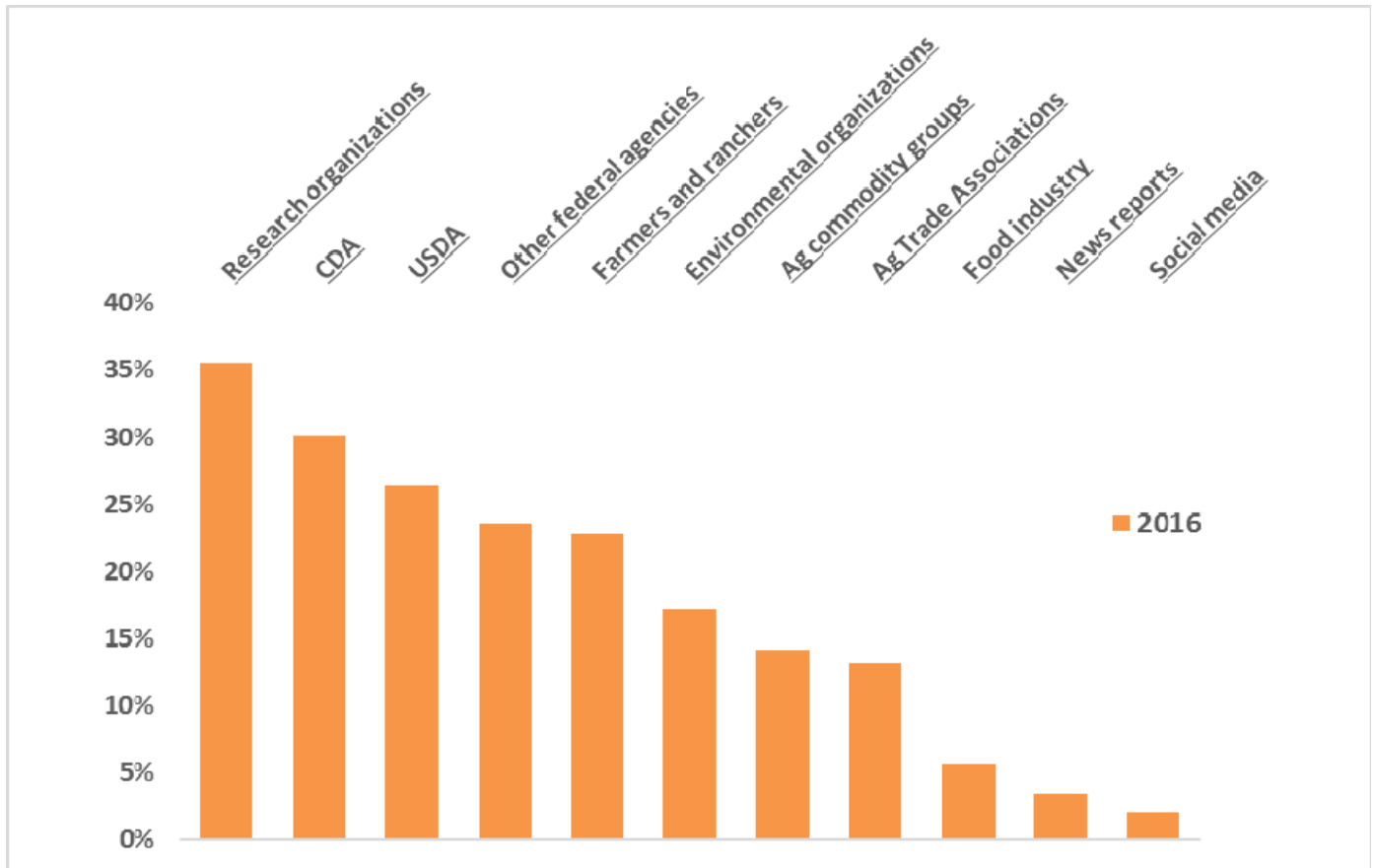


Figure 5

The question about trust in information about food quality, nutrition, and safety issues was asked only once before in 2011. Generally, the findings remained constant, although there was an increase in trust accorded to other federal agencies and environmental organizations, and a decrease in trust for farmers and ranchers. Table 3 compares the share of respondents from 2011 and 2016 who noted each of these sources as trusted.

Table 3 - Most Trusted Sources of Food Nutrition, Quality, and Safety Information, 2011 and 2016

	University and Research Organizations	CDA	USDA	Other Federal Agencies	Farmers and Ranchers	Environmental Organizations
2011	35%	32%	24%	15%	30%	10%
2016	36%	30%	26%	24%	23%	17%
	Ag Commodity Groups	Ag Trade Associations	Food Industry	News Reports	Social media	
2011	Not Asked	Not Asked	6%	6%	2%	
2016	14%	13%	6%	3%	2%	

We also compared responses regarding level of trust with Coloradans’ opinion of agricultural practices. This analysis shows a trend similar to the results in Table 2. This type of analysis is informative if you are trying to differentiate your outreach strategies to groups of people with wide-ranging beliefs on agricultural practices. The results from this analysis revealed similar trends to the trust in agricultural issue question (see Table 2). Coloradans were asked, “How necessary do you think it is to use fertilizers and pesticides in order to produce enough food for people?” Respondents indicated the following:

- 7% said it is almost always necessary;
- 27% said it is usually necessary;
- 43% said sometimes necessary;
- 17% said almost never necessary; and
- 6% said they didn’t know.

Looking at respondents' levels of trust for information on food nutrition, quality, and safety issues revealed the same trend as seen when trusted sources of agricultural information were analyzed. The trust scores for sources of information on food quality, nutrition, and safety issues remained greatest (i.e., lower scores) for those who believe that fertilizers and pesticides are necessary to feed people. Those who believe that fertilizers and pesticides are almost never necessary to feed people indicated lower levels of trust (i.e., higher scores). Once again, environmental organizations were the only source of information on food quality, nutrition, and safety issues where the opposite held true. For people who believe that fertilizers and pesticides are almost never necessary to feed people, their level of trust in environmental organizations to provide information on food quality, nutrition, and safety was greater than those who almost always believed that fertilizers and pesticides are necessary (see Table 4). This general trend was consistent for all questions centered on production practices. This finding highlights the need to think strategically about the range of possible entities that might be used to convey information, even on controversial agricultural issues. This might encompass environmental organizations as well as other groups whose audiences tend to have differing opinions on key agricultural issues. Indeed, there are many benefits to cooperation on educational initiatives, including developing a stronger consensus on agricultural issues across varied segments of the consumer population.

Table 4 - Respondents' Trust in Information Sources on Food Nutrition, Quality, and Safety Issues and their Beliefs on the Necessity of Fertilizers and Pesticides in order to Produce enough Food for People

	University & Research Organizations	CDA	USDA	Other Federal Agencies	Farmers & Ranchers	Environ. Organizations
Almost always Necessary (7%)	1.8	1.8	2.0	2.2	1.9	2.7
Usually Necessary (27%)	1.8	1.8	2.0	2.1	2.0	2.5
Sometimes Necessary (43%)	1.8	1.9	2.0	2.1	2.1	2.2
Almost never Necessary (17%)	2.0	2.1	2.3	2.5	2.1	2.1
	Ag Commodity Groups	Ag Trade Associations	Food Industry	News Reports	Social media	
Almost always Necessary (7%)	2.1	2.0	2.2	2.9	3.4	
Usually Necessary (27%)	2.2	2.2	2.5	2.8	3.4	
Sometimes Necessary (43%)	2.3	2.3	2.7	2.8	3.4	
Almost never Necessary (17%)	2.4	2.5	3.0	3.0	3.4	

* 1=very likely to trust; 2=somewhat likely to trust; 3=not likely to trust; 4=not at all likely to trust.

Comparing Trust in Information Sources about Agriculture and Food Issues

The ratings are quite similar when we compare the respondents' ratings about their trust in sources of information on agricultural issues, as well as their trust in information sources on food quality, nutrition, and safety issues. There was no more than two-tenths of a rating point difference between each information source across issues on agriculture and those on food quality, nutrition, and safety issues. For example, respondents reported they were somewhat likely to trust the USDA regarding information about agricultural issues, as well as food quality, nutrition, and safety issues. In comparison, respondents were not likely to trust social media sources of information for both agricultural and food issues. Levels of trust in sources of information on agricultural issues were slightly higher with every source when compared to trust in sources of information on food quality, nutrition, and safety (see Table 5).

Table 5 - Comparing Levels of Trust in Information Sources on Agriculture and Food Issues

	University and Research Organizations	CDA	USDA	Other Federal Agencies	Farmers and Ranchers	
Ag Issues	1.8	1.8	2.0	2.1	2.0	
Food Issues	1.9	2.0	2.1	2.2	2.1	
	Environmental Organizations	Ag Commodity Groups	Ag Trade Associations	Food Industry	News Reports	Social Media
Ag Issues	2.3	2.2	2.3	2.7	2.8	3.3
Food Issues	2.4	2.3	2.4	2.7	2.9	3.4

* 1=very likely to trust; 2=somewhat likely to trust; 3=not likely to trust; 4=not at all likely to trust

Overview

This factsheet summarizes some important results derived from a 2016 survey on Coloradans’ Attitudes about Agriculture and Food. Colorado consumers trust information from a variety of groups on both agriculture and food quality, nutrition, and safety issues. These groups include university and research organizations, the Colorado Department of Agriculture, the United States Department of Agriculture, and farmers and ranchers. When looking at Coloradans’ opinions on particular agricultural practices, their levels of trust about information they might receive generally decreased as their approval for certain agricultural practices decreased. The only exception was from people who did not approve of particular agricultural practices (such as the application of pesticides and fertilizers to food crops). 2016 survey results showed that these individuals placed more trust in information obtained from environmental organizations on both agricultural and food issues. This might indicate that environmental organizations are appealing to people with markedly different agricultural beliefs. This finding suggests that outreach and marketing specialists might want to collaborate with a variety of different groups (both more trusted and those found to less trusted) in order to maximize the effectiveness of their message, especially if the message centers on a potentially controversial agricultural topic. Trust in information from social media was lowest for both agricultural and food quality, nutrition, and safety issues. Finally, consumers did not indicate a significantly different level of trust between sources of information on agricultural issues and on food quality, nutrition, and safety issues.

Acknowledgements

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