Western Region Sustainable Agriculture Research and Education (WSARE) Professional Development Survey Report:

State by State Comparisons

Sherry Betts, Ph.D.*

Paige Jacobson

Dan McDonald, Ph.D.

Donna Peterson, Ph.D.

Lucinda Richmond, Ph.D.

James Roebuck, M.A.

*Authors are listed in alphabetical order; however all authors contributed equally

Prepared October 2004

Western Region Sustainable Agriculture Research and Education

The University of Arizona College of Agriculture & Life Sciences

Cooperative Extension

Table of Contents

Table of Contents continued...

Table of Contents continued...

Introduction

For almost ten years, the USDA's Western Region Sustainable Agriculture Research and Education Professional Development Program (WSARE PDP) has provided grants for agriculture professionals' training and education opportunities in sustainable agriculture principles, systems, and practices. WSARE PDP, in cooperation with a research team in the University of Arizona Cooperative Extension Service, conducted a region-wide survey of agricultural Extension educators to gain insight into their experiences and thoughts on the topic of sustainable agriculture. The Western Region Sustainable Agriculture Research and Education (WSARE) Professional Development Survey Report (available at http://msg.calsnet.arizona.edu/fcs/azyfc/WSARE/) provides a detailed description of the methodology and findings from this survey. While the initial report focused on the overall regional results from the survey, this report provides state-level results from the survey for all participating states. The survey results from both reports will help guide and shape the WSARE PDP state and competitive grants program in the future.

Method

Survey Description

The 84-item WSARE Survey included questions on educator knowledge, educator practice, and educator attitudes relative to sustainable agriculture, as well as demographic variables. The second page of the questionnaire packet contained a definition of sustainable agriculture so that participants were completing the questionnaire with a shared frame of reference.

Reliability and Validity

When examining the results of a survey, it is important to ask, "How accurate is the information that was obtained?" While there is no simple answer to this question, most researchers focus on the validity and reliability, or "quality," of the survey. The quality of the WSARE Survey of Extension Educators is reflected in the variability and consistency in the data that allowed us to find meaningful patterns both within and across states. An explanation of how we addressed certain threats to the validity and reliability of the WSARE Survey is provided in the WSARE Professional Development Survey Report (available at http://msg.calsnet.arizona.edu/fcs/azyfc/WSARE/).

Identification of Survey Participants

All agricultural Extension educators from the states of Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming were included as potential participants for this survey. A contact person in each state sent a list of potential participants and their addresses to the Arizona team. In Arizona, each potential respondent was then assigned a five-digit code number consisting of a two-digit state code plus a three-digit number beginning with 001 to maintain confidentiality and anonymity. The code and name lists were only used for follow-up reminders by one member of the Arizona team. From that point on, data entry and analyses were done by team members who had no access to names.

Survey Procedure

Dillman's (1978) Total Design Method was used for this project. A description of this method is provided in the WSARE Professional Development Survey Report (available at http://msg.calsnet.arizona.edu/fcs/azyfc/WSARE/).

The WSARE Survey was implemented from January through April 2004. Six hundred twenty-six (626) eligible participants were identified. Four hundred seventy-two (472) completed surveys were returned, resulting in an overall regional response rate of 75%. Table 1 shows the participating states and their corresponding response rates. Note that the total number of eligible participants as determined by each of the 13 states varied widely, from a low of 4 to a high of 179. Response rates from the participating states ranged from 64-100%.

Table 1. Participating States and State Response Rate (Q22)

State	Number of Eligible Participants	Number of Surveys Returned	Response Rate
Alaska	4	4	100%
Arizona	26	20	77%
California	179	114	64%
Colorado	65	55	85%
Hawaii	23	16	70%
Idaho	46	36	78%
Montana	44	38	86%
Nevada	18	15	83%
New Mexico	37	30	81%
Oregon	71	51	72%
Utah	29	27	93%
Washington	63	49	78%
Wyoming	21	17	81%
Total	***626***	***472***	***75%***

Data Entry

Arizona team members performed initial data entry using computer software that allowed a scanner to read filled-in bubbles directly from a survey. Once the surveys were scanned, they were converted to numbers to facilitate statistical analysis. To ensure reliability, 10% of the scanned surveys were manually checked for accuracy. Because no errors were found in these surveys, the remaining surveys were not checked.

Data Analyses

In this report, frequencies were utilized to gain insight into Extension educators' experiences and thoughts on the topic of sustainable agriculture. Frequencies provide an actual count and a percentage of individuals choosing each response category for a specific question. Please note that percentages reported have been adjusted for missing data. Also, due to rounding, percentages may not sum to 100%.

Structure of the Report

First, we explore the level of expertise in various areas of sustainable agricultural practices, systems, and policies. Second, we examine the sources and perceived usefulness of information related to sustainable agriculture. We then report results pertaining to the type of sustainable agriculture information that would be helpful to participants. Next, we present results on sustainable agriculture educational programs conducted by participants. After examining the results on programming, we present results on participants' responses to questions pertaining to participating and cooperating in WSARE activities. The final section deals with the topic of general sustainable agriculture, how it is practiced today along with interest in learning and educating others about sustainable agriculture.

Because results are best interpreted by those familiar with the context of a particular state under consideration, conclusions from this report are left to the reader. Additionally, when reading the results presented in this report, please keep in mind that the number of participants within each of the 13 states varied widely, from a low of 4 to a high of 114 (refer to Table 1).

Level of Expertise in Various Areas of Sustainable Agriculture

Participants were asked to rate their level of expertise in a number of areas pertaining to sustainable agriculture. Knowledge in three broad areas was assessed: sustainable agricultural practices, sustainable agricultural systems, and sustainable agricultural policy. Participants who indicated that a topic was not related to their position were excluded from analyses.

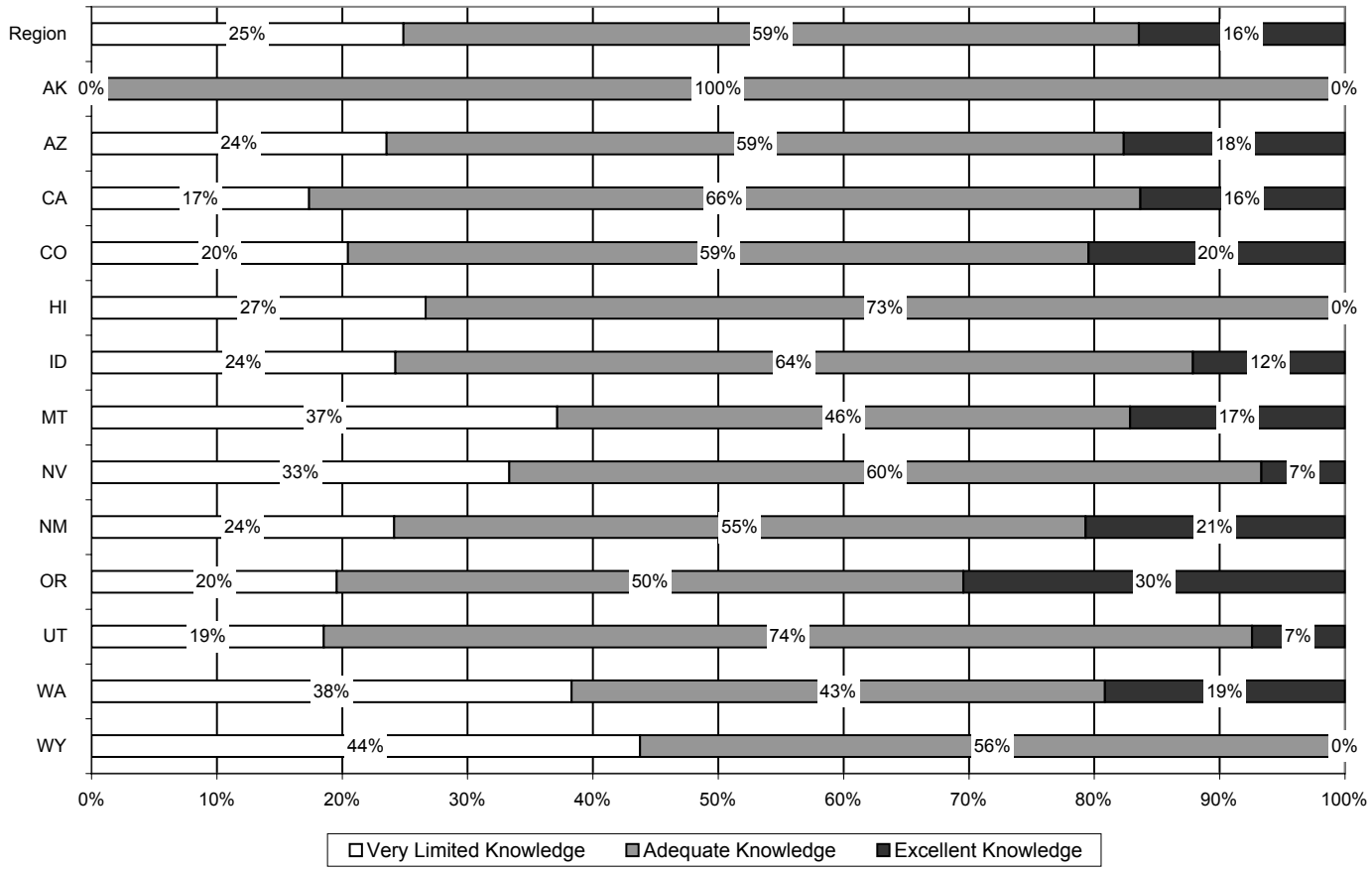
Sustainable Agricultural Practices

Question 1 of the survey asked participants, "What is your knowledge level of Sustainable Agricultural Practices?" Eight specific practices were listed with response options of *excellent, adequate, very limited,* or *not applicable to my position*.

What is your knowledge level of soil building crop rotations including cover crops (Q1a)?

As shown in Figure 1, 59% of all participants across the western region reported adequate knowledge of soil building crop rotations including cover crops. In eleven states, at least 50% of participants reported having adequate knowledge of crop rotations. However, in four states (Montana, Nevada, Washington, Wyoming) more than one-third (33%) indicated having very limited knowledge in this area.

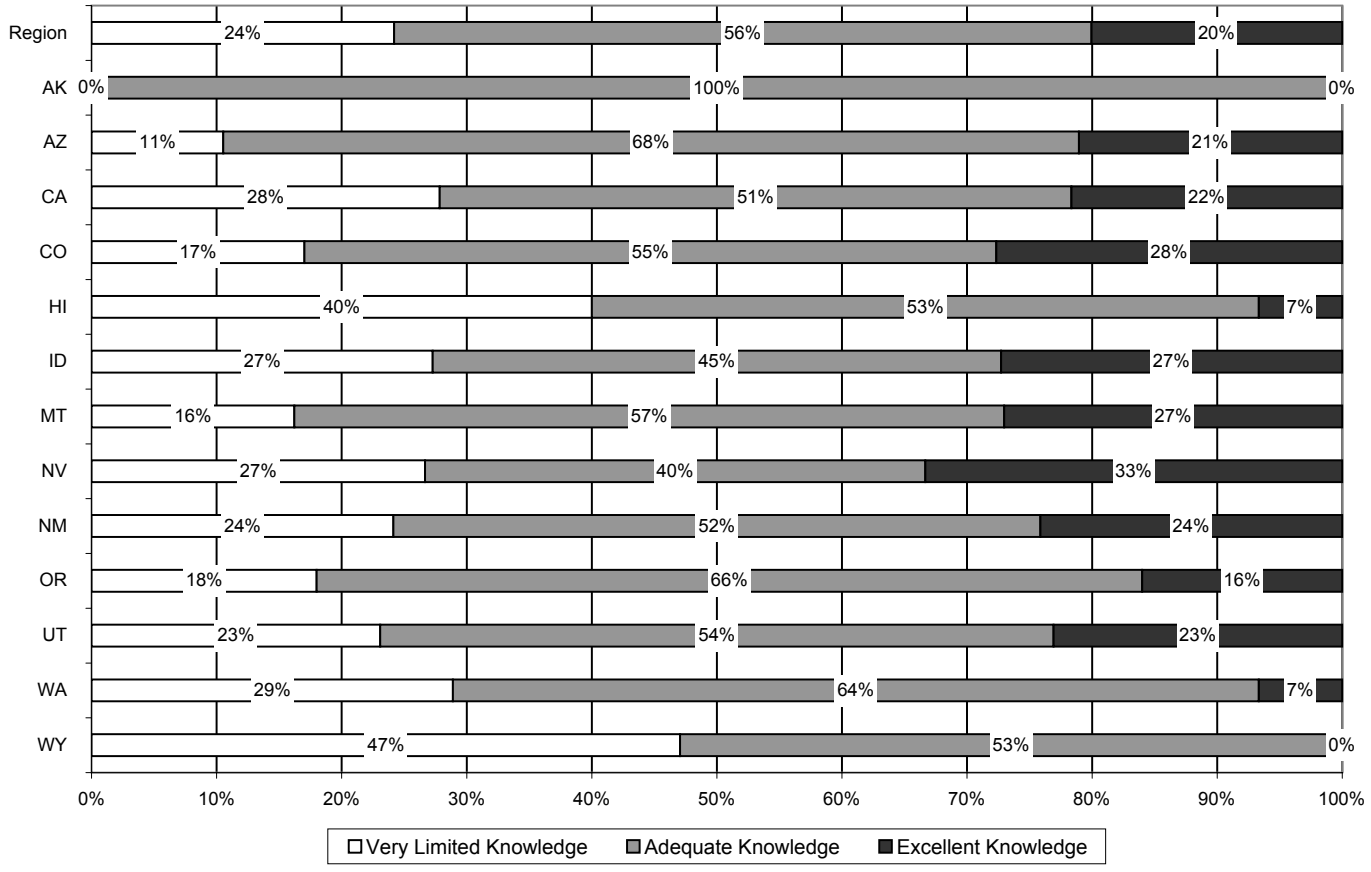
Figure 1. What is your knowledge level of soil building crop rotations including cover crops (Q1a)?



What is your knowledge level of ecologically-based weed management strategies (Q1b)?

Figure 2 shows that 56% of participants across the western region reported adequate knowledge of ecologically-based weed management strategies. At least half the participants (50%) in eleven states reported adequate knowledge. However, in Hawaii and Idaho, 40% and 47% of participants, respectively, reported very limited knowledge of such strategies.

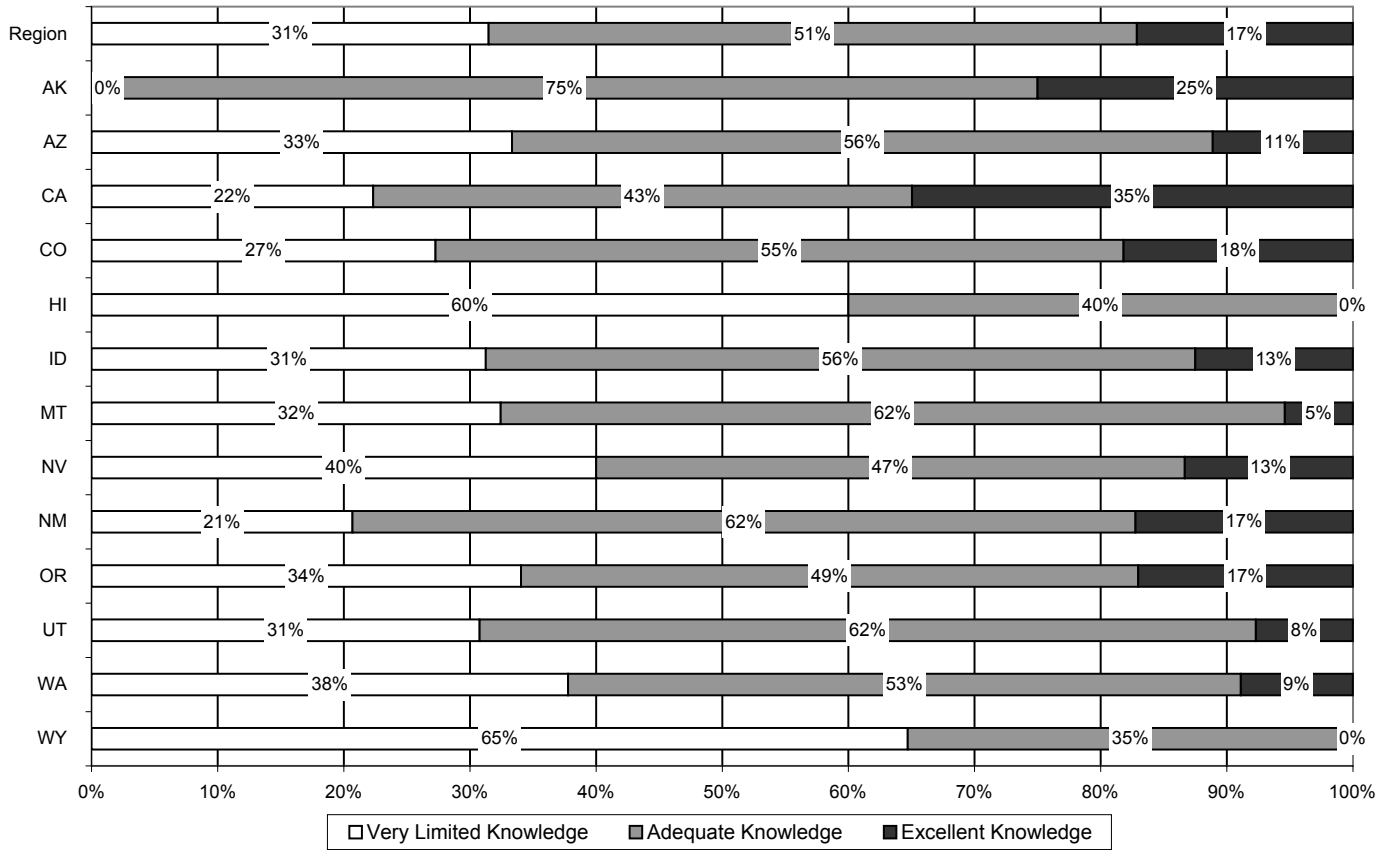
Figure 2. What is your knowledge level of ecologically-based weed management strategies (Q1b)?



What is your knowledge level of ecologically-based insect and disease management strategies (Q1c)?

As shown in Figure 3, 51% of participants across the western region reported adequate knowledge of ecologically-based insect and disease management strategies. In eight states, at least half the participants (50%) reported having adequate knowledge. However, in Hawaii and Wyoming, at least 60% reported having very limited knowledge. On the other hand, 35% of participants in California and 25% in Alaska reported excellent knowledge of insect and disease management strategies.

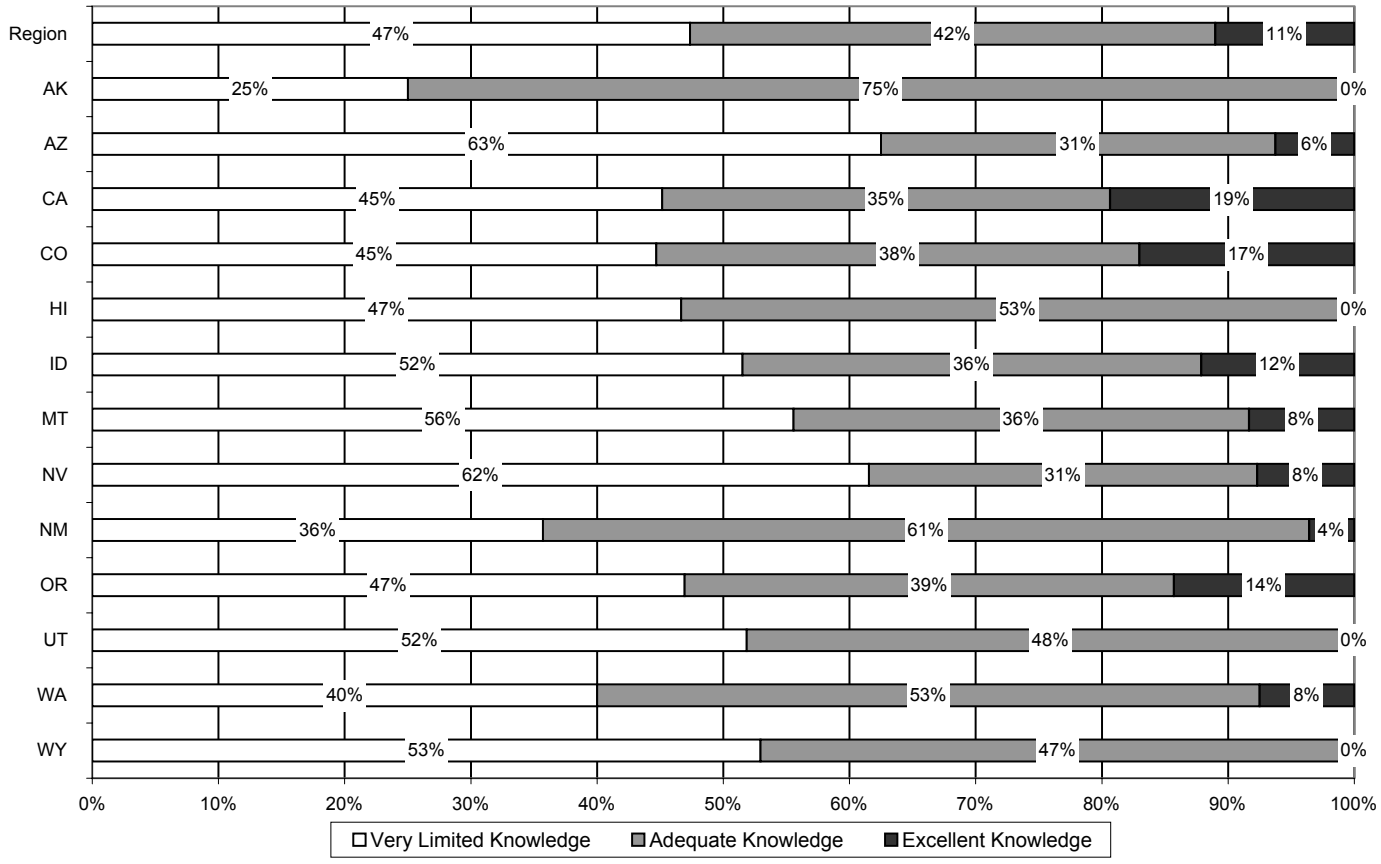
Figure 3. What is your knowledge level of ecologically-based insect and disease management strategies (Q1c)?



What is your knowledge level of alternative marketing approaches (e.g., direct marketing, eco-labeling) (Q1d)?

As shown in Figure 4, 47% of participants across the western region reported having very limited knowledge of alternative marketing approaches, such as direct marketing or eco-labeling; while 42% reported adequate knowledge. However, two states (California, Colorado) had 19% and 17% of participants, respectively, report excellent knowledge of alternative marketing approaches.

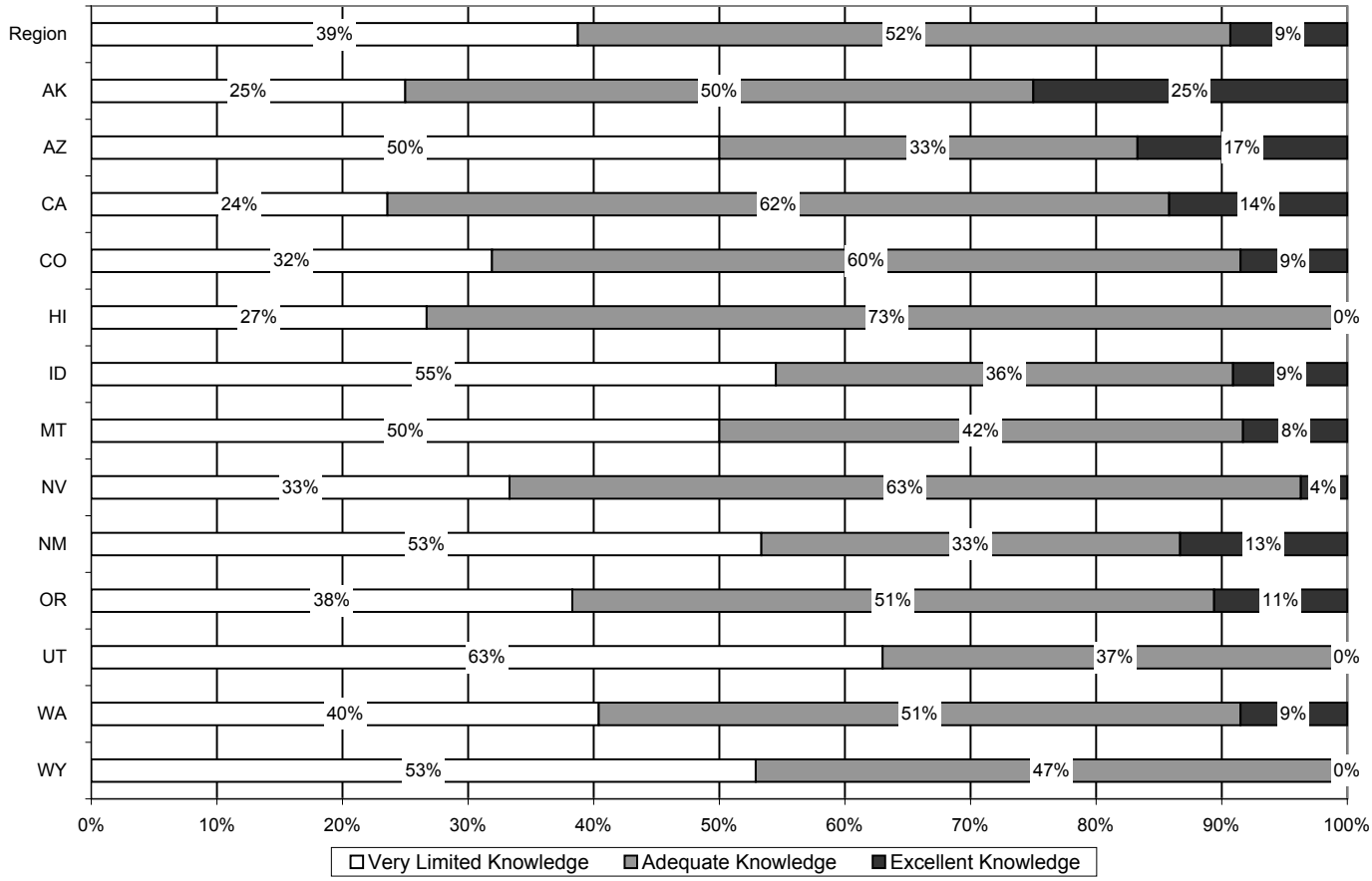
Figure 4. What is your knowledge level of alternative marketing approaches (e.g., direct marketing, eco-labeling) (Q1d)?



What is your knowledge level of organic agriculture (Q1e)?

As shown in Figure 5, 52% of participants across the western region reported having adequate knowledge of organic agriculture. Six of the thirteen states had 50% or more of participants report very limited knowledge in this area. However, eight states did have at least 9% of participants indicate possessing excellent knowledge.

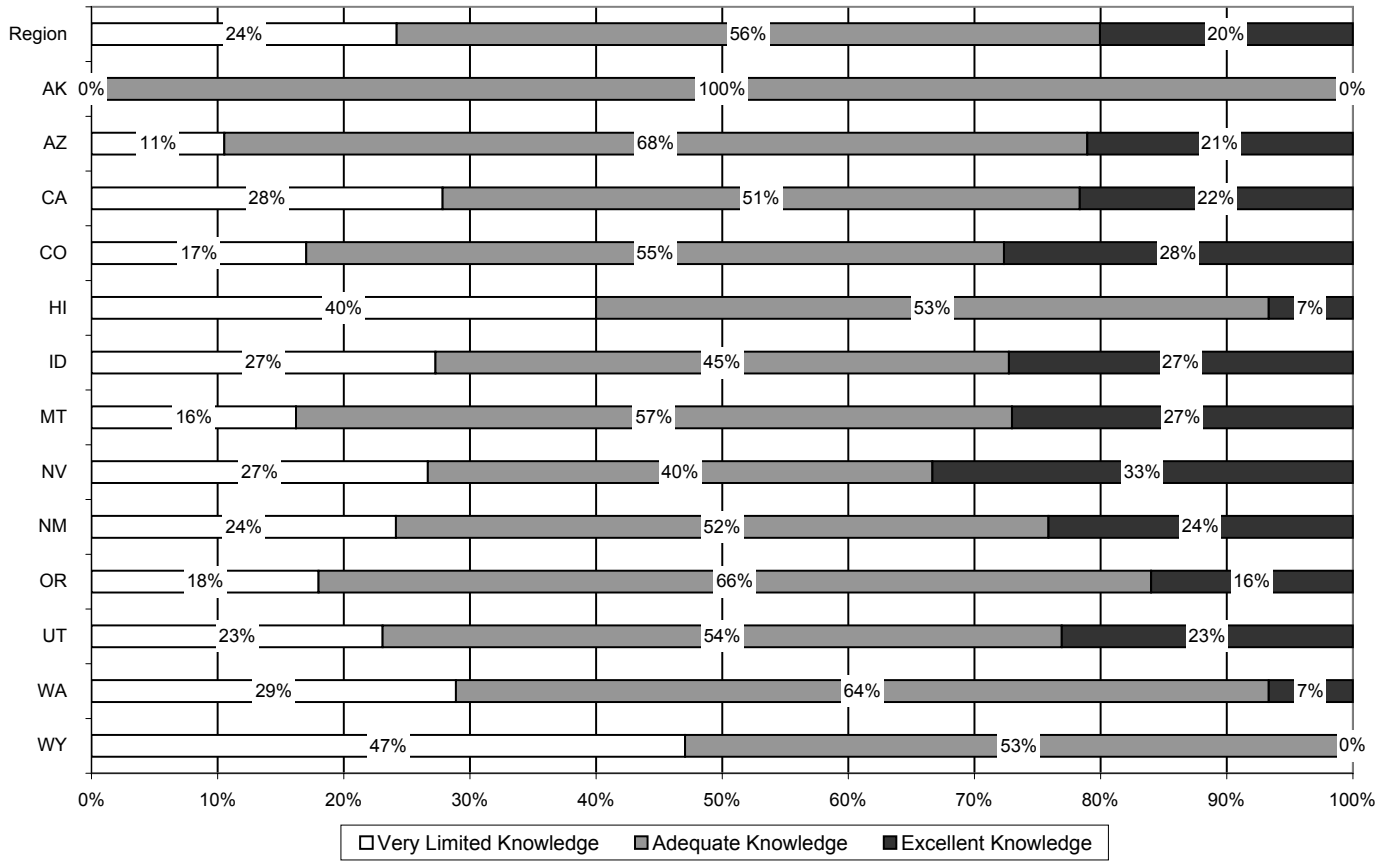
Figure 5. What is your knowledge level of organic agriculture (Q1e)?



What is your knowledge level of management of intensive grazing systems (Q1f)?

As shown in Figure 6, 56% of participants across the western region reported adequate knowledge of managing intensive grazing systems. In eleven states, at least half the participants (50%) reported having adequate knowledge. However, in Hawaii and Wyoming, at least 40% of participants reported having very limited knowledge. In eight states, at least 20% of participants reported excellent knowledge of managing intensive grazing systems.

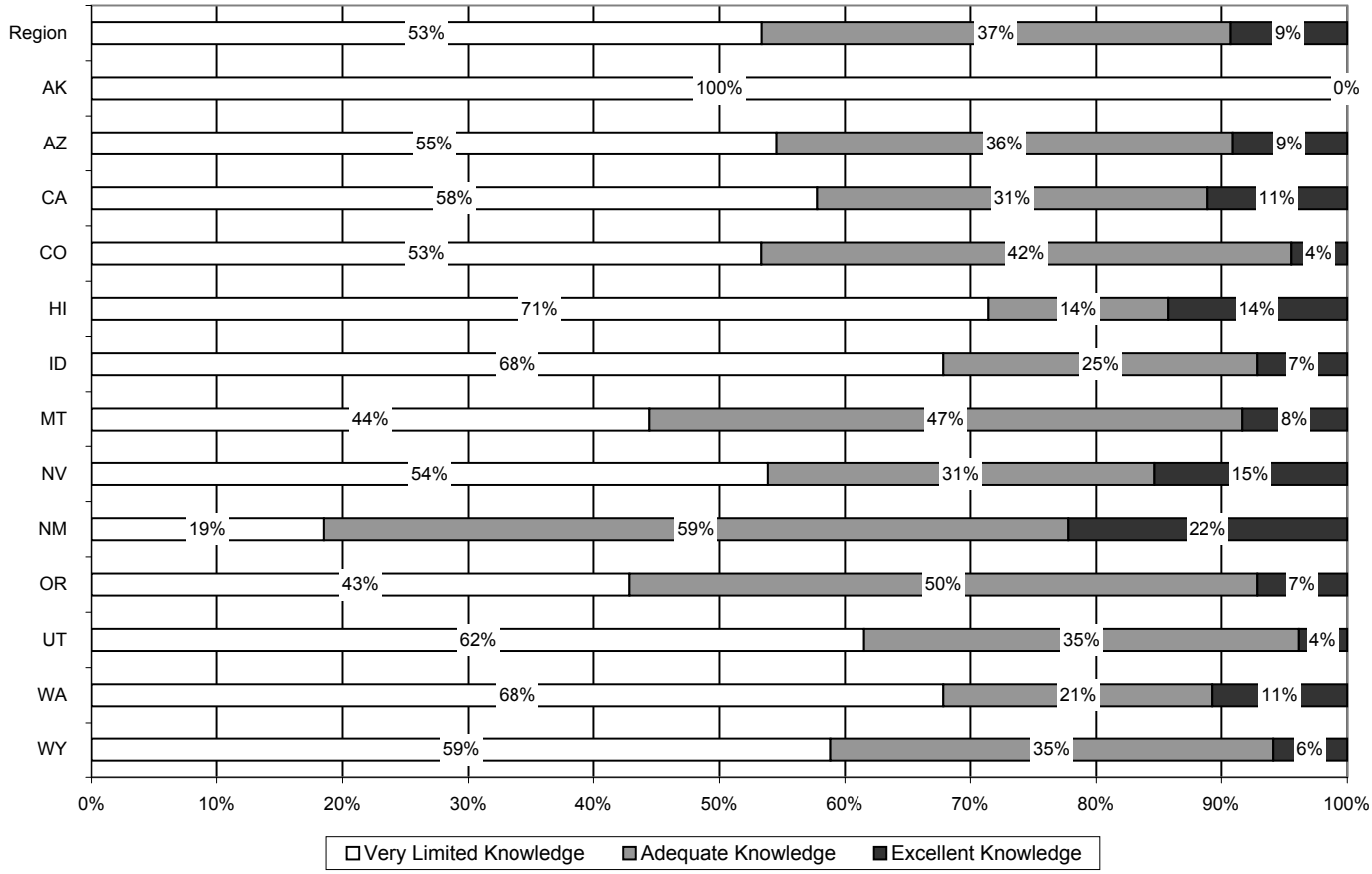
Figure 6. What is your knowledge level of management of intensive grazing systems (Q1f)?



What is your knowledge level of alternative methods for maintaining livestock health (Q1g)?

As shown in Figure 7, 53% of participants across the western region reported very limited knowledge of alternative methods for maintaining livestock health, while 37% reported adequate knowledge. In seven states, at least one-third (33%) of participants reported adequate knowledge. However, eight of the thirteen states had fewer than 10% of participants indicating excellent knowledge in this area.

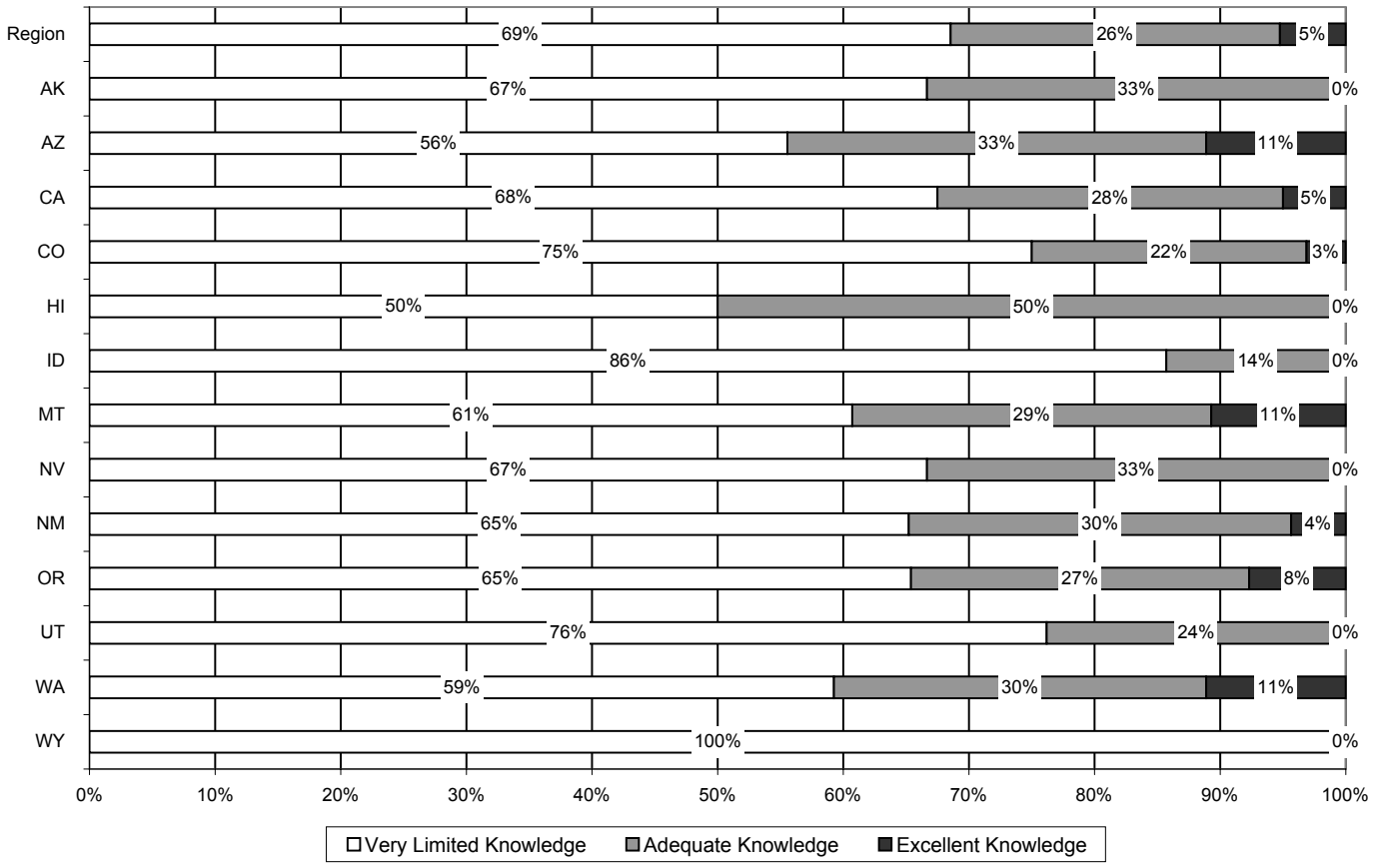
Figure 7. What is your knowledge level of alternative methods for maintaining livestock health (Q1g)?



What is your knowledge level of agro forestry (Q1h)?

As shown in Figure 8, 69% of participants across the western region reported very limited knowledge of agro forestry. In four states (Colorado, Idaho, Utah, Wyoming), at least 75% reported very limited knowledge. However, in Hawaii, 50% of participants reported having adequate knowledge. In six states, no participants reported having excellent knowledge of agro forestry.

Figure 8. What is your knowledge level of agro forestry (Q1h)?



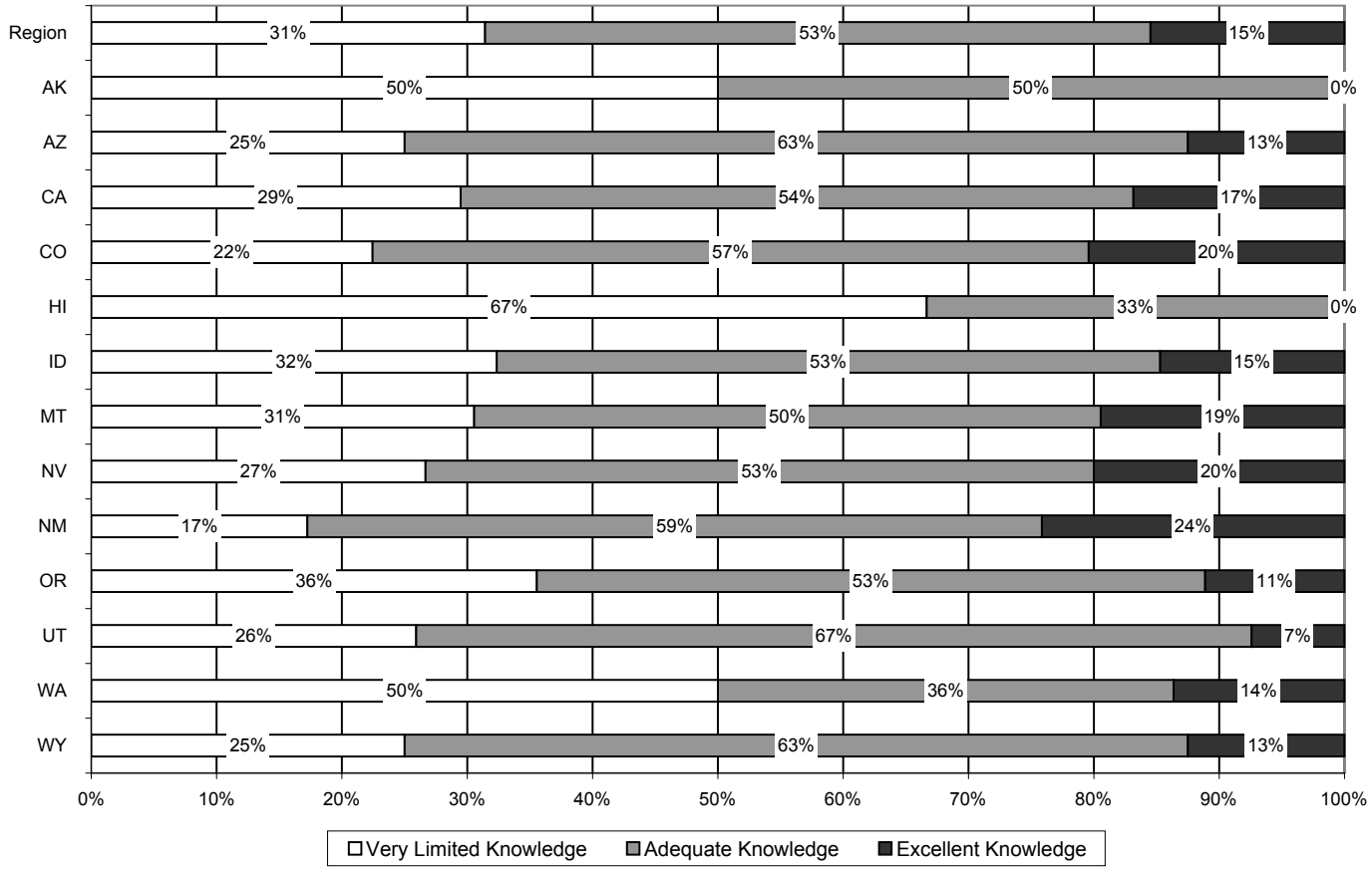
Sustainable Agricultural Systems

Question 2 of the survey asked participants, "What is your knowledge level of Sustainable Agricultural Systems?" Six specific systems were listed with response options of *excellent, adequate, very limited,* or *not applicable to my position.*

What is your knowledge level of whole farm or ranch planning approaches (Q2a)?

As shown in Figure 9, 53% of participants across the western region reported having adequate knowledge of whole farm or ranch planning approaches. In three states (Alaska, Hawaii, Washington), at least 50% reported very limited knowledge. At least 20% of participants reported having excellent knowledge of whole farm or ranch planning approaches in three of the thirteen states (Colorado, Nevada, New Mexico).

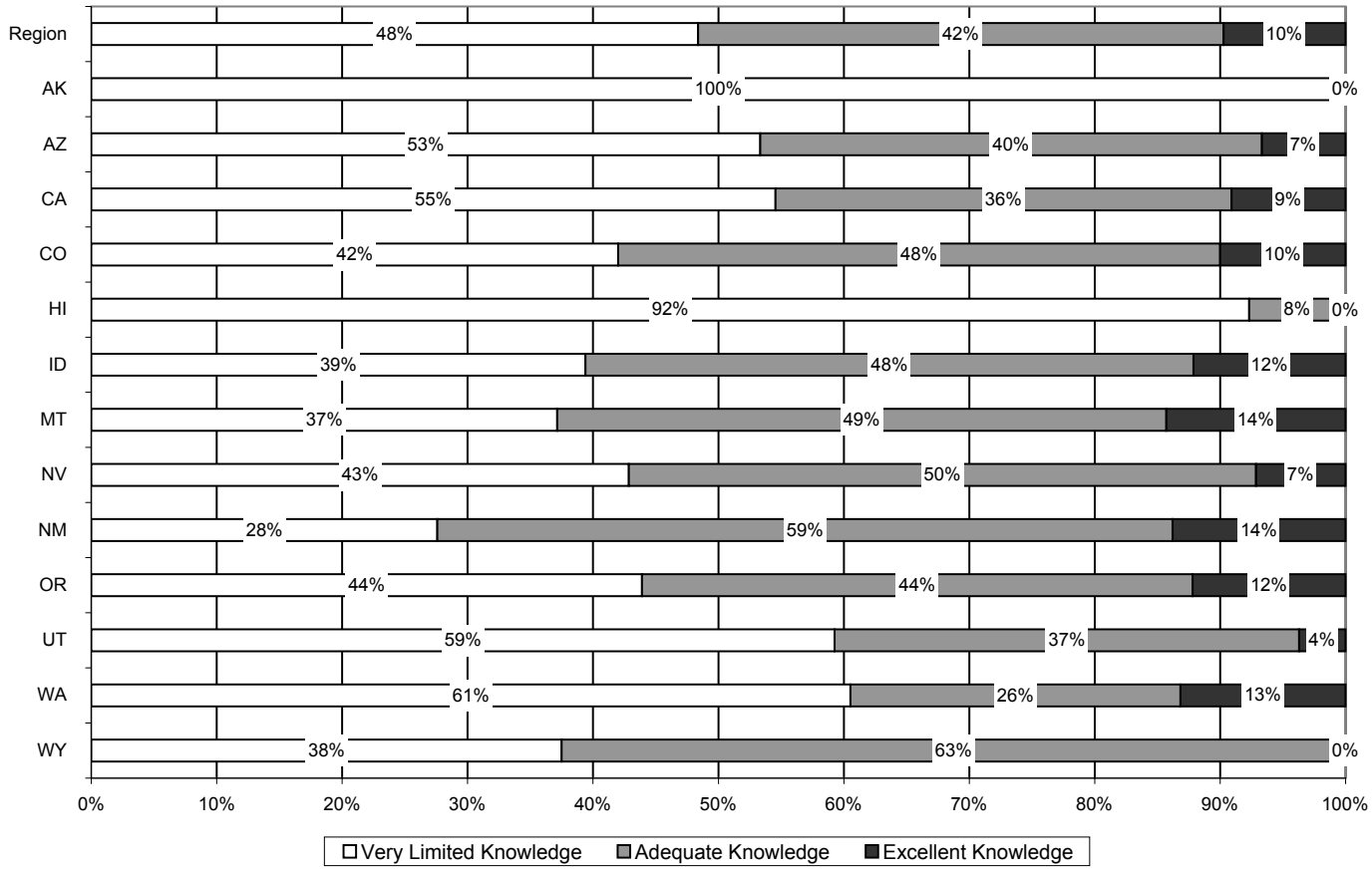
Figure 9. What is your knowledge level of whole farm or ranch planning approaches (Q2a)?



What is your knowledge level of farm business planning for sustainable agriculture (Q2b)?

Figure 10 shows that 48% of participants across the western region reported very limited knowledge of farm business planning for sustainable agriculture. In six states, at least half the participants (50%) reported very limited knowledge. However, in three states (Nevada, New Mexico, Wyoming), at least half reported adequate knowledge. Additionally, fewer than 5% of participants in four states (Alaska, Hawaii, Utah, Wyoming) reported excellent knowledge of farm business planning for sustainable agriculture.

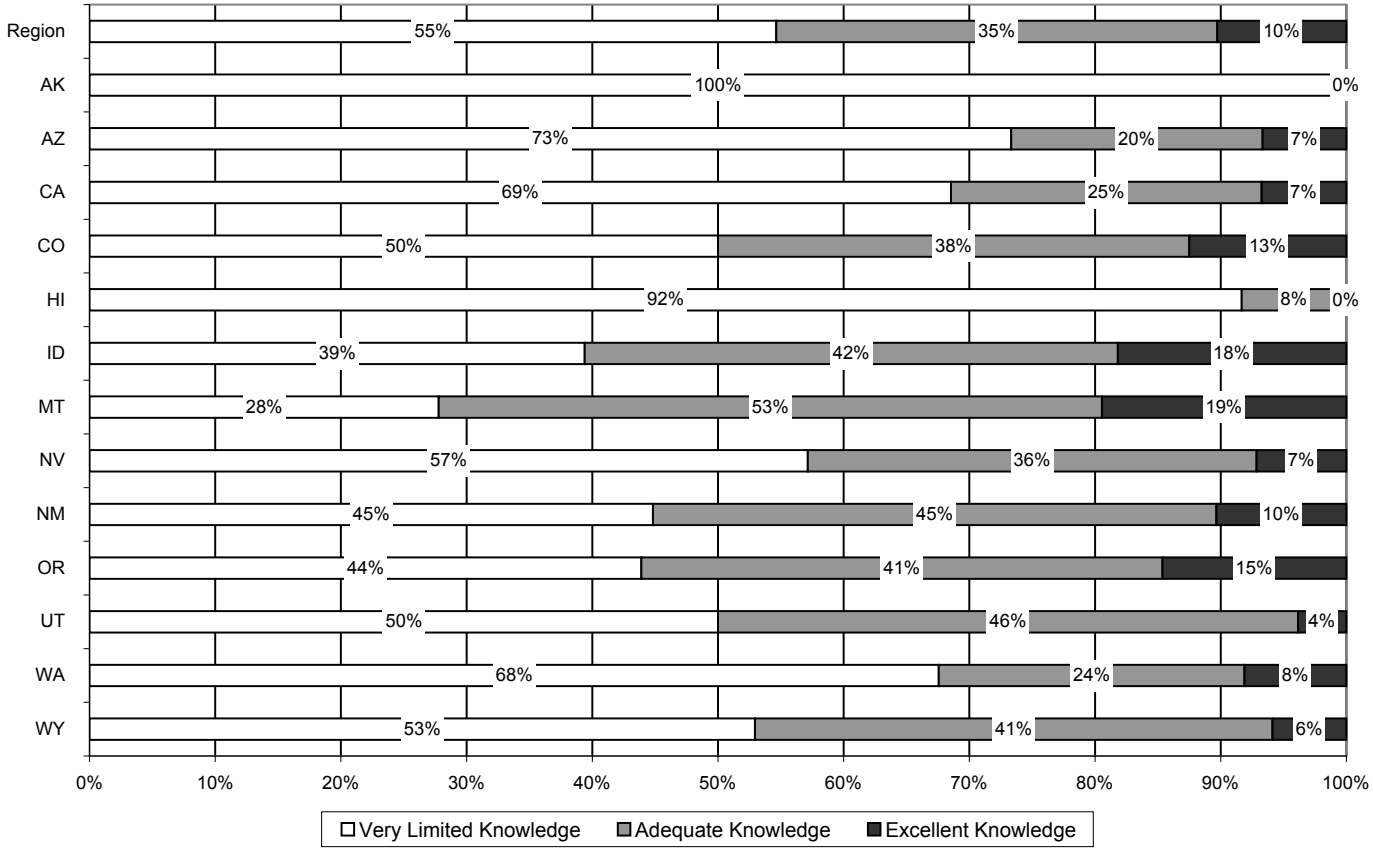
Figure 10. What is your knowledge level of farm business planning for sustainable agriculture (Q2b)?



What is your knowledge level of impact analysis of adding new farm or ranch enterprises (Q2c)?

As shown in Figure 11, 55% of participants across the western region reported very limited knowledge of impact analysis of adding new farm or ranch enterprises. At least half the participants (50%) in nine states reported very limited knowledge. However, in Montana, 53% reported adequate knowledge. In three states (Idaho, Montana, Oregon), at least 15% of participants reported excellent knowledge of impact analysis of adding new farm or ranch enterprises.

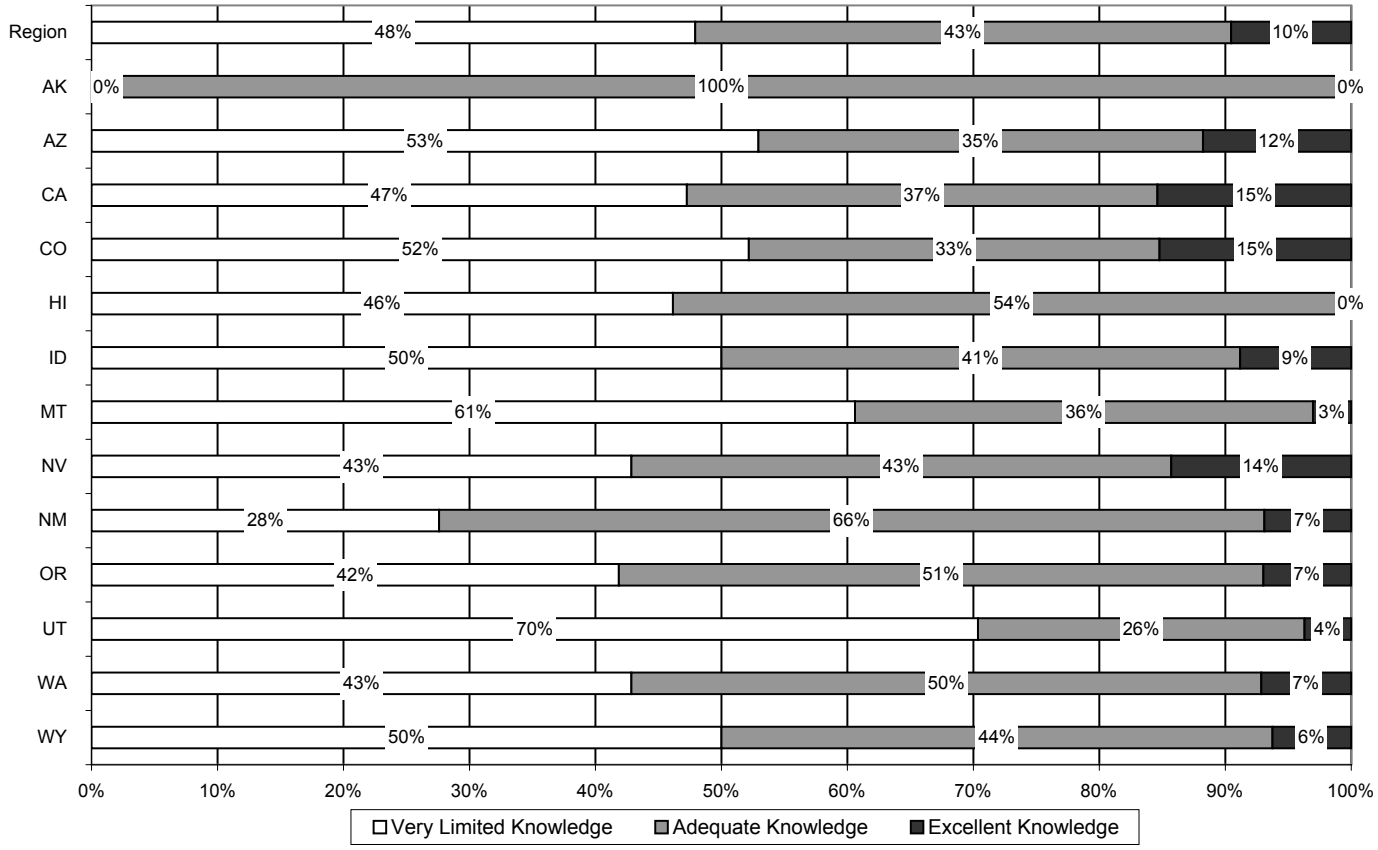
Figure 11. What is your knowledge level of impact analysis of adding new farm or ranch enterprises (Q2c)?



What is your knowledge level of community-based food systems (e.g., local markets for local production) (Q2d)?

As shown in Figure 12, 48% of participants across the western region reported very limited knowledge of community-based food systems, while 43% reported adequate knowledge. In six states, at least half the participants (50%) reported very limited knowledge. In five states, at least half (50%) reported adequate knowledge. In two other states (Alaska, Hawaii), no participants reported excellent knowledge of community-based food systems.

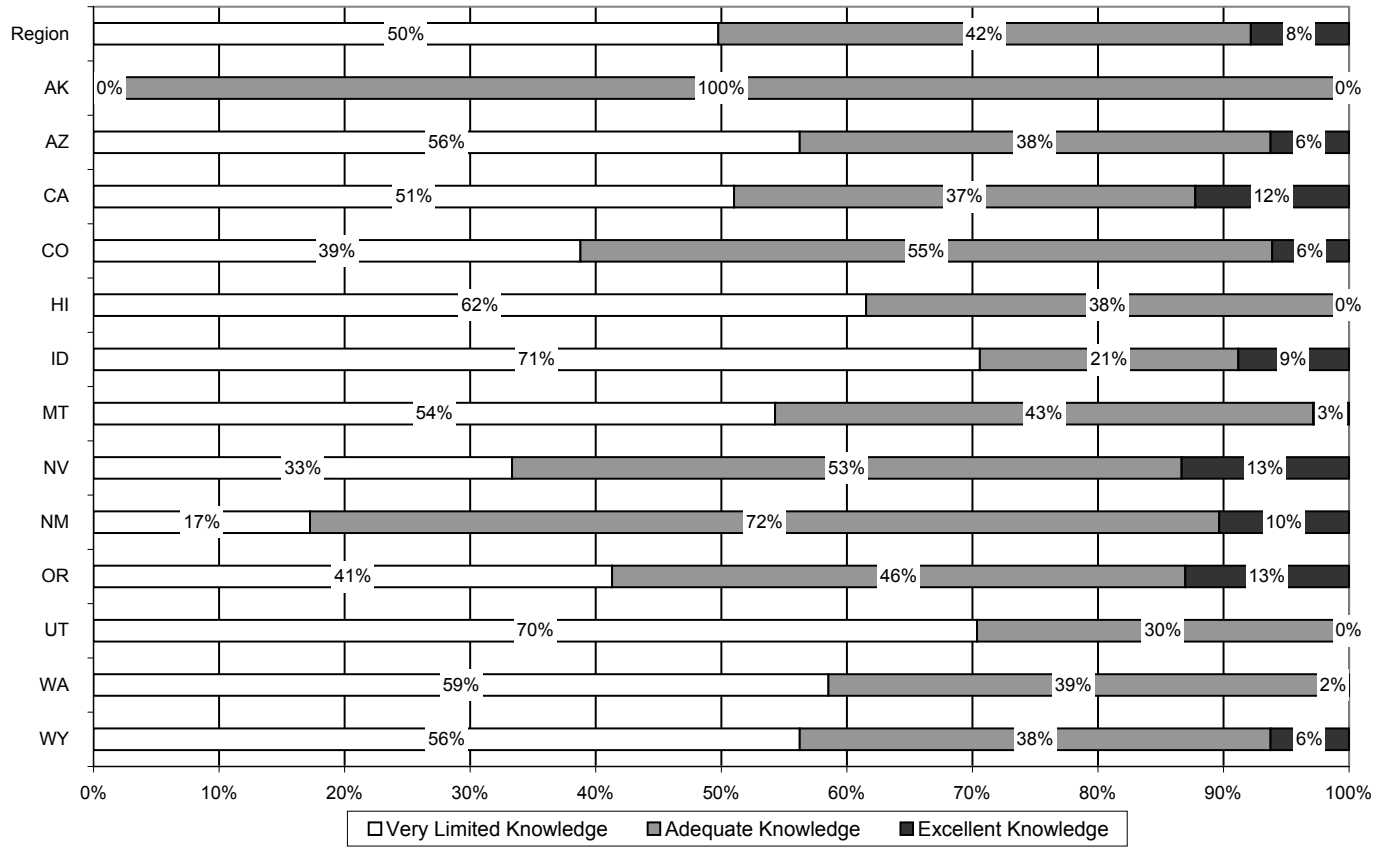
Figure 12. What is your knowledge level of community-based food systems (e.g., local markets for local production) (Q2d)?



What is your knowledge level of establishing farmer-to-farmer information networks (Q2e)?

As shown in Figure 13, 50% of participants across the western region reported very limited knowledge of establishing farmer-to-farmer information networks, while 42% reported adequate knowledge. In New Mexico, 72% of participants reported adequate knowledge. In four states (California, Nevada, New Mexico, Oregon), at least 10% reported excellent knowledge of establishing farmer-to-farmer information networks.

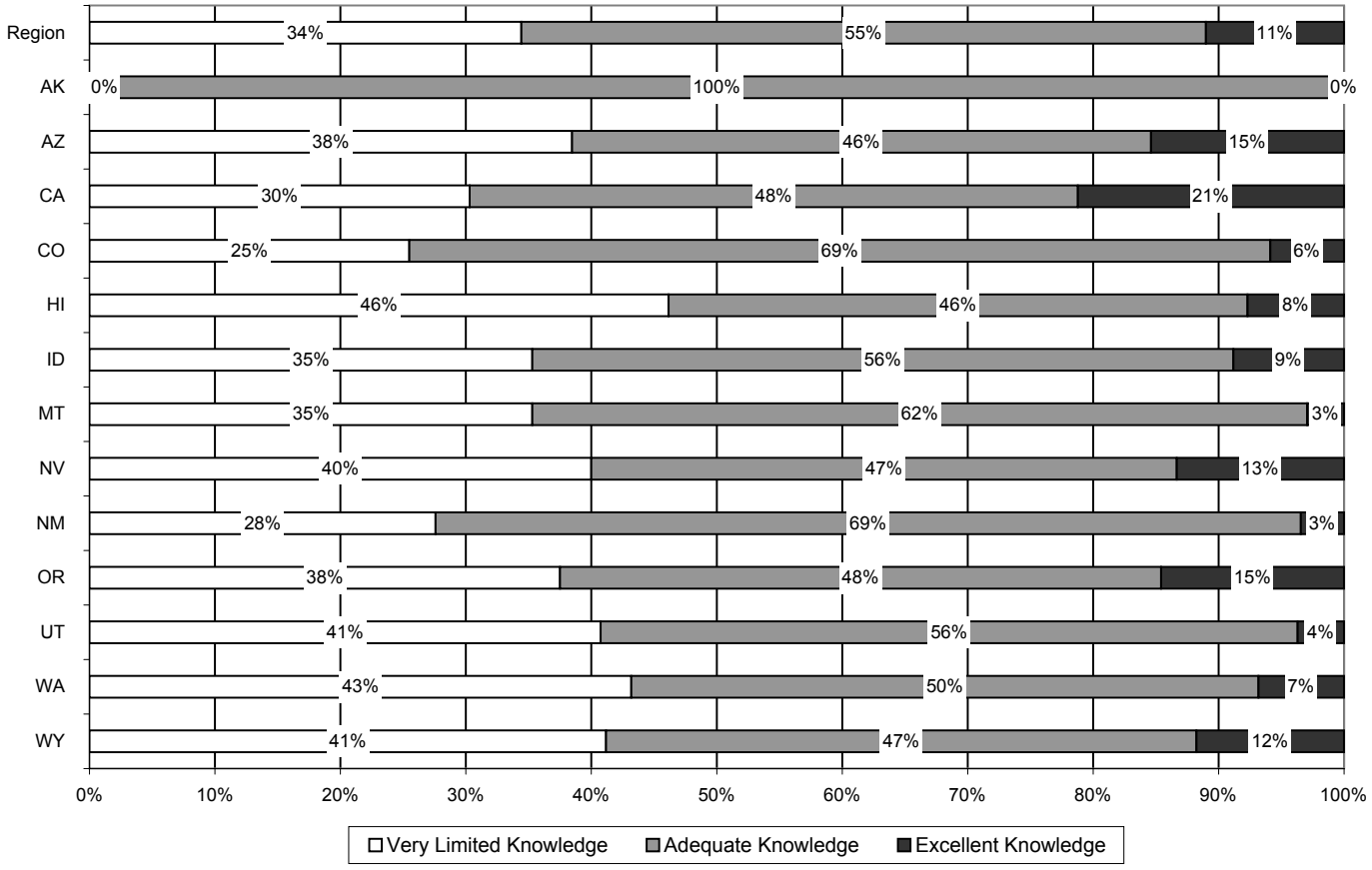
Figure 13. What is your knowledge level of establishing farmer-to-farmer information networks (Q2e)?



What is your knowledge level of integrated farming systems (Q2f)?

As shown in Figure 14, 55% of participants across the western region reported adequate knowledge of integrated farming systems. In seven states, at least half the participants (50%) reported adequate knowledge, while in five states, at least 40% reported very limited knowledge. In California, 21% reported excellent knowledge of integrated farming systems.

Figure 14. What is your knowledge level of integrated farming systems (Q2f)?



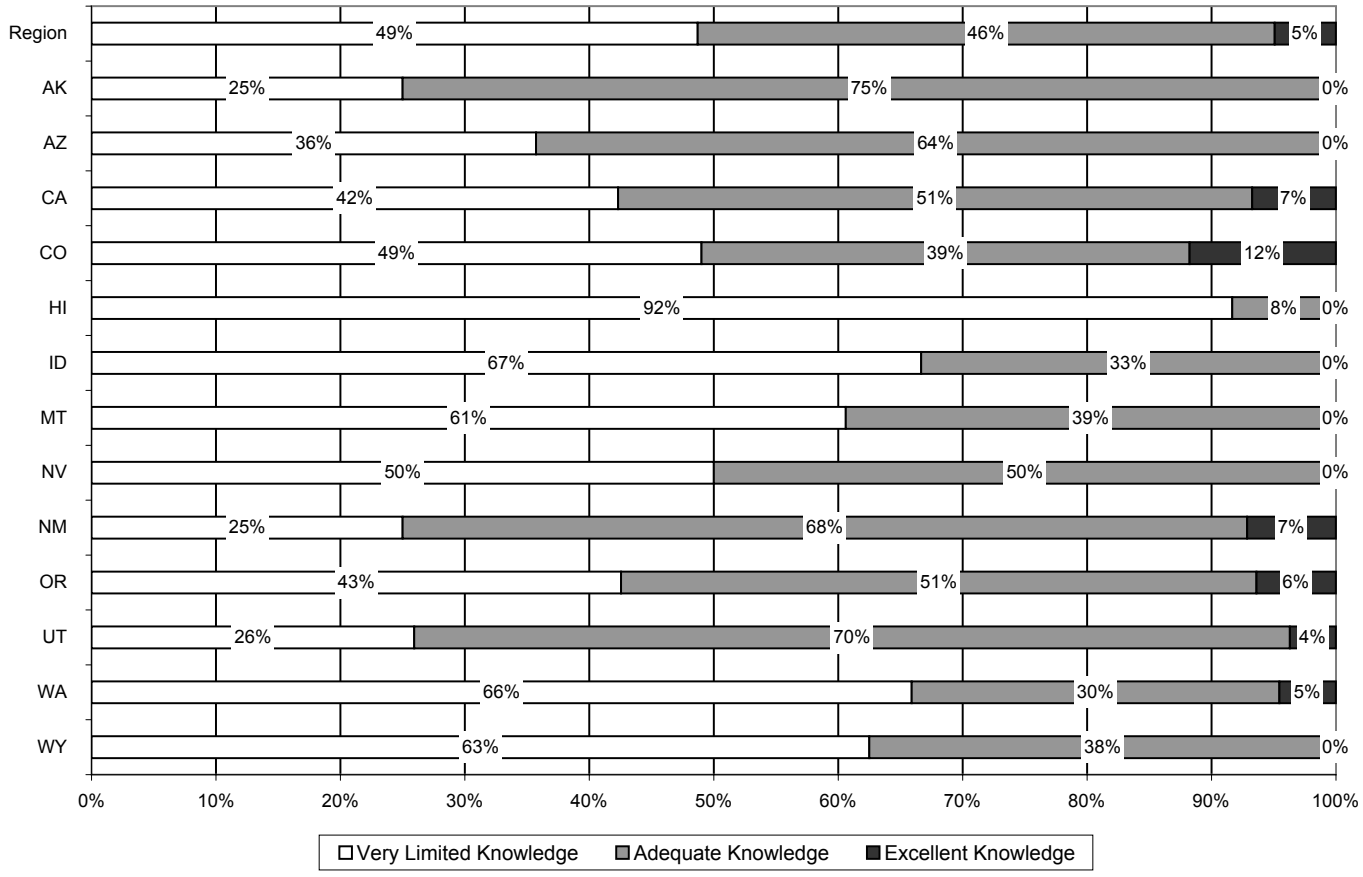
Sustainable Agricultural Policy

Question 3 of the survey asked participants, "What is your knowledge level of Sustainable Agricultural Policy?" Three specific policies were listed with response options of *excellent, adequate, very limited,* or *not applicable to my position.*

What is your knowledge level of farmland protection (Q3a)?

As shown in Figure 15, 49% of participants across the western region reported very limited knowledge of farmland protection, while 46% reported adequate knowledge. Within these two response categories, states varied widely. For example, from 25% to 92% of participants reported very limited knowledge, while from 8% to 75% reported adequate knowledge. However, with the exception of Colorado, less than 10% of participants reported excellent knowledge. In fact, in seven states, none of the participants reported excellent knowledge.

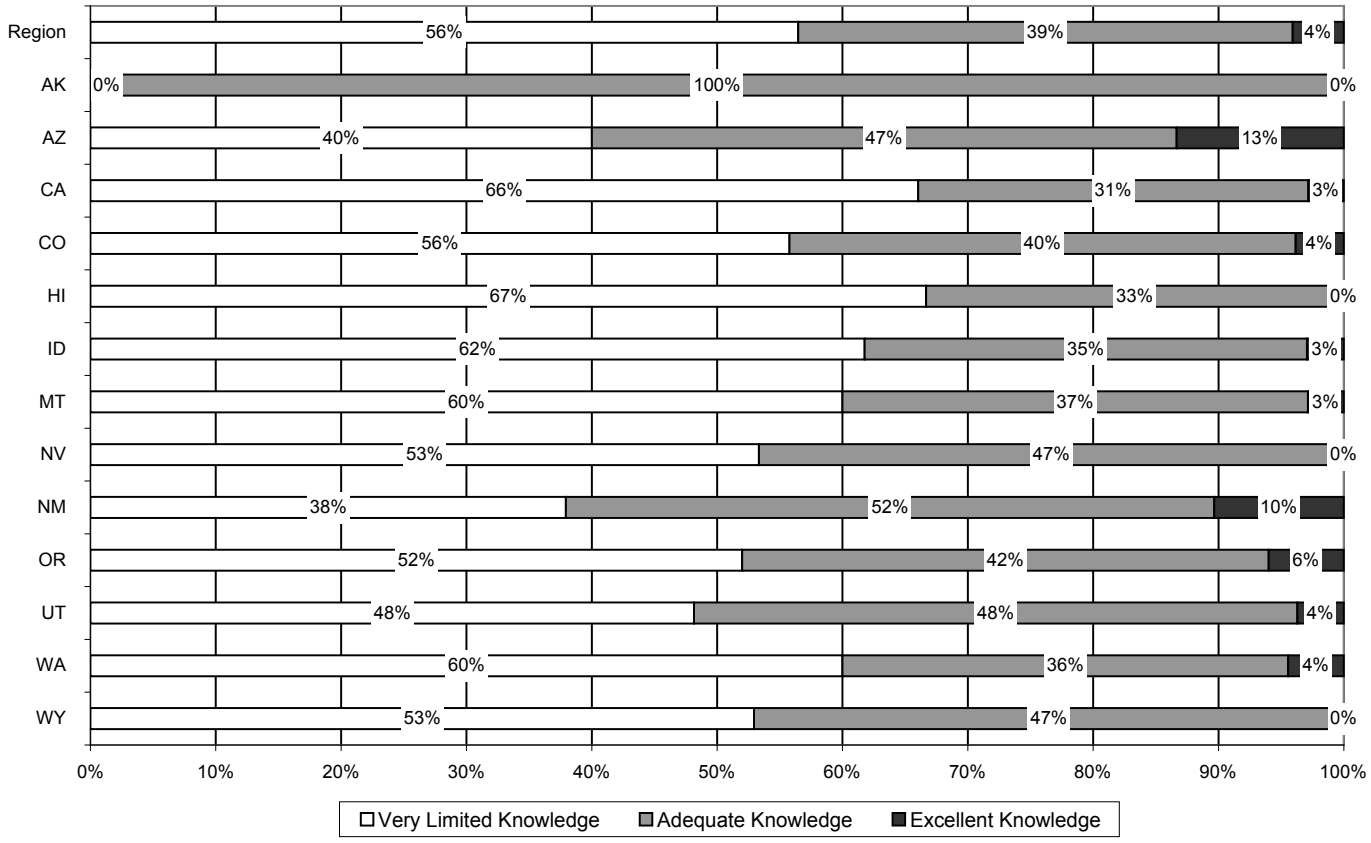
Figure 15. What is your knowledge level of farmland protection (Q3a)?



What is your knowledge level of federal programs to support sustainable agriculture (Q3b)?

As shown in Figure 16, 56% of participants across the western region reported very limited knowledge of federal programs to support sustainable agriculture. In Alaska and New Mexico, over half the participants (50%) reported adequate knowledge, while in the other states, this percentage ranged from 31% to 48%. In ten states, fewer than 5% of participants reported excellent knowledge of federal programs to support sustainable agriculture; in fact, in four of those states, none of the participants reported excellent knowledge.

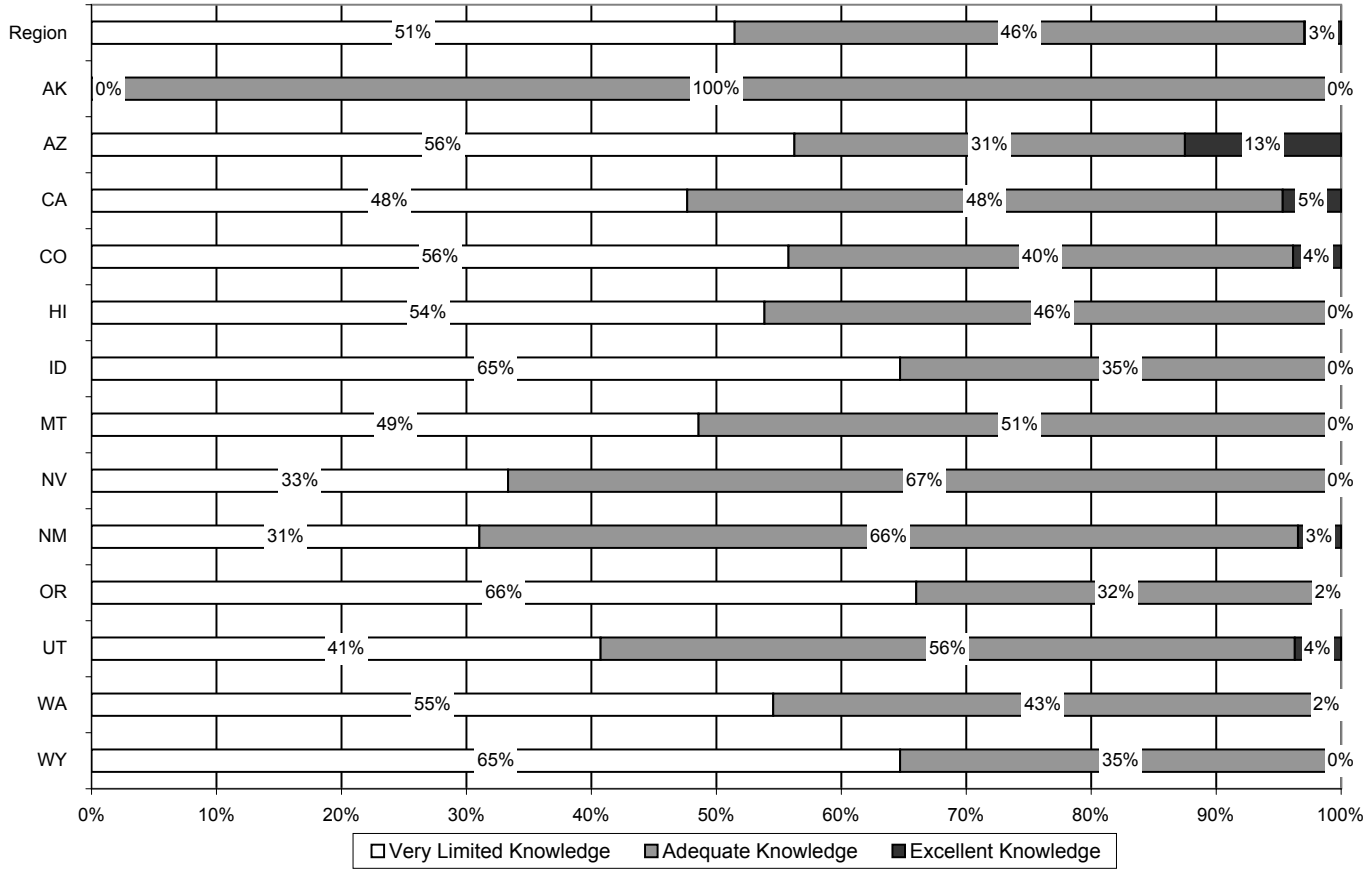
Figure 16. What is your knowledge level of federal programs to support sustainable agriculture (Q3b)?



What is your knowledge level of state programs to support sustainable agriculture (Q3c)?

As shown in Figure 17, 51% of participants across the western region reported very limited knowledge of state programs to support sustainable agriculture and 46% reported adequate knowledge. In five states, at least half the participants (50%) reported adequate knowledge, while at least half in seven states reported very limited knowledge. However, in all states but Arizona, 5% or fewer participants reported excellent knowledge. In fact, in six states, none of the participants reported excellent knowledge.

Figure 17. What is your knowledge level of state programs to support sustainable agriculture (Q3c)?



Sources of Information on Sustainable Agriculture

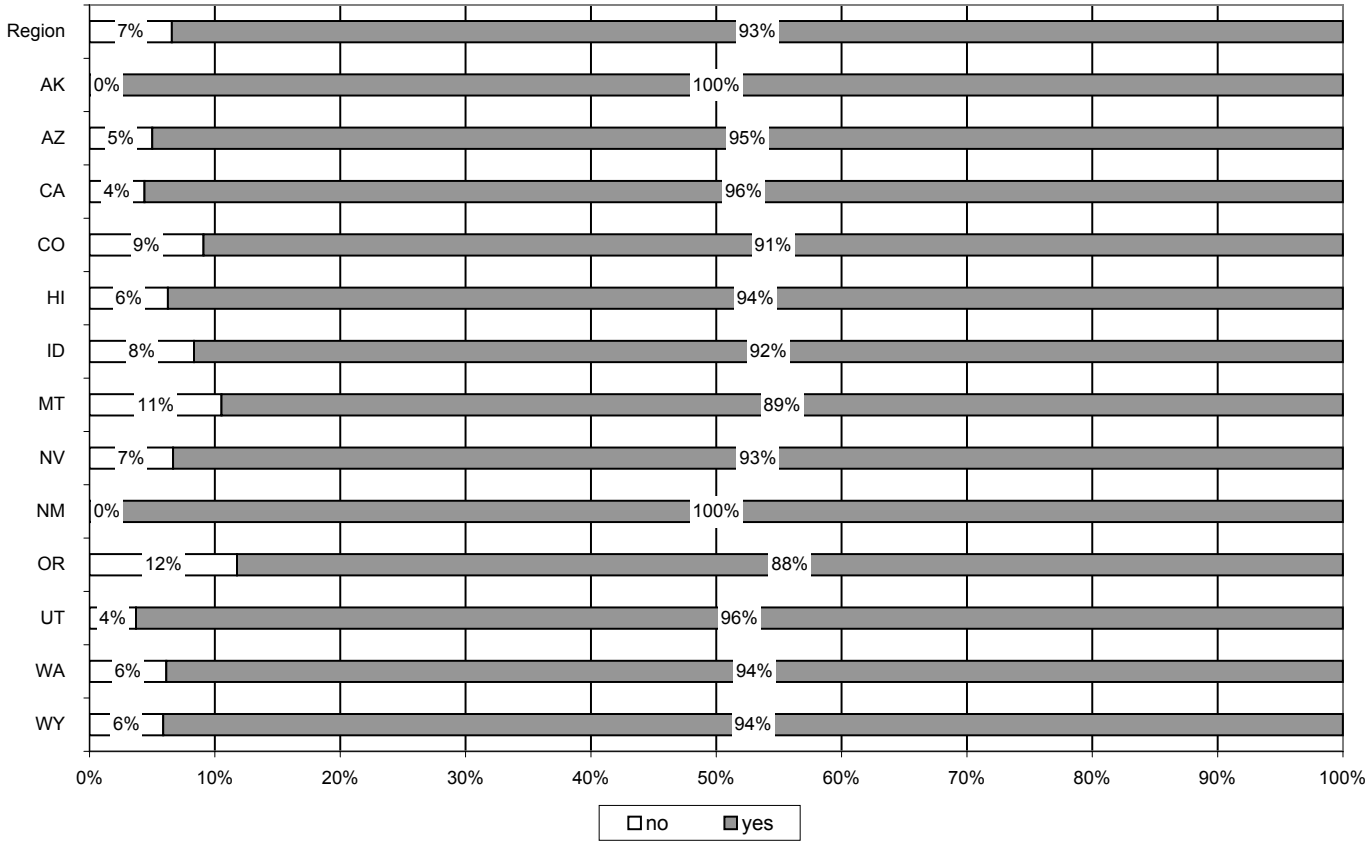
The next group of questions asked about participants' sources of information related to sustainable agriculture.

Question 4 of the survey asked participants, "What are your sources of information on sustainable agriculture?" Seven specific sources of information were listed and participants were asked to indicate which they used.

What are your sources of information on sustainable agriculture? Other Extension educators (Q4a).

As shown in Figure 18, 93% of participants across the western region indicated that they rely on other Extension educators for information on sustainable agriculture. Individual state responses were very similar to the regional average, ranging from 88% to 100%.

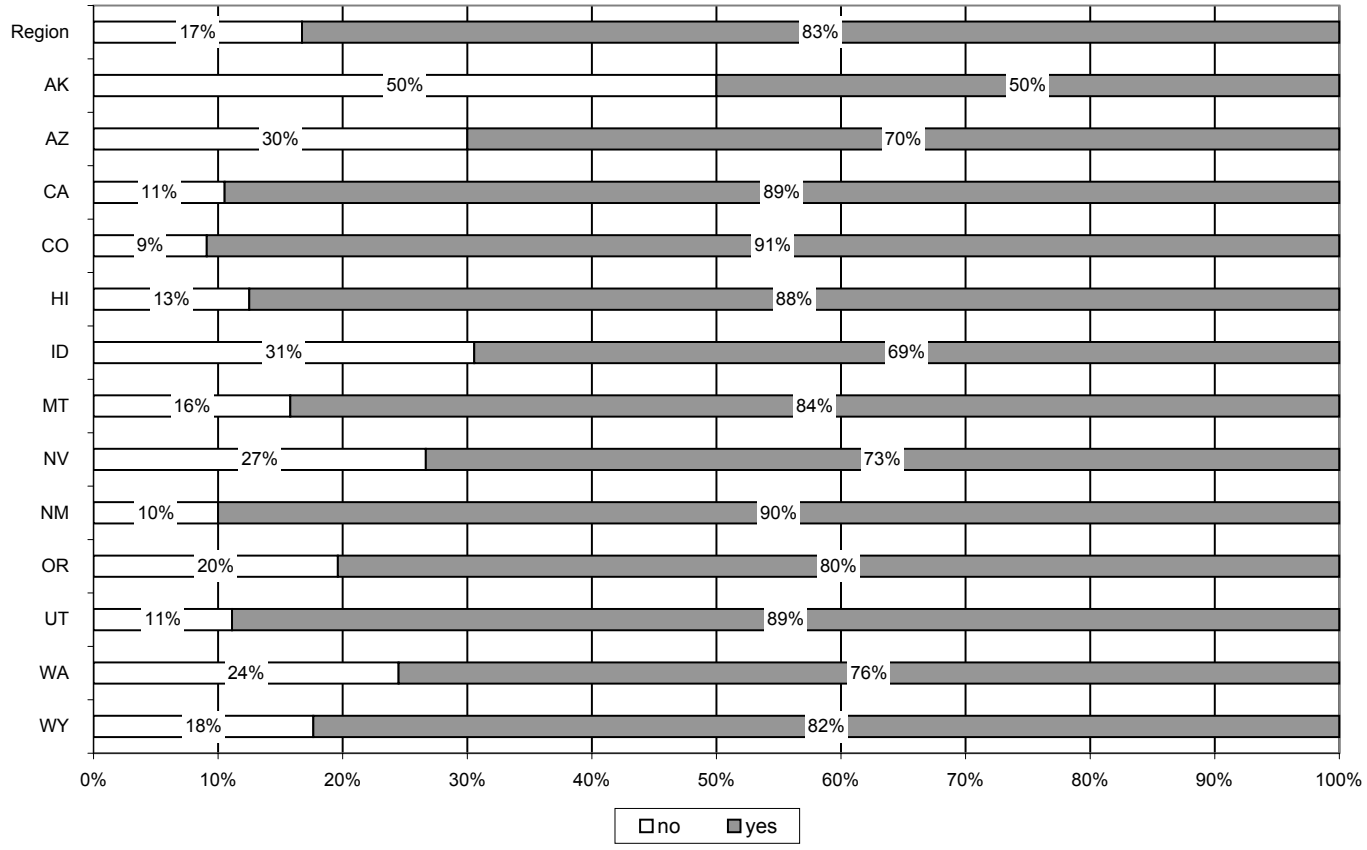
Figure 18. What are your sources of information on sustainable agriculture? Other Extension educators (Q4a).



What are your sources of information on sustainable agriculture? University researchers (Q4b).

As shown in Figure 19, 83% of participants across the western region indicated that they rely on university researchers for information on sustainable agriculture. Individual state responses ranged from 50% to 91%.

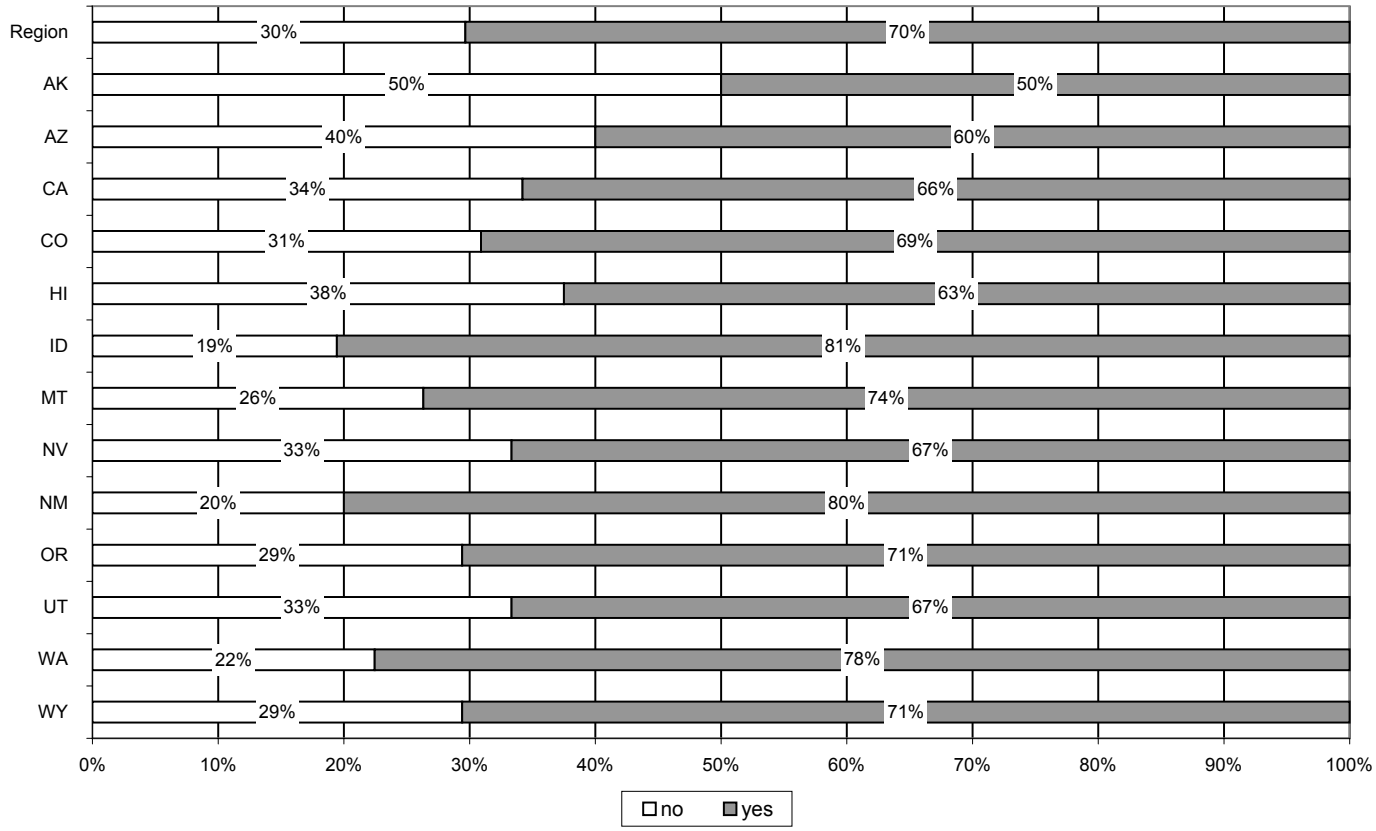
Figure 19. What are your sources of information on sustainable agriculture? University researchers (Q4b).



What are your sources of information on sustainable agriculture? Farmers or ranchers using sustainable agriculture practices and systems (Q4c).

As shown in Figure 20, 70% of participants across the western region indicated that they rely on farmers or ranchers using sustainable agriculture practices and systems for information on sustainable agriculture. Individual state responses were similar to the regional average, ranging from 50% to 81%.

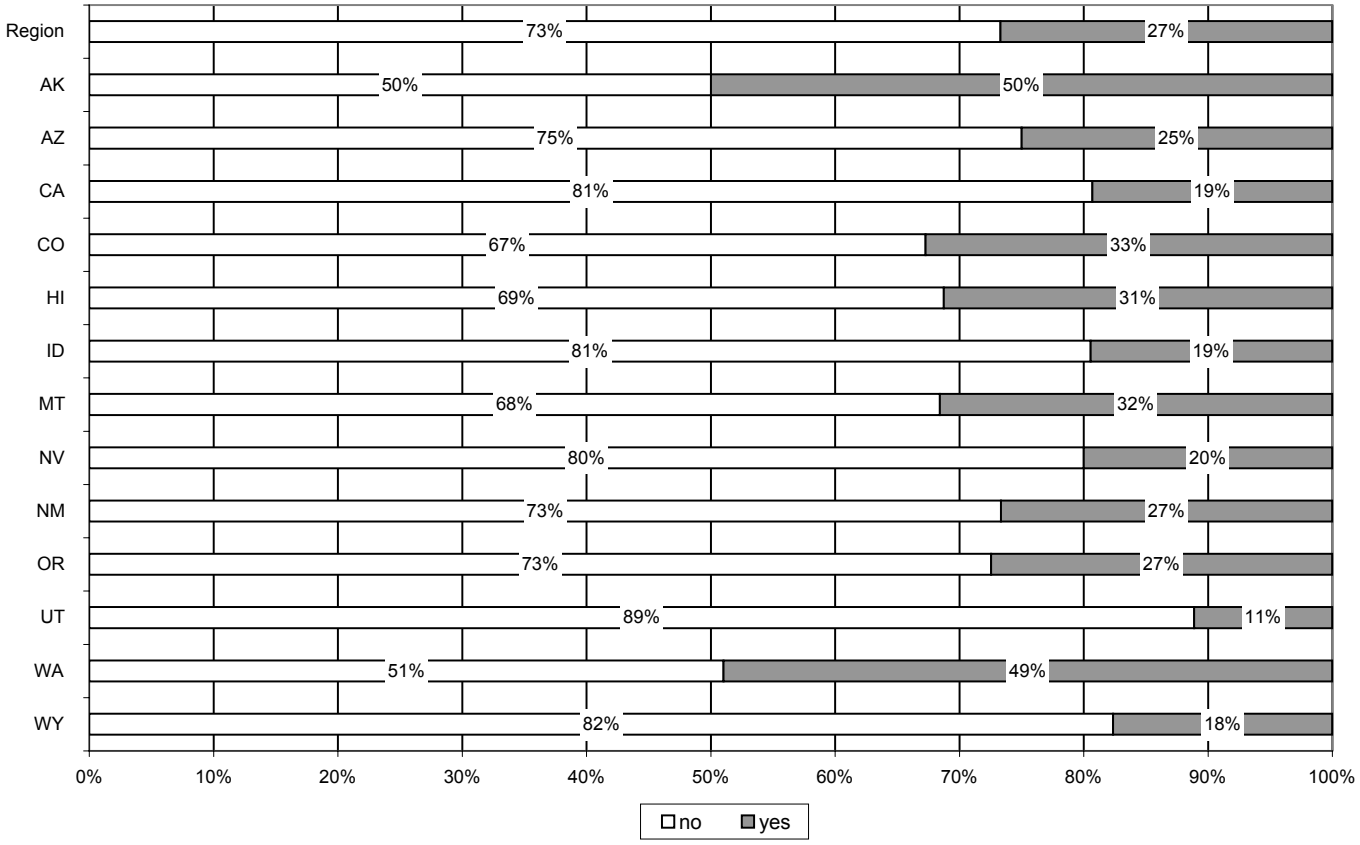
Figure 20. What are your sources of information on sustainable agriculture? Farmers or ranchers using sustainable agriculture practices and systems (Q4c).



What are your sources of information on sustainable agriculture? ATTRA (Appropriate Technology Transfer for Rural Areas) (Q4d).

As shown in Figure 21, just over one-quarter (27%) of participants across the western region indicated that they rely on ATTRA for information on sustainable agriculture. With the exception of Alaska and Washington, where responses were 50% and 49% respectively, individual state responses ranged from 11% to 33%.

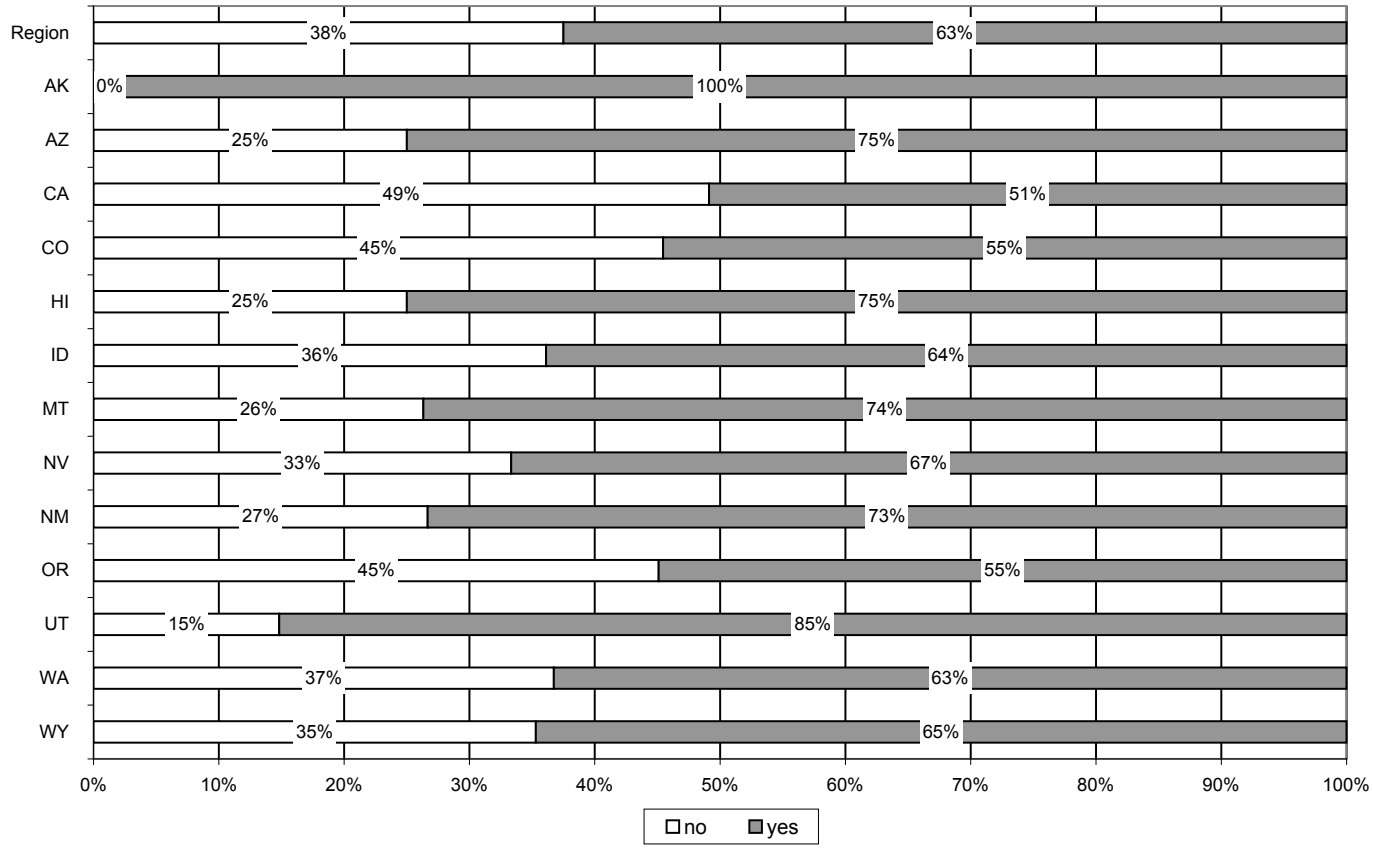
Figure 21. What are your sources of information on sustainable agriculture? ATTRA (Appropriate Technology Transfer for Rural Areas) (Q4d).



What are your sources of information on sustainable agriculture? Sustainable Agriculture Research and Education (USDA SARE/SAN) (Q4e).

As shown in Figure 22, 63% of participants across the western region indicated that they rely on USDA SARE/SAN for information on sustainable agriculture. More than half the participants (50%) in each state rely on this source for sustainable agriculture information.

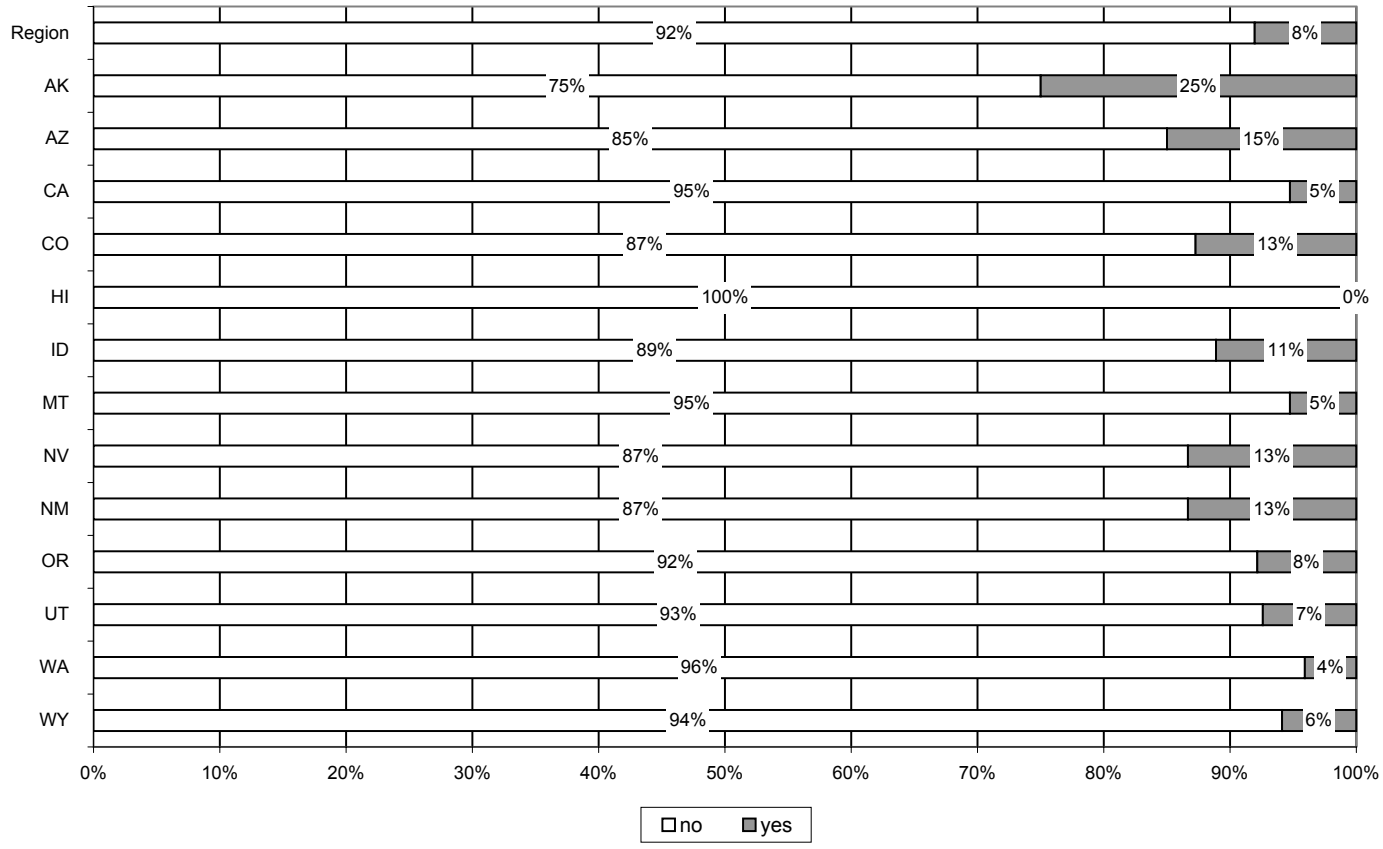
Figure 22. What are your sources of information on sustainable agriculture? Sustainable Agriculture Research and Education (USDA SARE/SAN) (Q4e).



What are your sources of information on sustainable agriculture? Alternative Farming Systems Information Center (part of the National Ag Library) (Q4f).

As shown in Figure 23, only 8% of participants across the western region indicated that they rely on the Alternative Farming Systems Information Center for information on sustainable agriculture. Responses across states were similar, with 0% to 25% of participants indicating that they use this particular source of information.

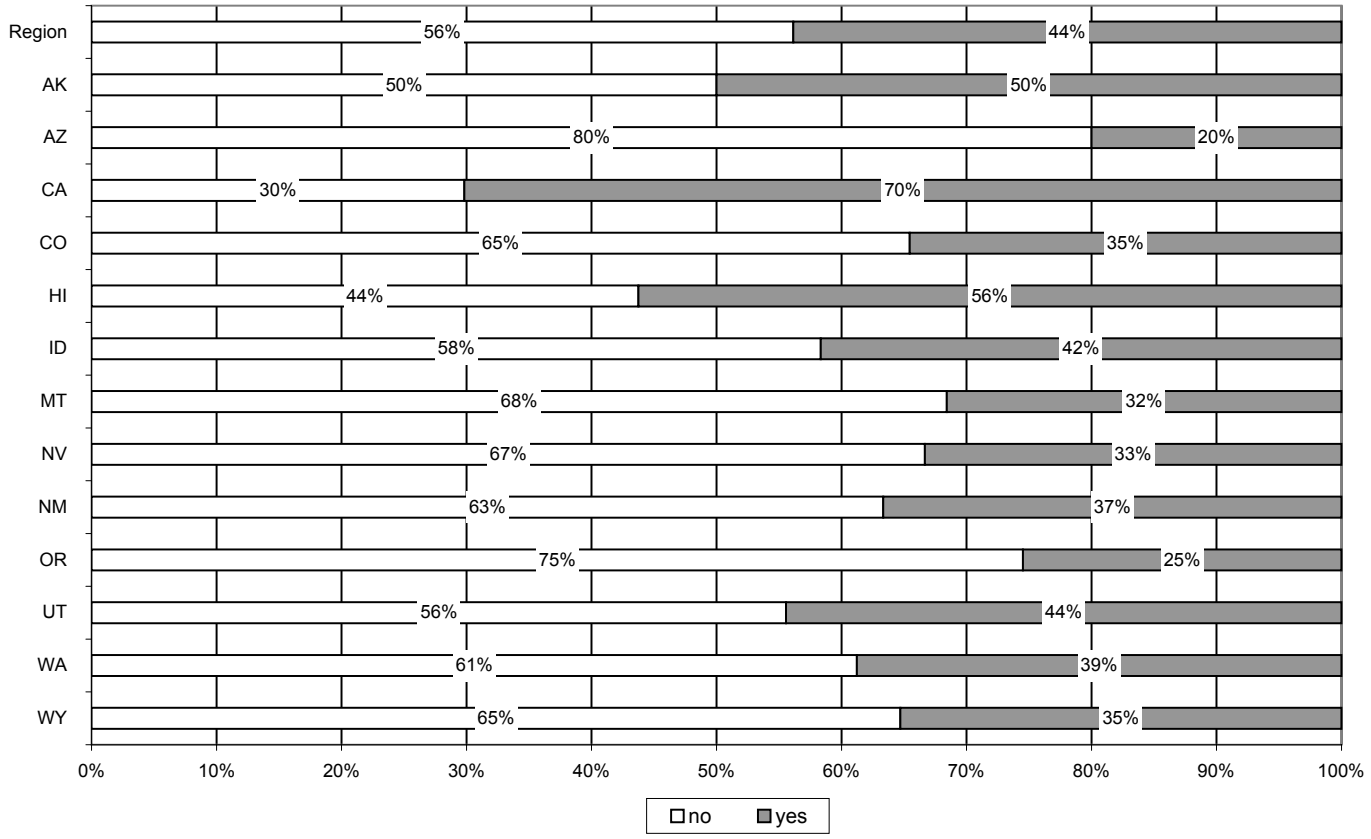
Figure 23. What are your sources of information on sustainable agriculture? Alternative Farming Systems Information Center (part of the National Ag Library) (Q4f).



What are your sources of information on sustainable agriculture? University-based sustainable agriculture program (Q4g).

As shown in Figure 24, 44% of participants across the western region indicated that they rely on a university-based sustainable agriculture program for information on sustainable agriculture. Individual state responses varied widely from 20% to 70%.

Figure 24. What are your sources of information on sustainable agriculture? University-based sustainable agriculture program (Q4g).



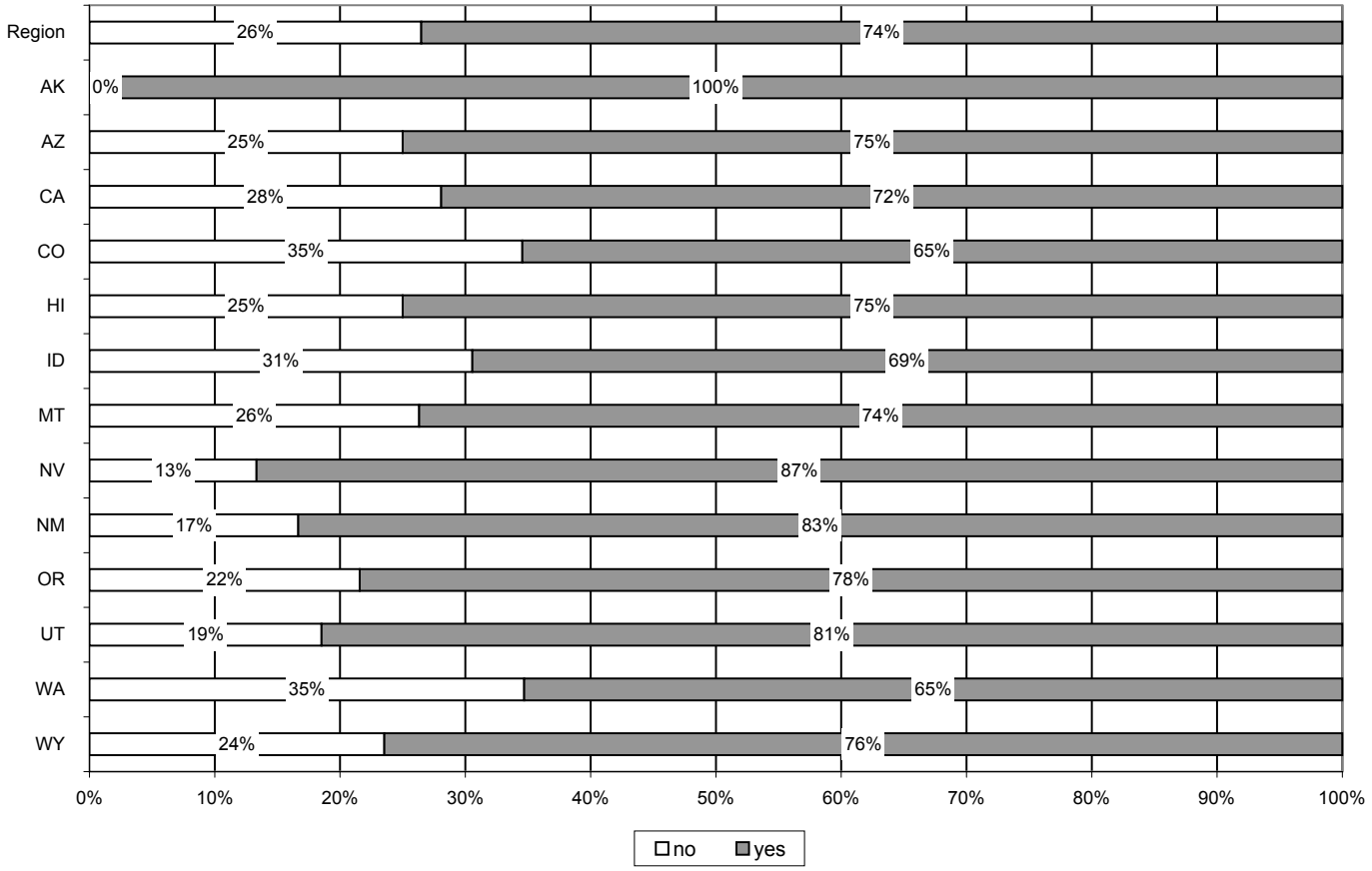
Getting Sustainable Agriculture Information

Question 5 of the survey asked participants, "How do you get your sustainable agriculture information?" Five specific sources were listed and participants were asked to indicate which sources they utilized.

How do you get your sustainable agriculture information? Professional publications (Q5a).

As shown in Figure 25, 74% of participants across the western region indicated that they get sustainable agriculture information from professional publications. Individual state responses were similar and ranged from 65% to 100%.

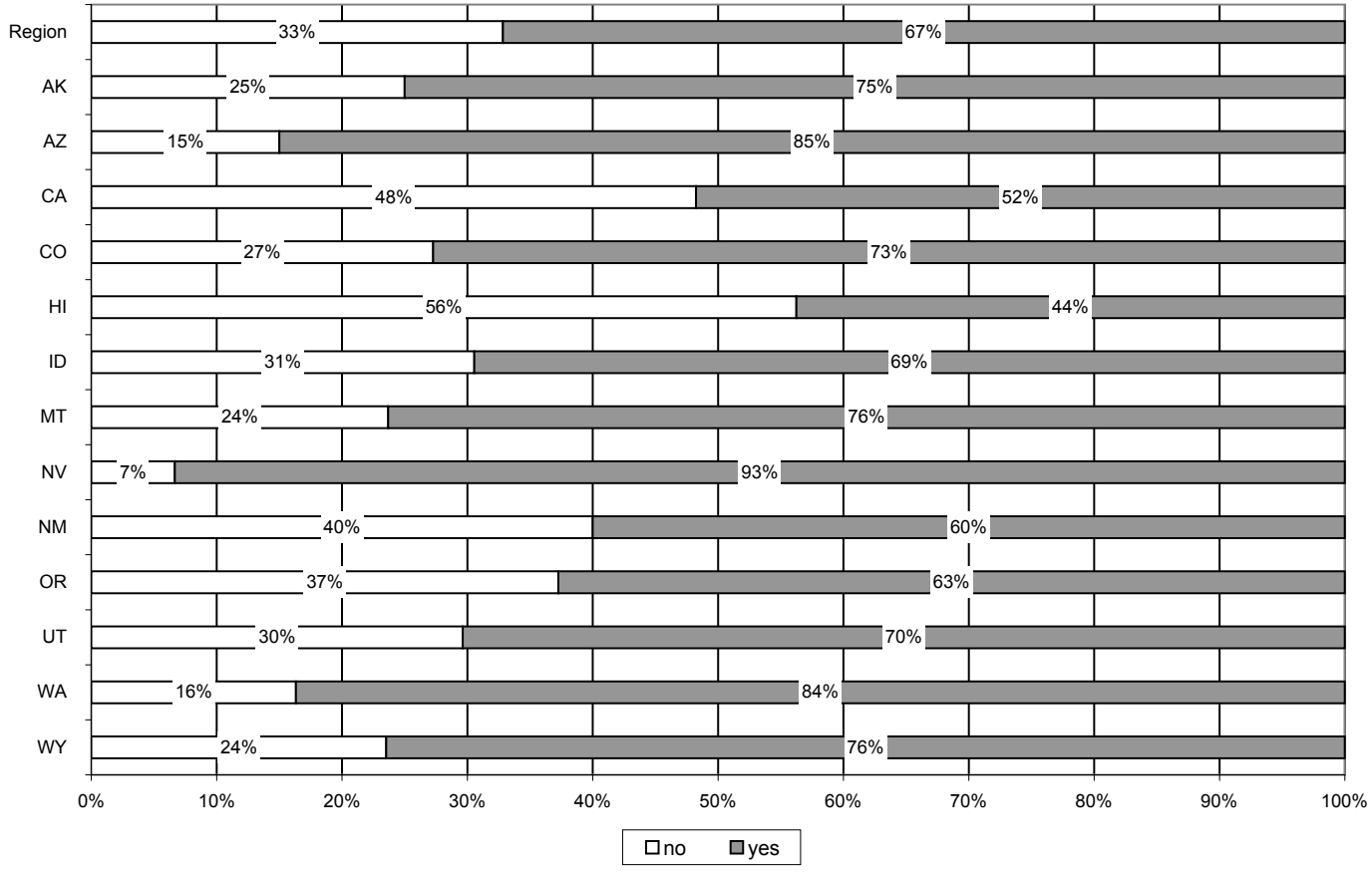
Figure 25. How do you get your sustainable agriculture information? Professional publications (Q5a).



How do you get your sustainable agriculture information? The World Wide Web (Q5b).

As shown in Figure 26, 67% of participants across the western region indicated that they get sustainable agriculture information from the World Wide Web. Individual state responses varied widely, ranging from 44% to 93%.

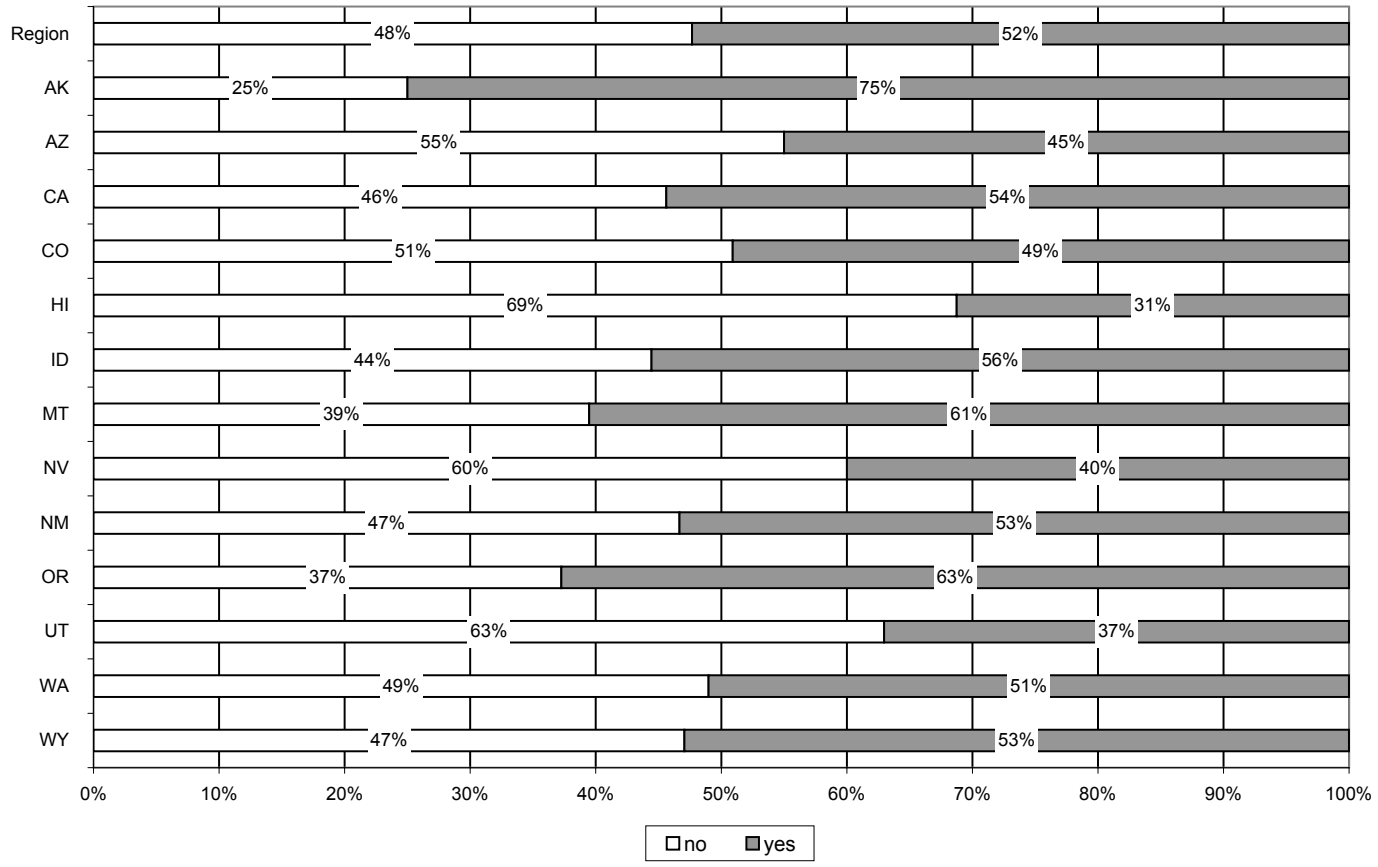
Figure 26. How do you get your sustainable agriculture information? The World Wide Web (Q5b).



How do you get your sustainable agriculture information? Agriculture press (Q5c).

As shown in Figure 27, 52% of participants across the western region indicated that they get sustainable agriculture information from the Agriculture press. Again, individual state responses varied, ranging from 31% to 75%.

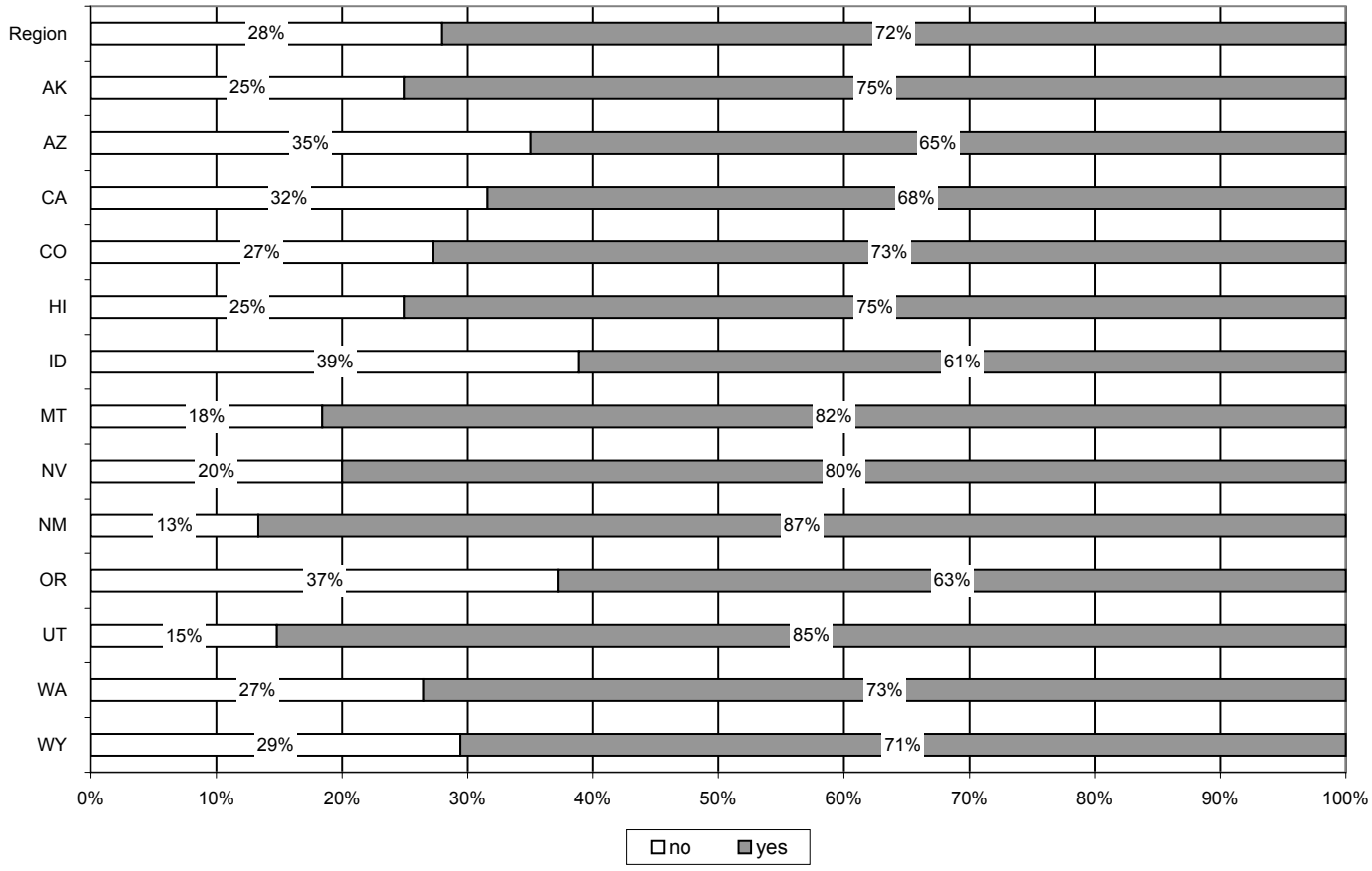
Figure 27. How do you get your sustainable agriculture information? Agriculture press (Q5c).



How do you get your sustainable agriculture information? Workshops (Q5d).

As shown in Figure 28, 72% of participants across the western region indicated that they get sustainable agriculture information from workshops. Individual state responses were similar, ranging from 61% to 87%.

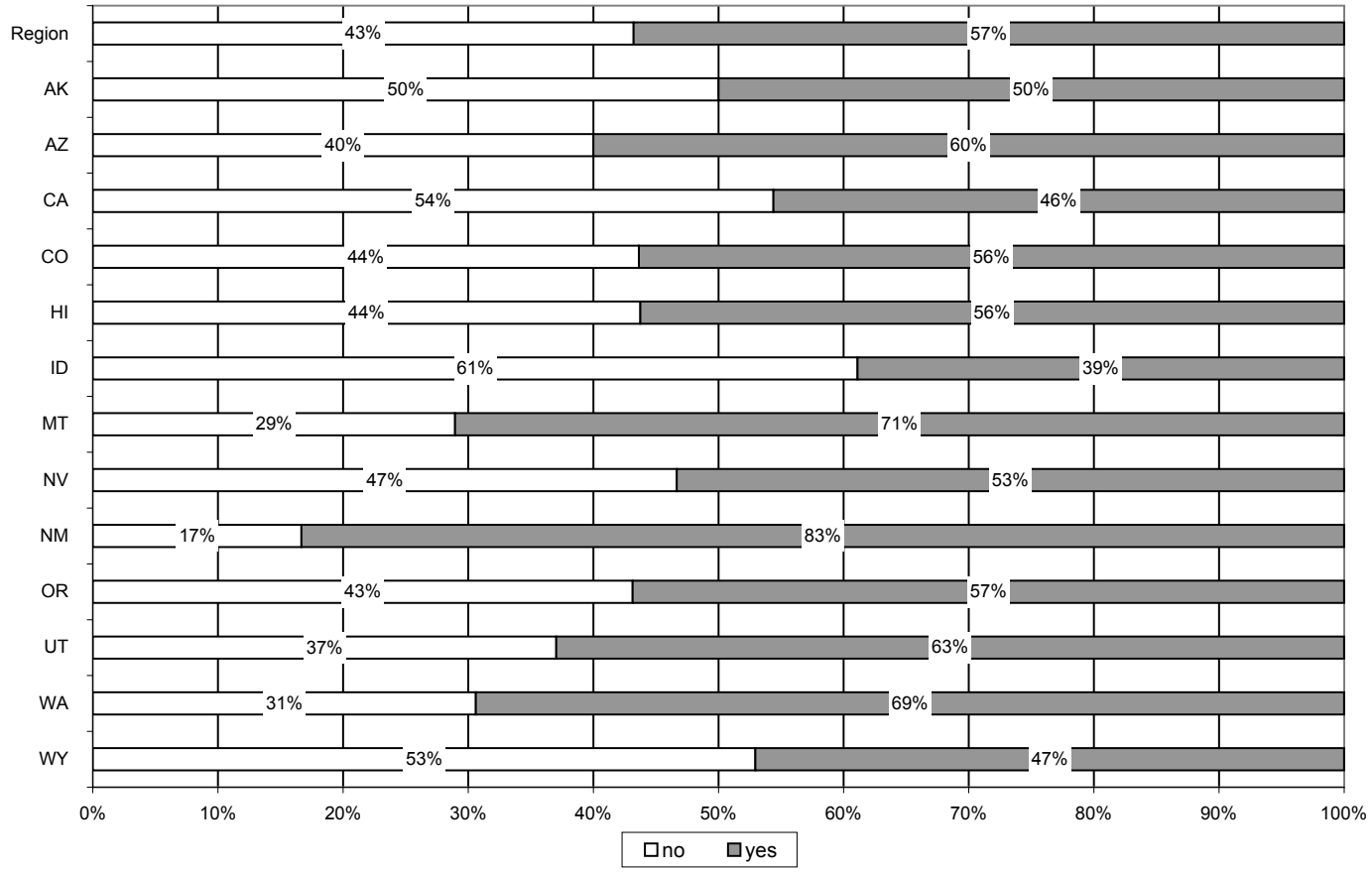
Figure 28. How do you get your sustainable agriculture information? Workshops (Q5d).



How do you get your sustainable agriculture information? Farm or ranch tours (Q5e).

As shown in Figure 29, 57% of participants across the western region indicated that they get sustainable agriculture information from farm or ranch tours. With the exception of New Mexico (83%) and Idaho (39%), individual state responses were similar, ranging from 46% to 71%.

Figure 29. How do you get your sustainable agriculture information? Farm or ranch tours (Q5e).



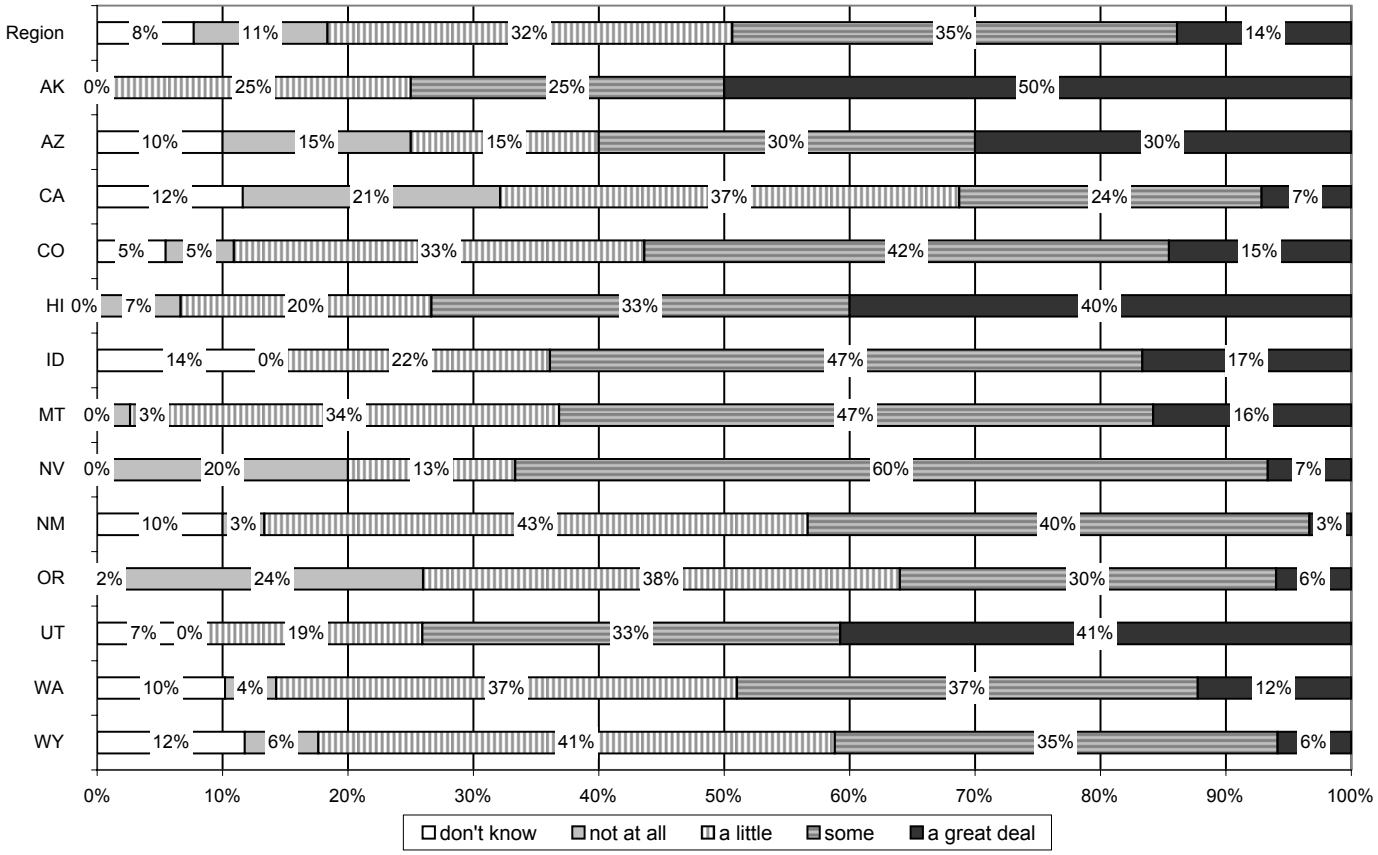
Learning Through USDA SARE-Funded Projects or Events

Question 6 of the survey asked participants, "To what extent does your sustainable agriculture learning come through USDA SARE-funded projects or events?" Possible responses were a *great deal, some, a little, not at all,* and *don't know.*

To what extent does your sustainable agriculture learning come through USDA SARE-funded projects or events (Q6)?

As shown in Figure 30, nearly half the participants (49%) across the western region reported that some or a great deal of their sustainable agriculture learning comes through USDA SARE-funded projects or events. In four states (Alaska, Hawaii, Nevada, Utah), at least two-thirds (67%) of participants indicated that this was the case. However, in seven states, at least one-third (33%) of the participants reported a little of their learning comes from USDA SARE-funded projects or events.

Figure 30. To what extent does your sustainable agriculture learning come through USDA SARE-funded projects or events (Q6)?



Educator Practice

This section focuses on sustainable agriculture programs conducted by participants. Topics include: the number of educational programs conducted, how much work time participants devote to educational programming, the number of educational programs conducted with farmers/ranchers and various other groups, and partnering with other groups to deliver educational programs on sustainable agriculture.

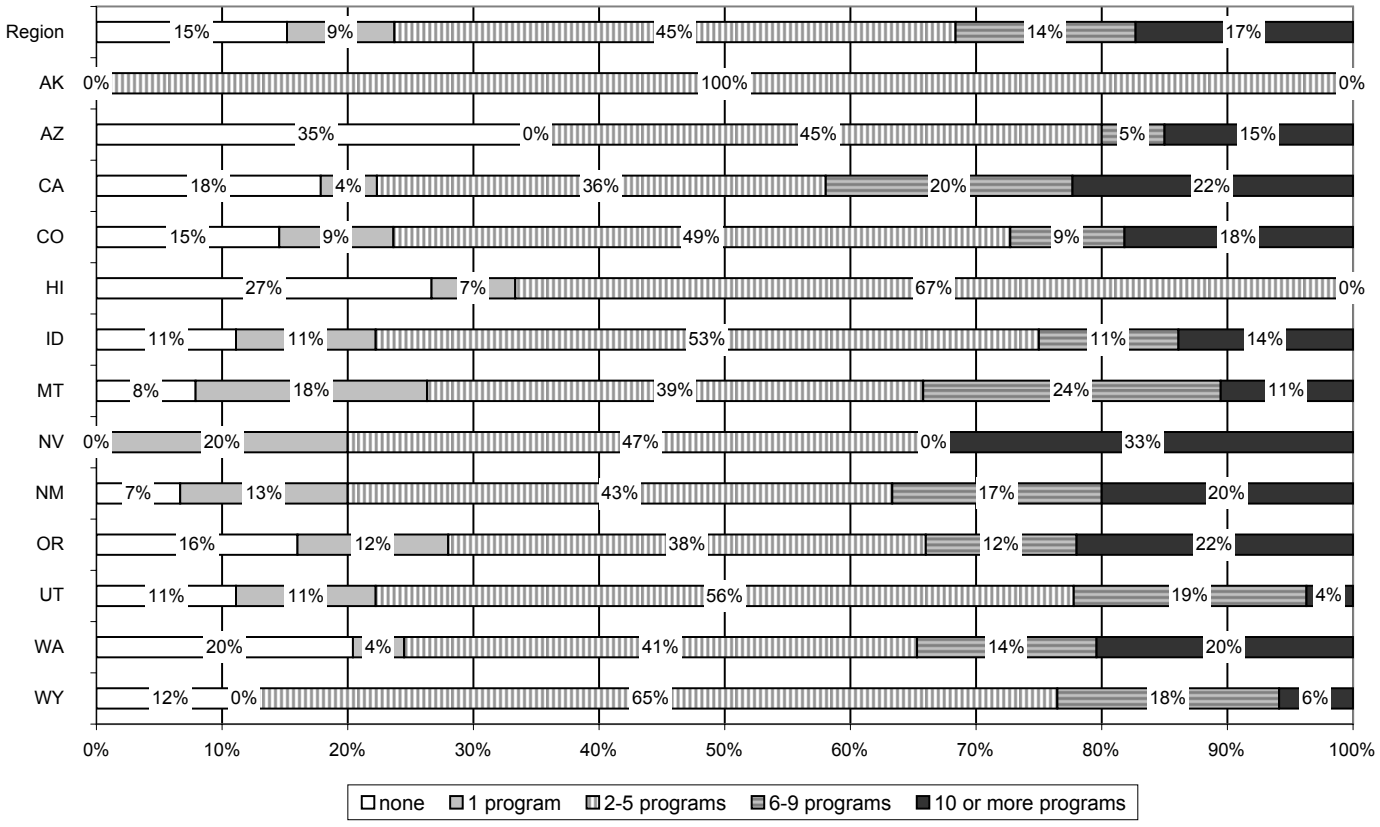
Educational Programs Conducted with Farmers/Ranchers

Question 7 of the survey asked participants, "How many educational programs (workshops, presentations, seminars, etc.) have you conducted with farmers or ranchers during the 2002 and 2003 calendar years on some aspect of sustainable agriculture?" Possible responses were *none, 1 program, 2-5 programs, 6-9 programs,* and *10 or more programs.*

How many educational programs (workshops, presentations, seminars, etc.) have you conducted with farmers or ranchers during the 2002 and 2003 calendar years on some aspect of sustainable agriculture (Q7)?

As shown in Figure 31, nearly half the participants (45%) across the western region reported that they had conducted 2-5 educational programs (workshops, presentations, seminars, etc.) with farmers or ranchers during 2002-2003 on some aspect of sustainable agriculture. In addition, eleven states had 20% or fewer of their participants report that they had conducted no sustainable agriculture educational programs during 2002-2003.

Figure 31. How many educational programs (workshops, presentations, seminars, etc.) have you conducted with farmers or ranchers during the 2002 and 2003 calendar years on some aspect of sustainable agriculture (Q7)?



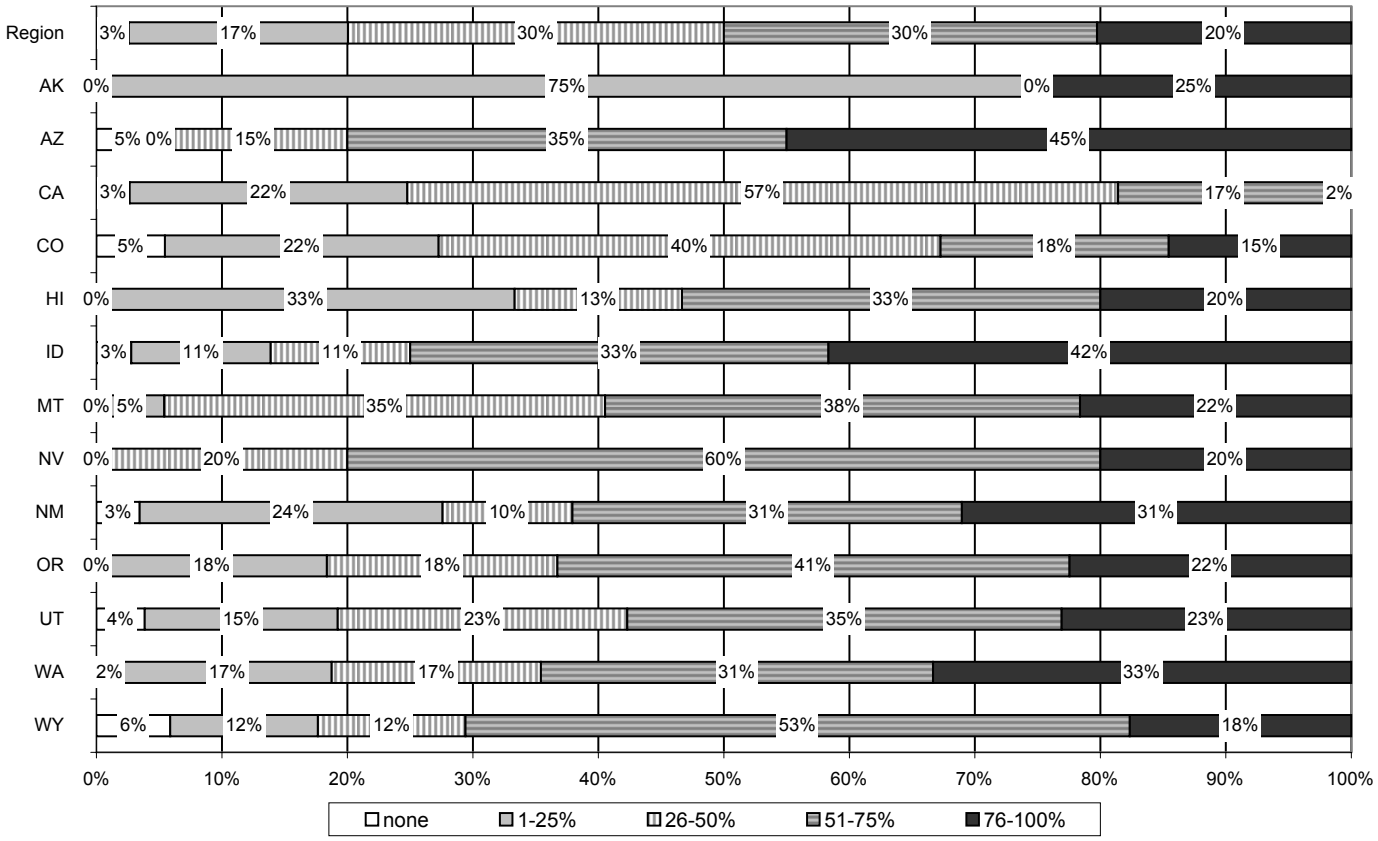
Work Time Devoted to Educational Programming

Question 9 of the survey asked participants, "How much of your work time are you expected to devote to educational programming?" Possible responses were *none, 1-25%, 26-50%, 51-75%,* and *76-100%.*

How much of your work time are you expected to devote to educational programming (Q9)?

As shown in Figure 32, half the participants (50%) across the western region reported that they were expected to devote 51% or more of their work time to educational programming. Ten states had 50% or more of their participants indicate that they devote over 50% of their work time to educational programming. All of the states had 6% or fewer of their participants report that they devote none of their time to educational programming.

Figure 32. How much of your work time are you expected to devote to educational programming (Q9)?



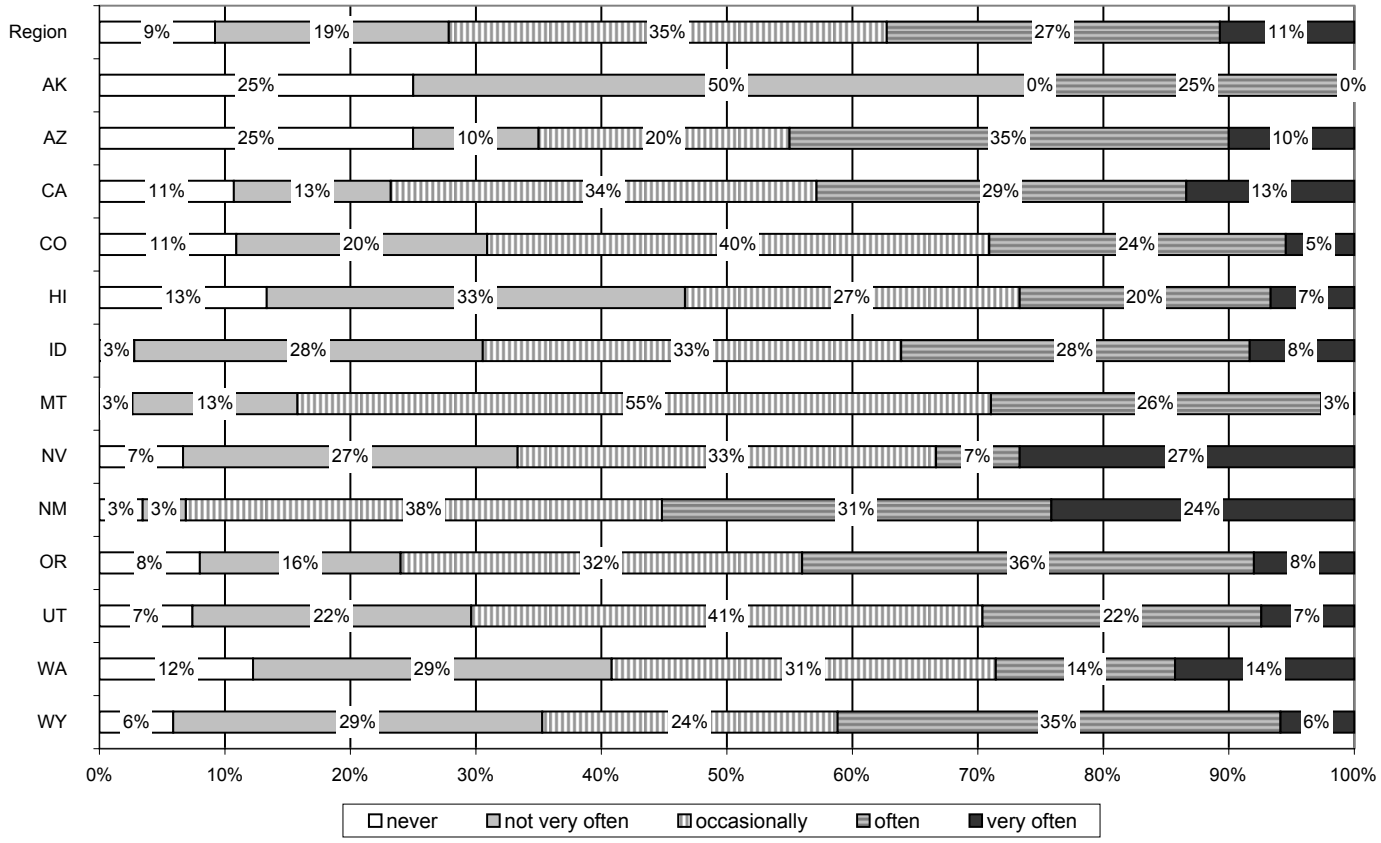
Work with Farmers/Ranchers in Developing Sustainable Agriculture Practices

Question 10 of the survey asked participants, "How often have you worked with farmers/ranchers, on their farm/ranch, in developing sustainable agriculture practices?" Possible responses were *very often, often, occasionally, not very often,* and *never.*

How often have you worked with farmers/ranchers, on their farm/ranch, in developing sustainable agriculture practices (Q10)?

Figure 33 shows that almost three-quarters (73%) of the participants across the western region reported that they worked with farmers/ranchers, on their farm/ranch, in developing sustainable agriculture practices at least occasionally. Every state, except Alaska, had 54% or more of their participants report that they worked with farmers/ranchers to develop sustainable agriculture practices at least occasionally.

Figure 33. How often have you worked with farmers/ranchers, on their farm/ranch, in developing sustainable agriculture practices (Q10)?



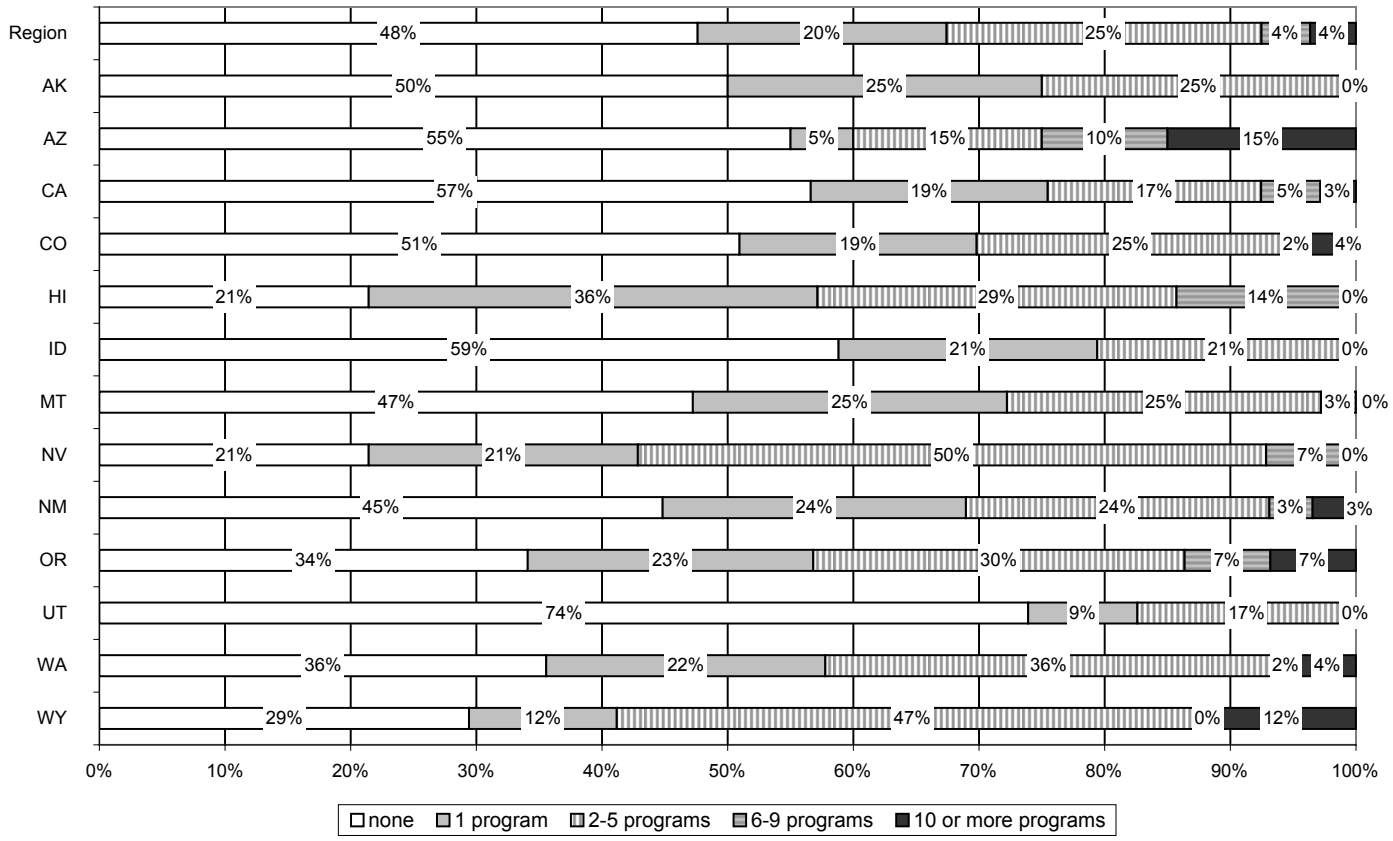
Educational Programs Delivered to Various Groups

Question 11 on the survey asked participants approximately how many sustainable agriculture educational programs they delivered to various groups during 2002 and 2003. Ten specific groups were listed with response options of *none, 1 program, 2-5 programs, 6-9 programs,* and *10 or more programs.*

During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to consumer or general public groups (Q11a)?

As displayed in Figure 34, over half the participants (52%) across the western region reported that they had delivered at least one sustainable agriculture educational program to consumer or general public groups during 2002-2003. Fifty percent or more of participants in six states reported that they had not delivered any programs to these groups in 2002-2003.

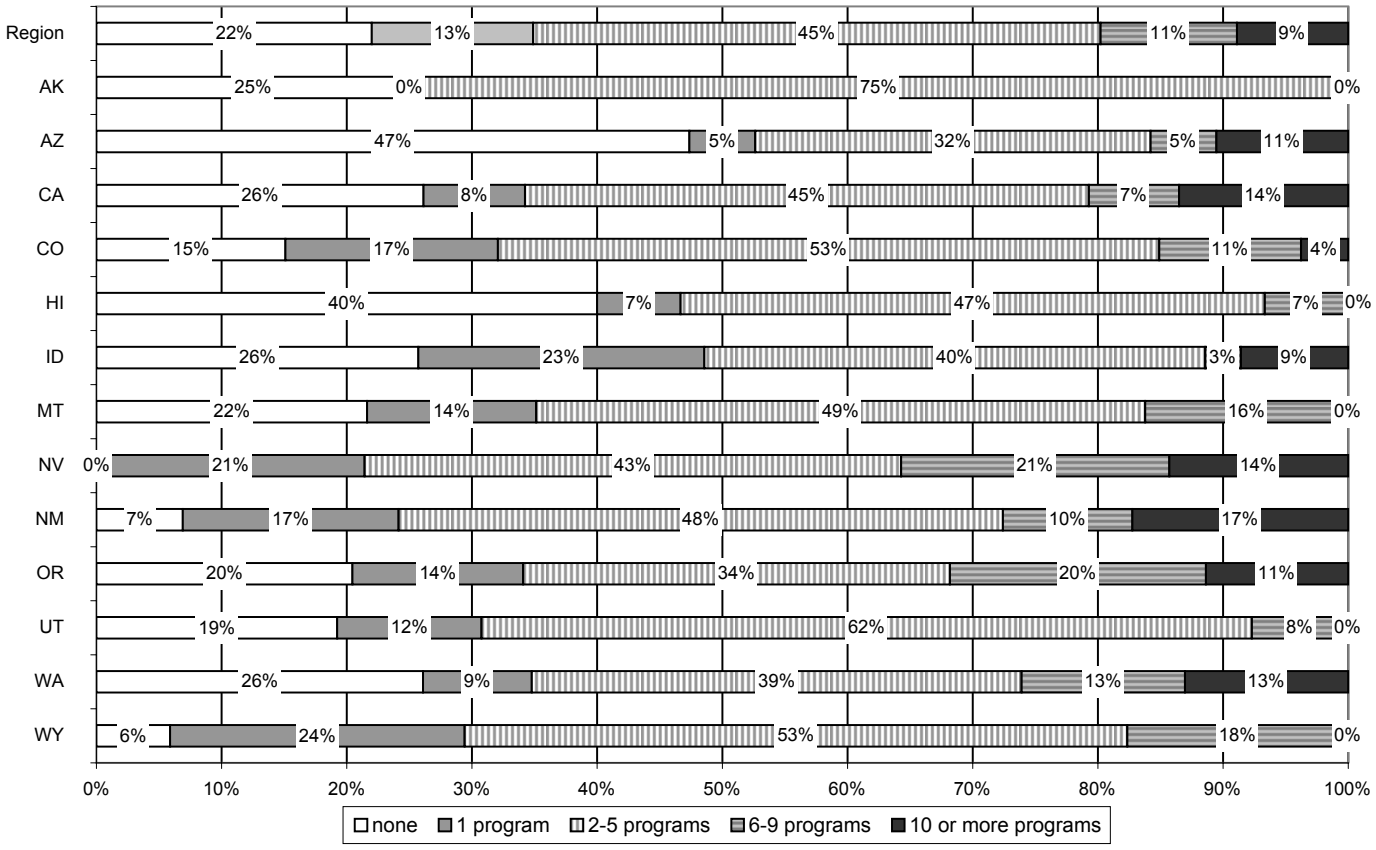
Figure 34. During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to consumer or general public groups (Q11a)?



During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to small-sized family farmers or ranchers (Q11b)?

Figure 35 shows that over three-quarters (78%) of the participants across the western region indicated that they had delivered at least one sustainable agriculture educational program to small-sized farmers or ranchers during 2002-2003. All but two states (Arizona, Hawaii) had at least 74% of their participants report that they had delivered at least one program to small-sized farmers or ranchers during 2002-2003.

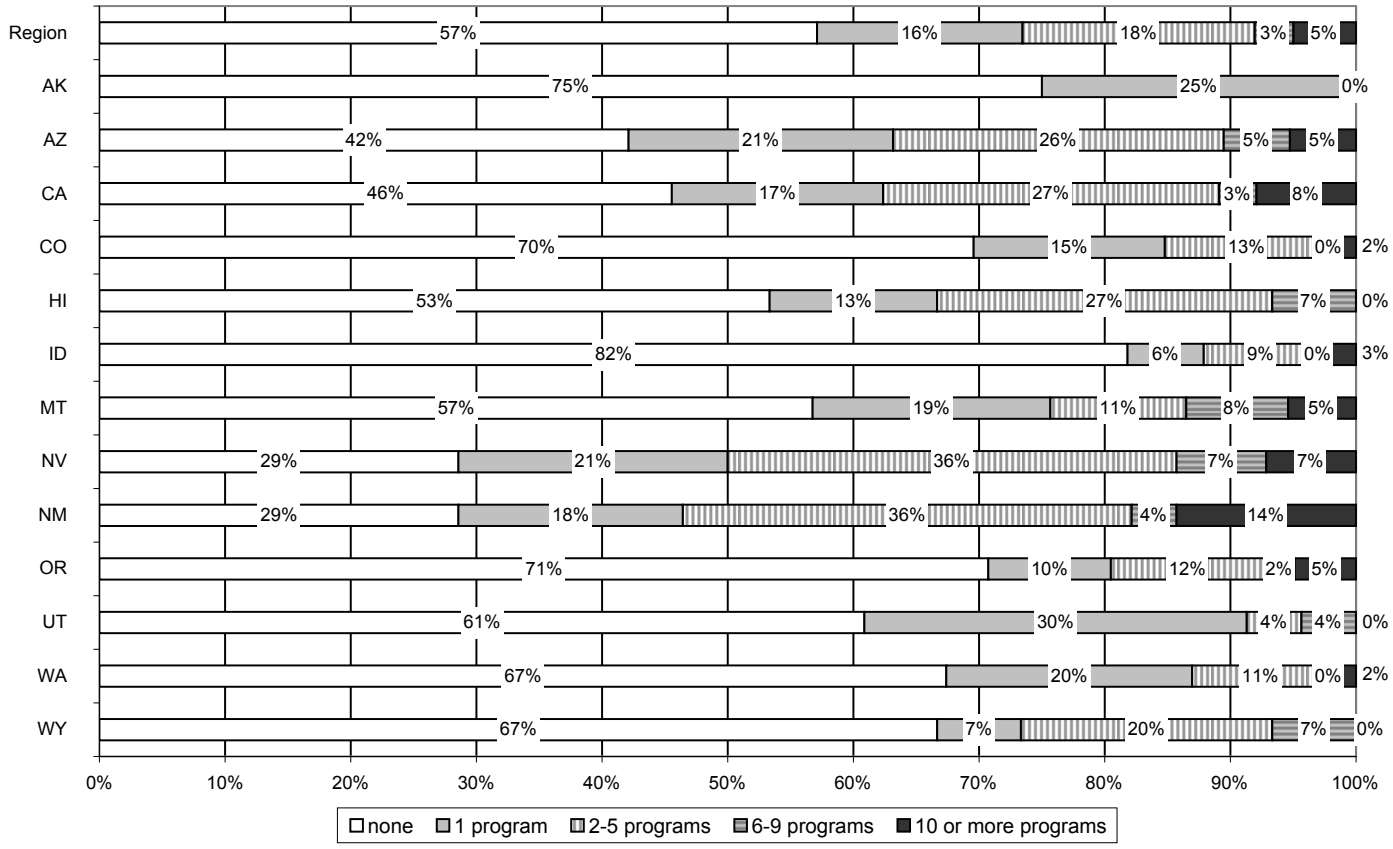
Figure 35. During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to small-sized family farmers or ranchers (Q11b)?



During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to Indian, Hispanic or other minority farmers or ranchers (Q11c)?

As shown in Figure 36, over half the participants (57%) across the western region reported that they had delivered no sustainable agriculture educational programs to Indian, Hispanic or other minority farmers or ranchers during 2002-2003. Nevada and New Mexico stand out in that they each had 71% of their participants report that they had delivered at least one program to these groups during 2002-2003.

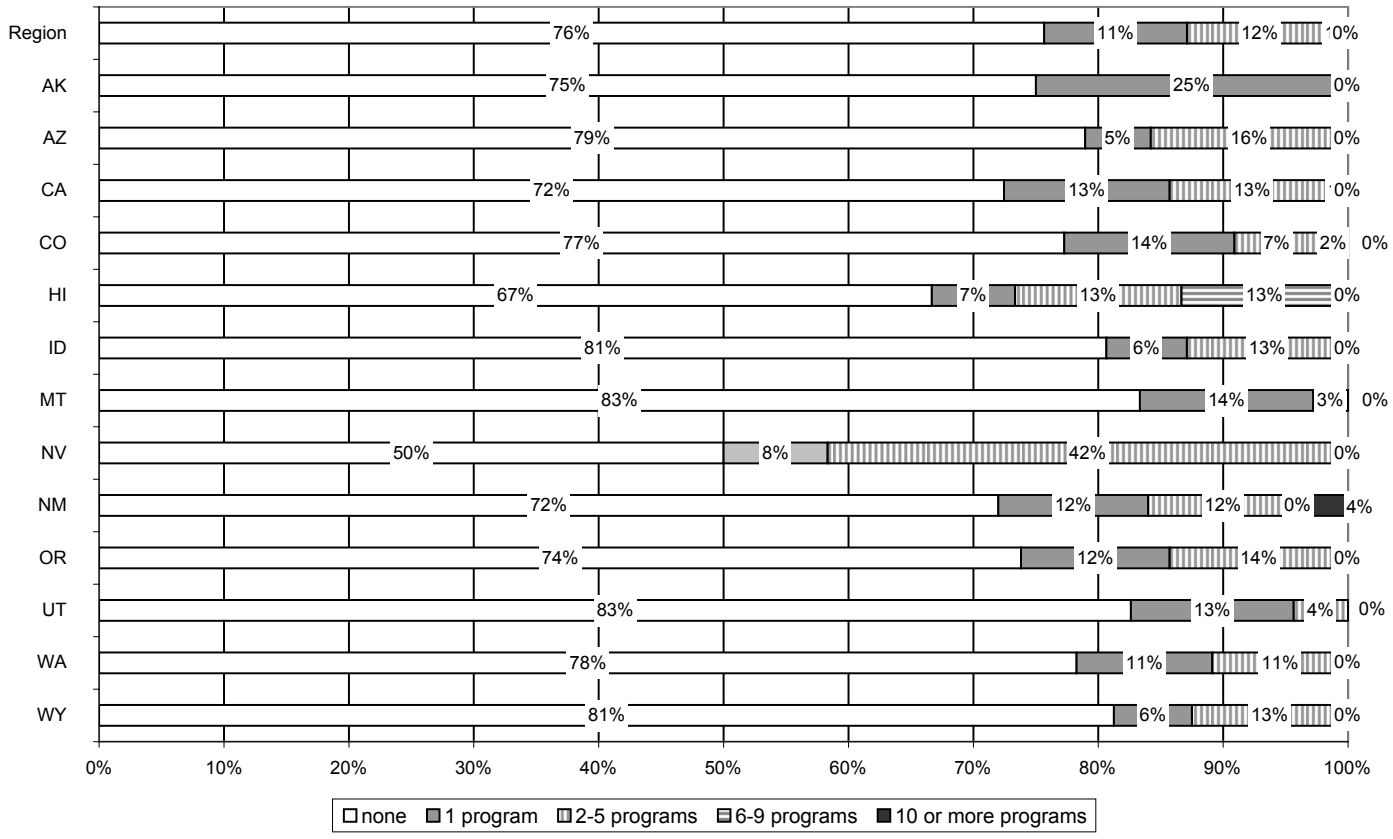
Figure 36. During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to Indian, Hispanic or other minority farmers or ranchers (Q11c)?



During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to environmental groups (Q11d)?

As Figure 37 shows, over three-quarters (76%) of the participants across the western region reported that they had delivered no sustainable agriculture educational programs to environmental groups during 2002-2003. Nevada delivered the most programs to these groups with 50% of its participants indicating that they had delivered at least one program during 2002-2003.

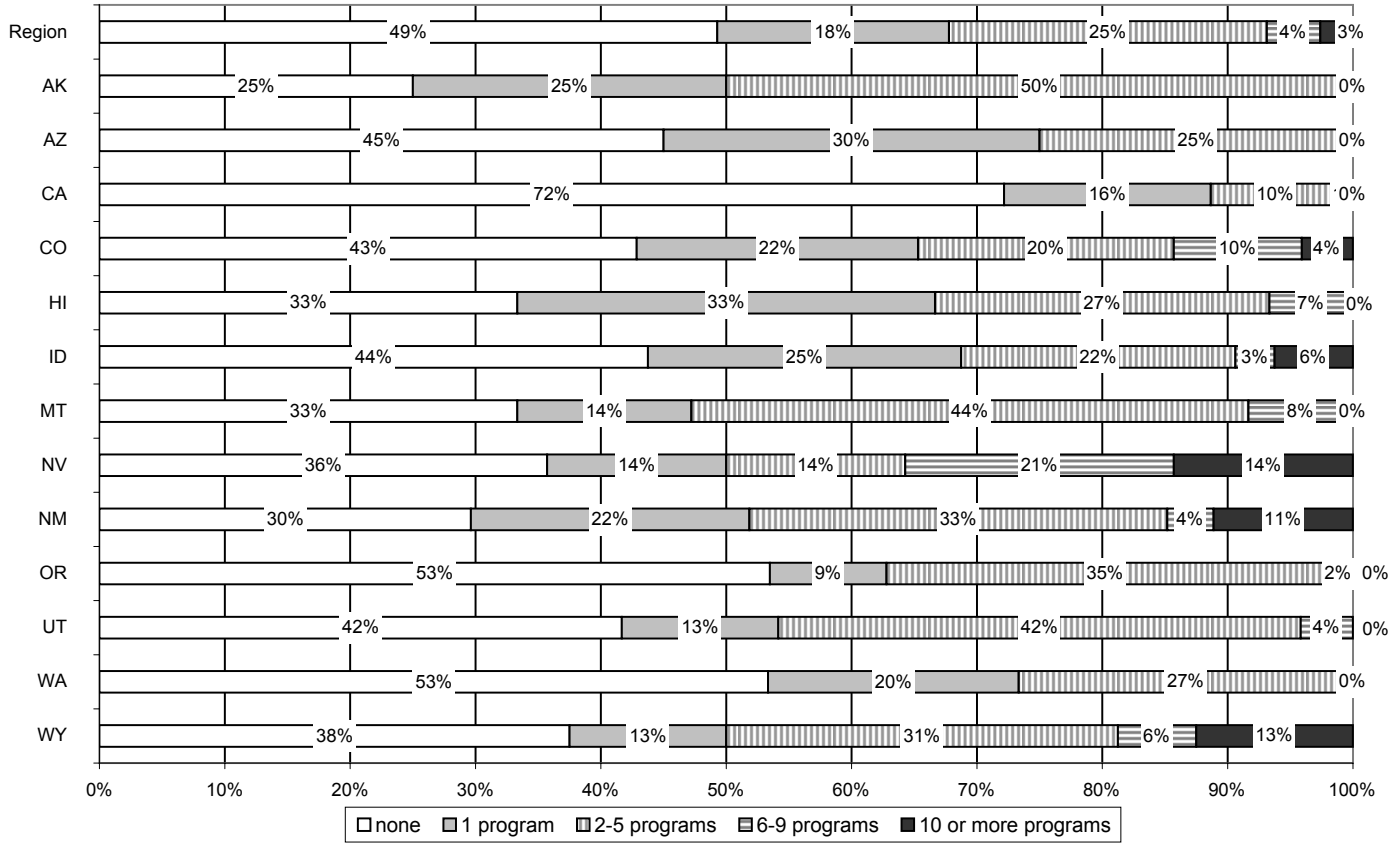
Figure 37. During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to environmental groups (Q11d)?



During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to youth groups (Q11e)?

Figure 38 shows that nearly half the participants (49%) across the western region indicated that they had delivered no sustainable agriculture educational programs to youth groups during 2002-2003. However, six states had at least 60% of their participants report that they had delivered at least one program to youth groups during 2002-2003.

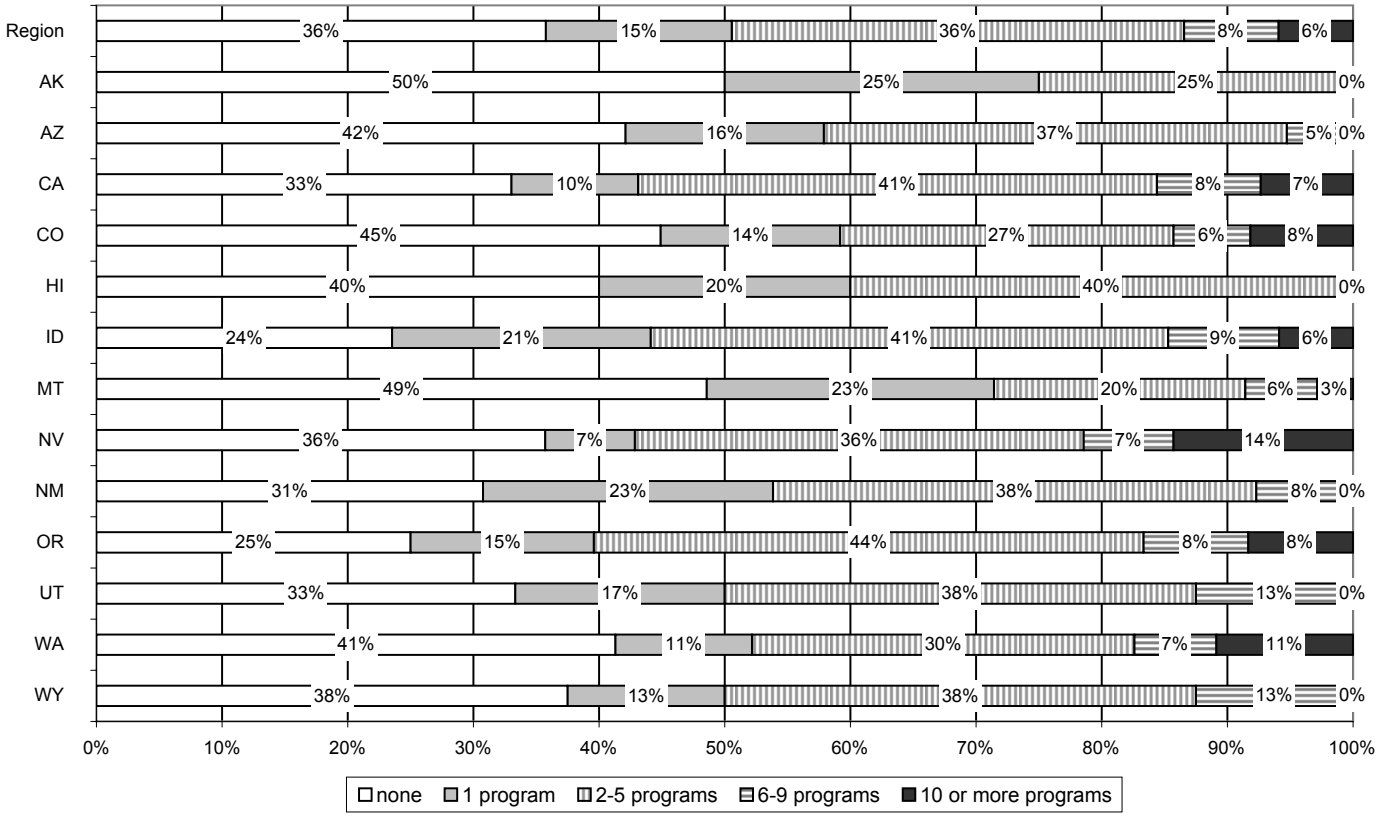
Figure 38. During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to youth groups (Q11e)?



During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to farm or commodity groups (e.g., livestock association, Wheatgrowers, Farm Bureau) (Q11f)?

As displayed in Figure 39, half the participants (50%) across the western region indicated that they had delivered at least two sustainable agriculture educational programs to farm or commodity groups (e.g., livestock association, Wheatgrowers, Farm Bureau) during 2002-2003. Both Idaho and Oregon had at least three-quarters (75%) of their participants report that they had delivered at least one program to farm or commodity groups during 2002-2003.

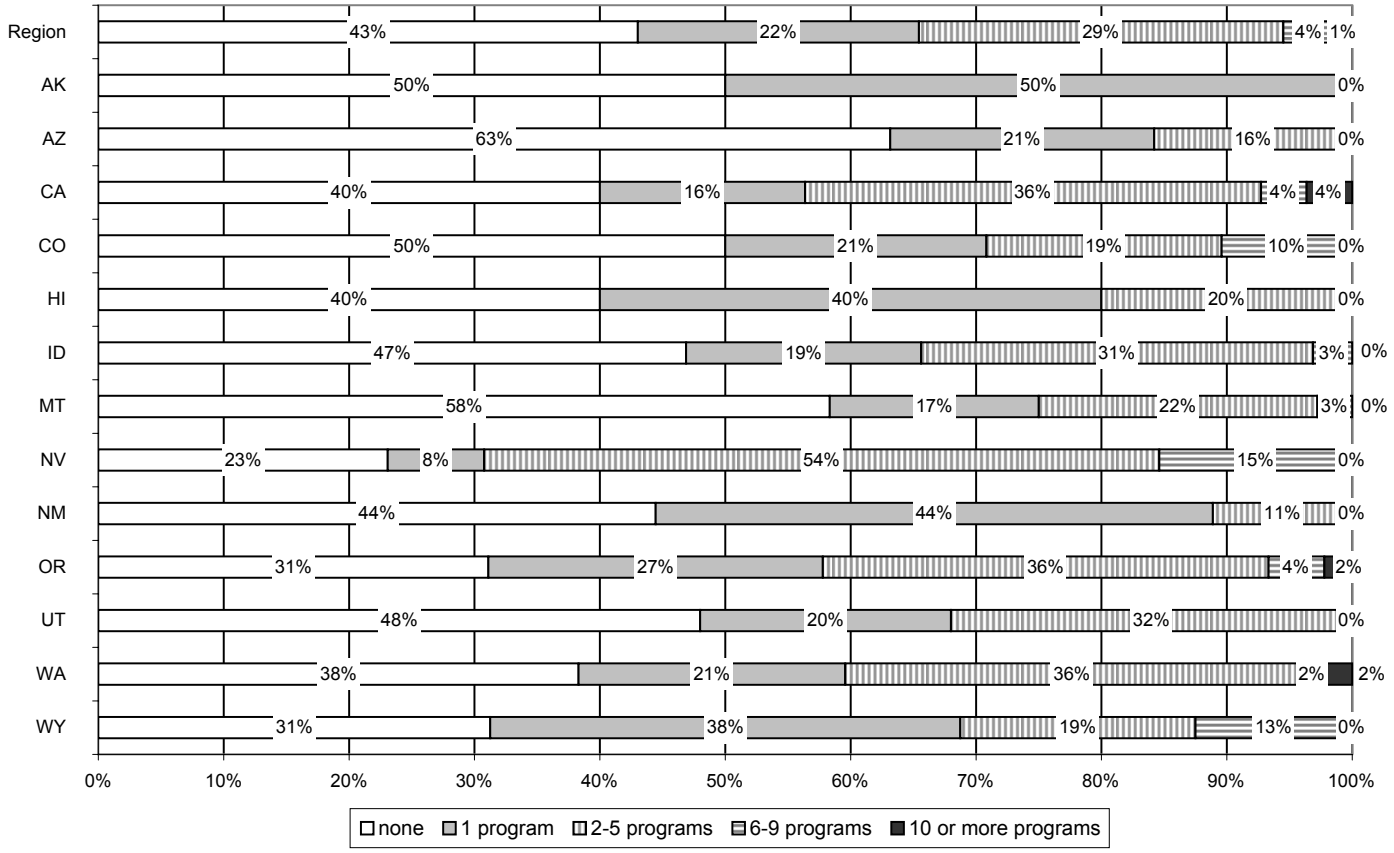
Figure 39. During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to farm or commodity groups (e.g., livestock association, Wheatgrowers, Farm Bureau) (Q11f)?



During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to peers or other Extension educators (Q11g)?

Figure 40 shows that over half the participants (56%) across the western region reported that they had delivered at least one sustainable agriculture educational program to peers or other Extension educators during 2002-2003. Nevada stands out in that it had over three-quarters (77%) of its participants indicate that they had delivered at least one program to peers or other Extension educators during 2002-2003.

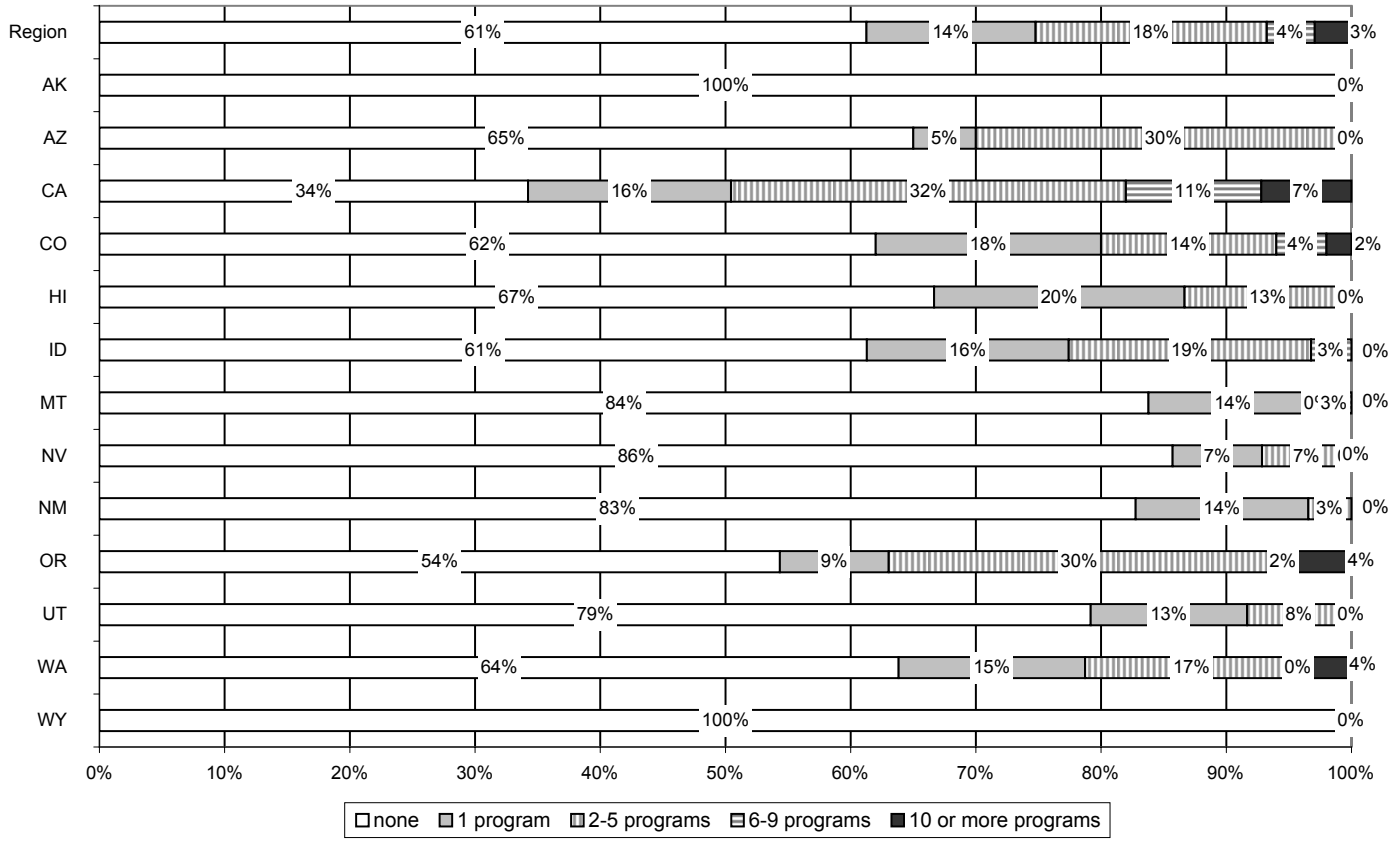
Figure 40. During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to peers or other Extension educators (Q11g)?



During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to agriculture consultants (Q11h)?

Figure 41 shows that 61% of the participants across the western region had delivered no sustainable agriculture educational programs to agriculture consultants during 2002-2003. However, California had 66% of its participants report that they had delivered at least one program to this group. Five other states had over 80% of their participants report that they had delivered no programs to agriculture consultants during 2002-2003.

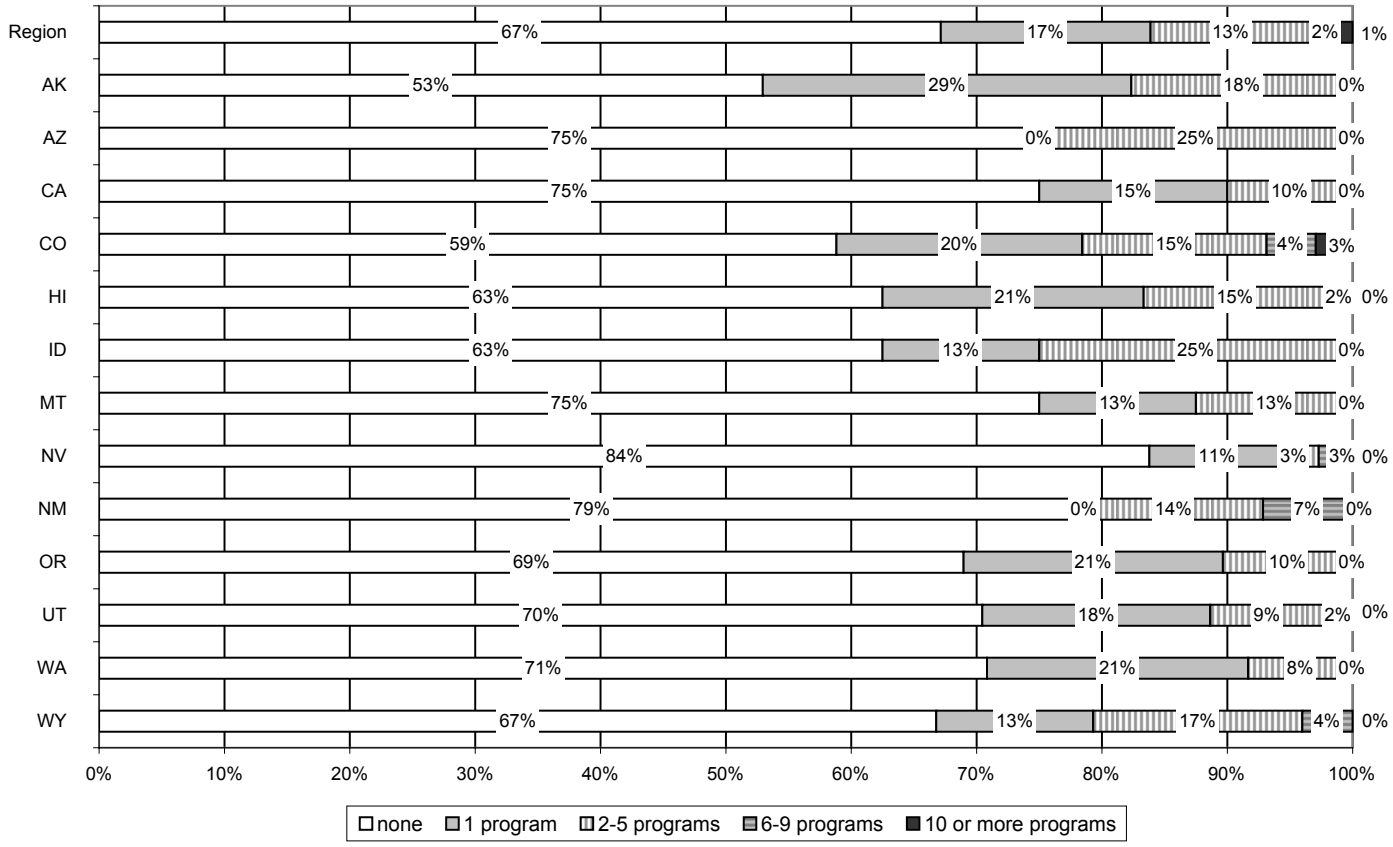
Figure 41. During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to agriculture consultants (Q11h)?



During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to organic or sustainable farming groups (Q11i)?

Figure 42 reveals that approximately two-thirds (67%) of the participants across the western region reported that they had delivered no sustainable agriculture educational programs to organic or sustainable farming groups during 2002-2003. Four states (Arizona, Colorado, Idaho, Wyoming) had at least 20% of their participants indicate that they had delivered two or more programs to these groups during 2002-2003.

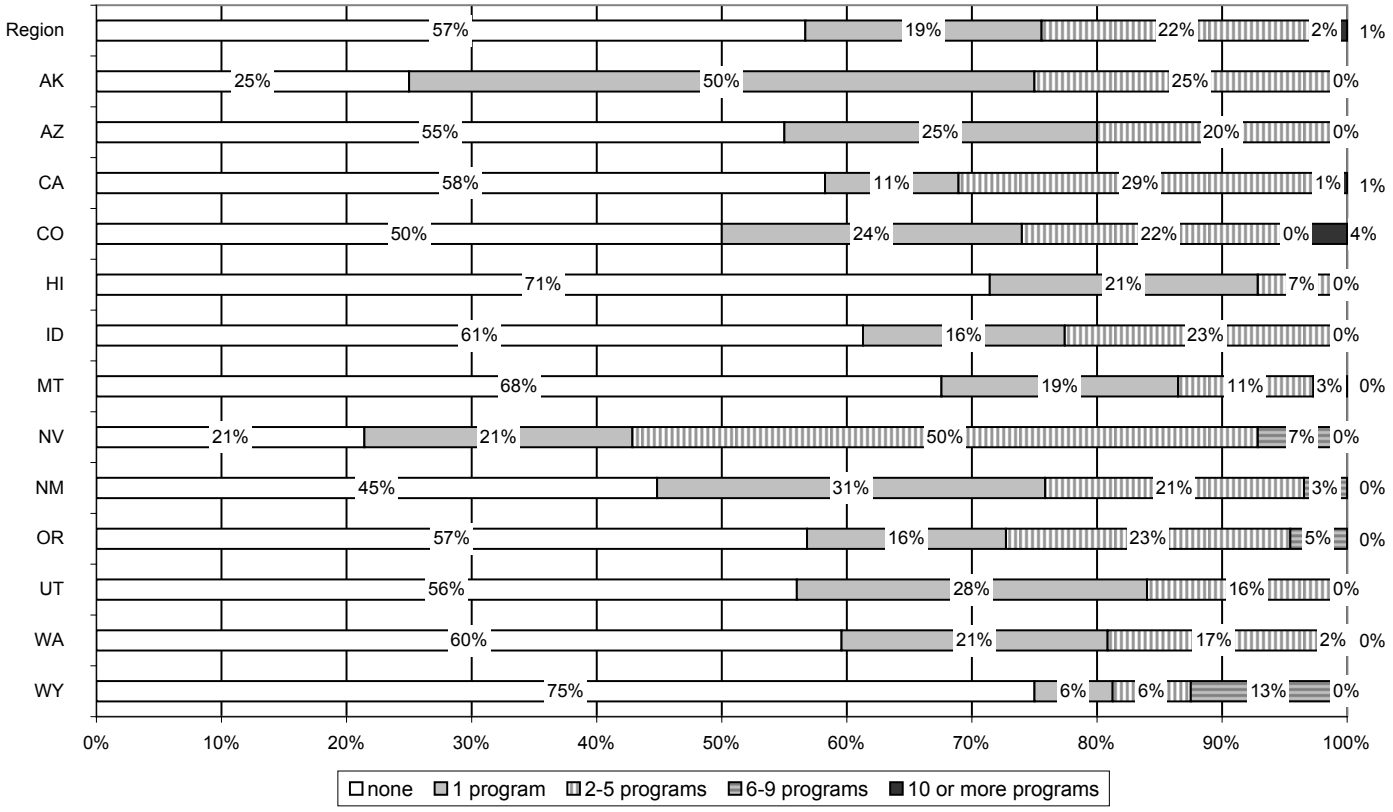
Figure 42. During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to organic or sustainable farming groups (Q11i)?



During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to other public agencies (e.g., NRCS, BLM, Forest Service, State Dept. of Ag) (Q11j)?

Figure 43 shows that 44% of the participants across the western region reported that they had delivered at least one sustainable agriculture educational program to other public agencies (e.g., NRCS, BLM, Forest Service, State Dept. of Ag) during 2002-2003. Wyoming had only one-quarter (25%) of its participants indicate that they had delivered at least one program to other public agencies during 2002-2003. On the other hand, Nevada had over three-quarters (78%) of its participants say that they had delivered at least one program to these groups during this time.

Figure 43. During 2002 and 2003, approximately how many sustainable agriculture educational programs did you deliver to other public agencies (e.g., NRCS, BLM, Forest Service, State Dept. of Ag) (Q11j)?



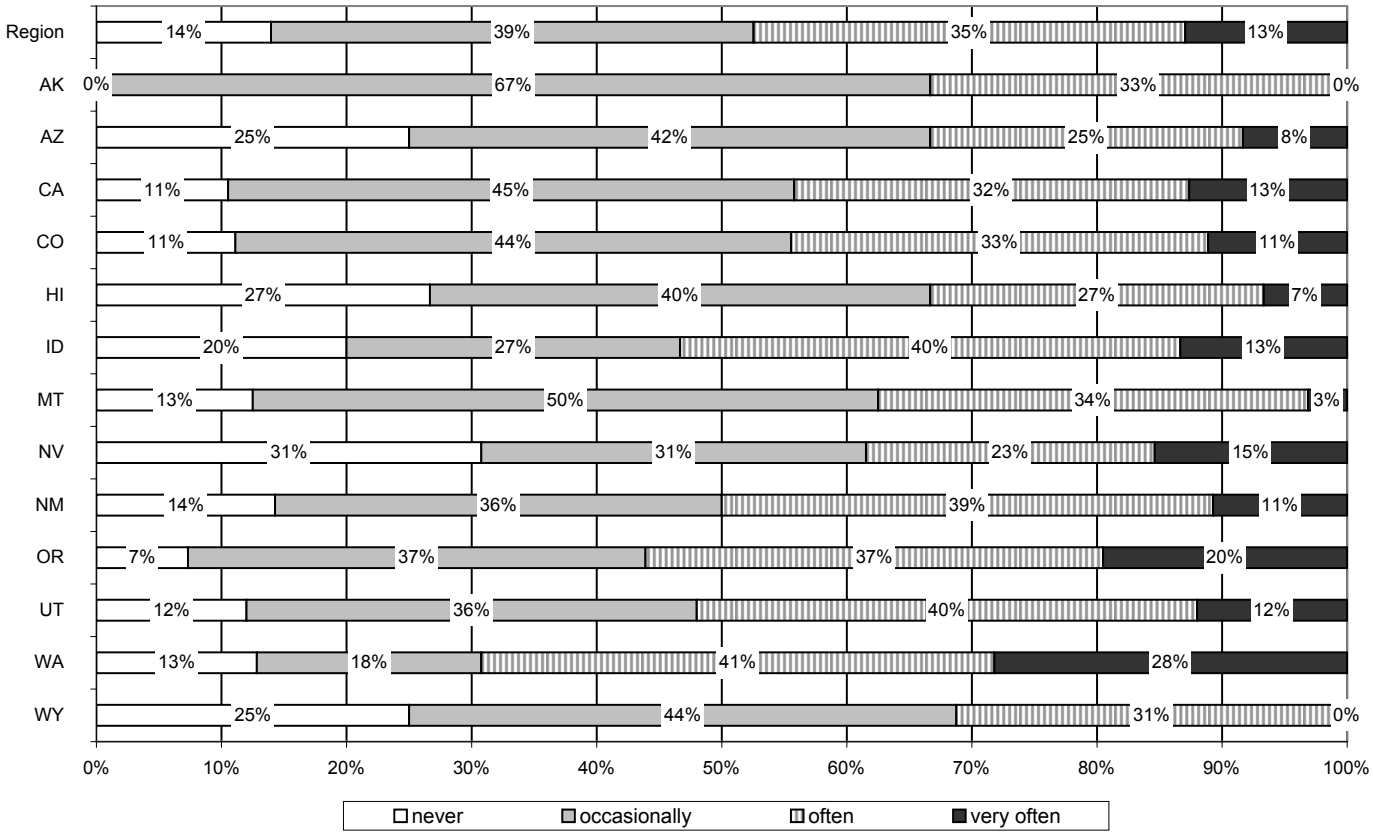
Partnering with Others to Deliver Educational Programs

Question 12 of the survey asked participants how often they partner with various groups when they deliver educational programs on sustainable agriculture. Four groups were listed with possible response options of *very often, often, occasionally,* and *never.*

When you deliver educational programs on sustainable agriculture, how often do you partner with farm or commodity organizations (Q12a)?

As shown in Figure 44, when delivering educational programs on sustainable agriculture, 87% of the participants across the western region reported that they partnered with farm or commodity groups at least occasionally. Nevada reported the least frequent partnering with farm or commodity groups with 69% of its participants indicating that they partnered at least occasionally with these groups. Oregon reported the most frequent partnering with farm or commodity groups with 94% of its participants saying that they partnered at least occasionally with these groups.

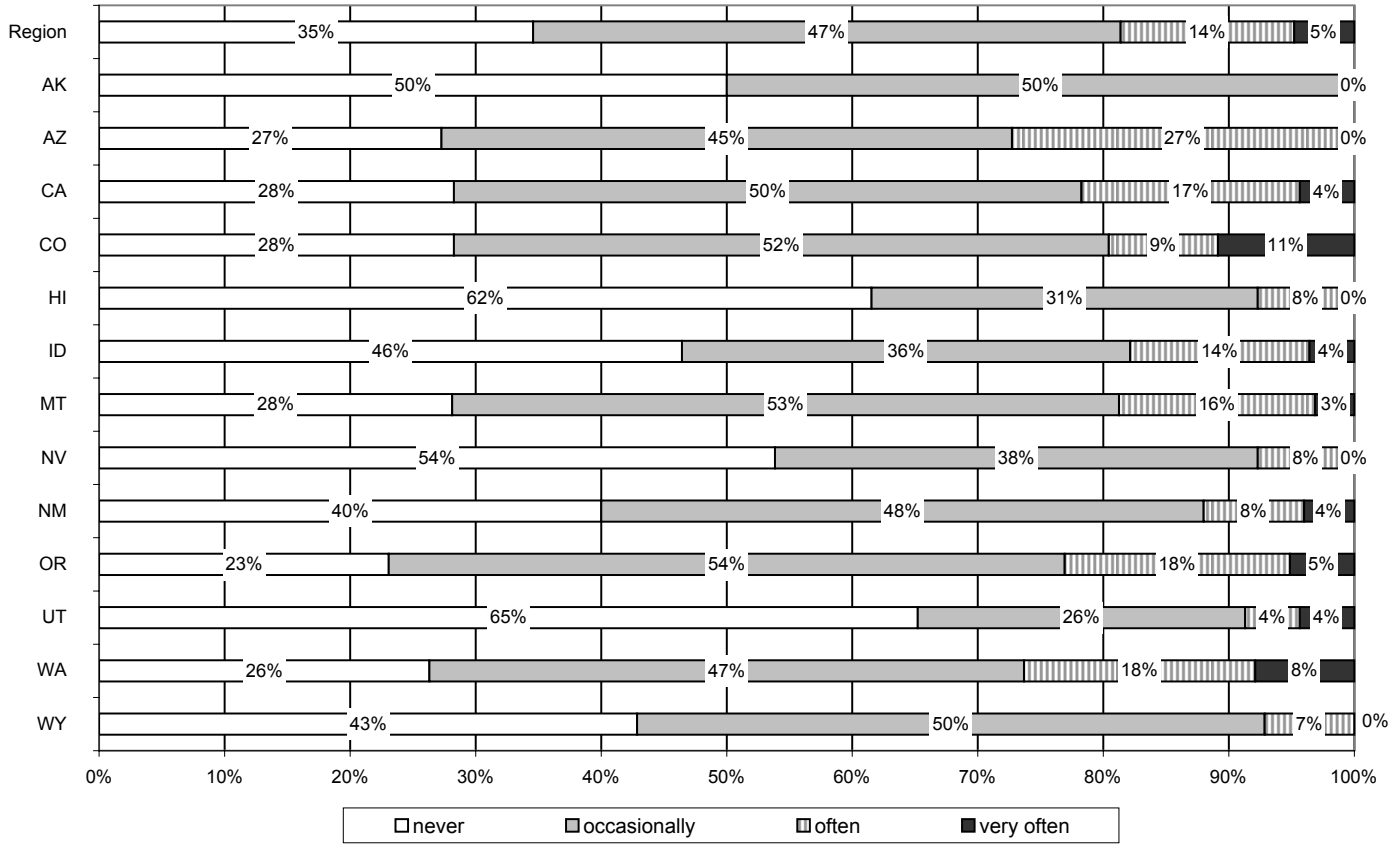
Figure 44. When you deliver educational programs on sustainable agriculture, how often do you partner with farm or commodity organizations (Q12a)?



When you deliver educational programs on sustainable agriculture, how often do you partner with agriculture consultants (Q12b)?

Figure 45 shows that 66% of the participants across the western region indicated that they partnered at least occasionally with agriculture consultants when they delivered educational programs on sustainable agriculture. Oregon had over three-quarters (77%) of its participants report partnering at least occasionally with agriculture consultants when delivering educational programs. However, Utah had just over one-third (34%) of its participants report partnering at least occasionally with agriculture consultants.

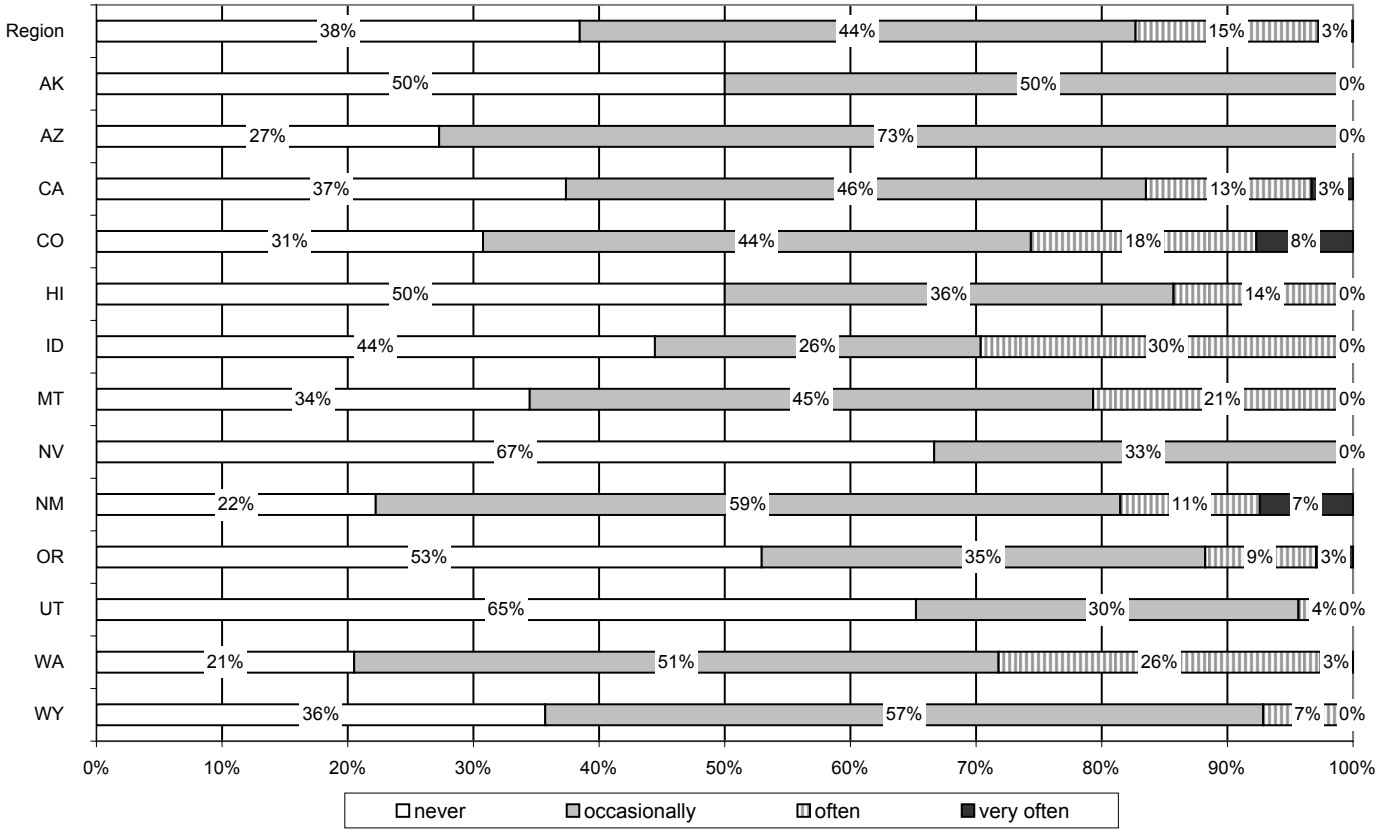
Figure 45. When you deliver educational programs on sustainable agriculture, how often do you partner with agriculture consultants (Q12b)?



When you deliver educational programs on sustainable agriculture, how often do you partner with organic or sustainable farming groups (Q12c)?

As shown in Figure 46, when delivering educational programs on sustainable agriculture, 62% of the participants across the western region reported partnering at least occasionally with organic or sustainable farming groups. Utah had only 34% of its participants indicate that they partnered at least occasionally with these groups. However, New Mexico and Washington had 77% and 80% of their participants, respectively, report that they partnered at least occasionally with organic or sustainable farming groups.

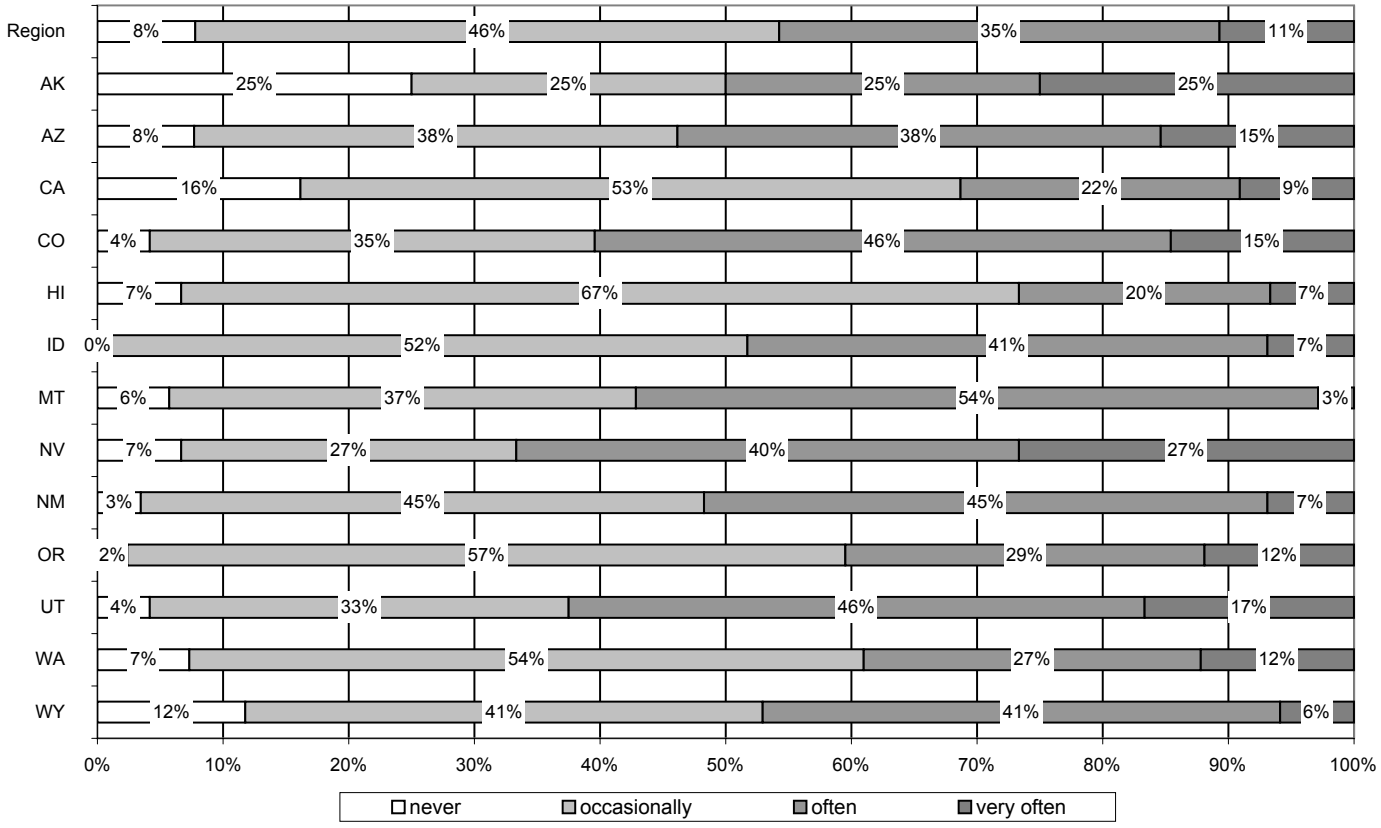
Figure 46. When you deliver educational programs on sustainable agriculture, how often do you partner with organic or sustainable farming groups (Q12c)?



When you deliver educational programs on sustainable agriculture, how often do you partner with other government agencies (Q12d)?

Figure 47 shows that the vast majority of participants (92%) across the western region indicated that they partnered at least occasionally with other government agencies when delivering educational programs on sustainable agriculture. Only three states (Alaska, California, Wyoming) had more than 10% of their participants who reported that they never partnered with other government agencies when delivering educational programs.

Figure 47. When you deliver educational programs on sustainable agriculture, how often do you partner with other government agencies (Q12d)?



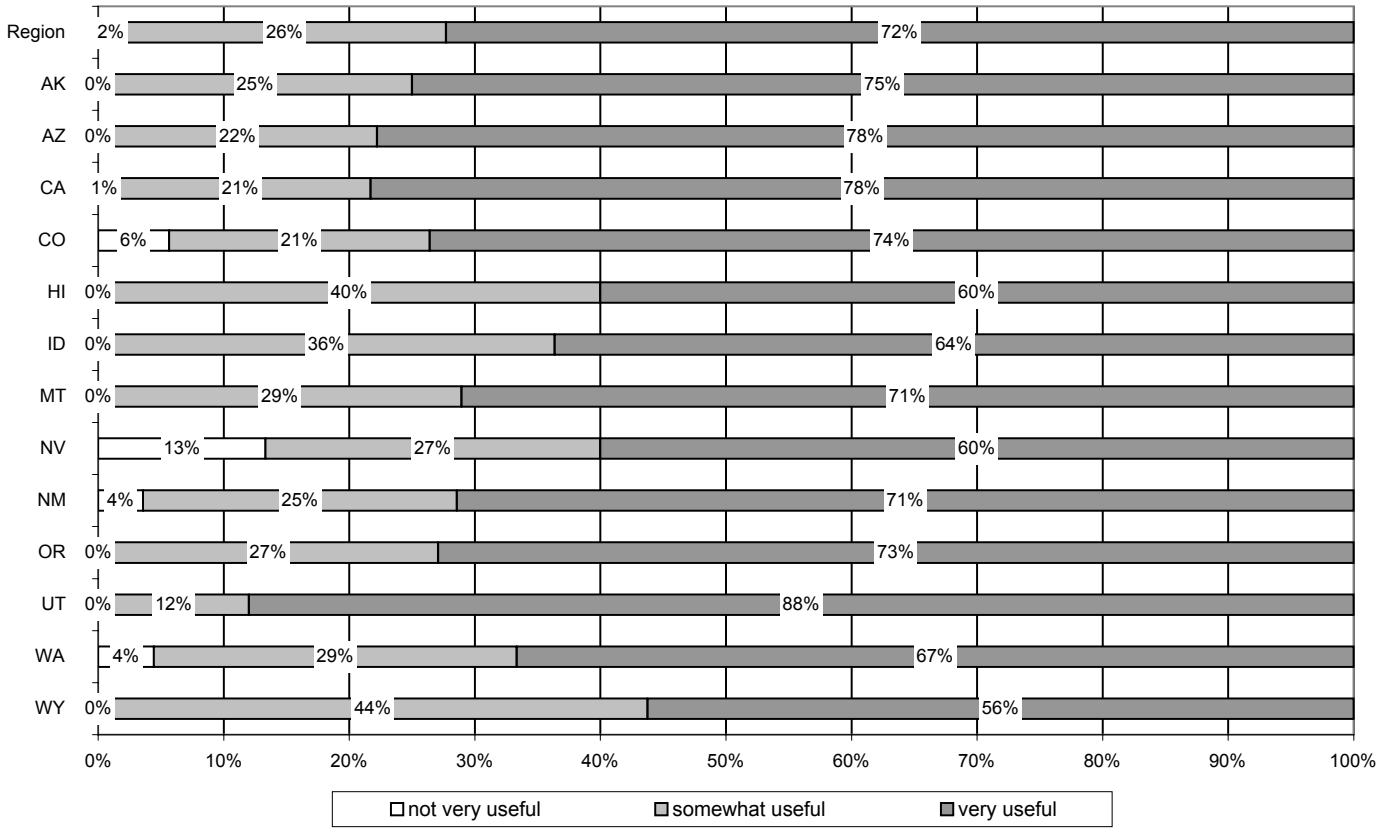
Usefulness of Information on Sustainable Agriculture

Question 13 on the survey asked participants about the usefulness of various sources of information when presenting information on sustainable agriculture. Four specific sources were listed with response options of *very useful, somewhat useful,* and *not very useful.*

How would you rate the usefulness of information from a land-grant university when presenting information on sustainable agriculture (Q13a)?

Figure 48 shows that close to three-quarters (72%) of the participants across the western region rated information from a land-grant university as being very useful when presenting information on sustainable agriculture. Virtually all participants from eight states rated information from a land-grant university as being at least somewhat useful when presenting information on sustainable agriculture.

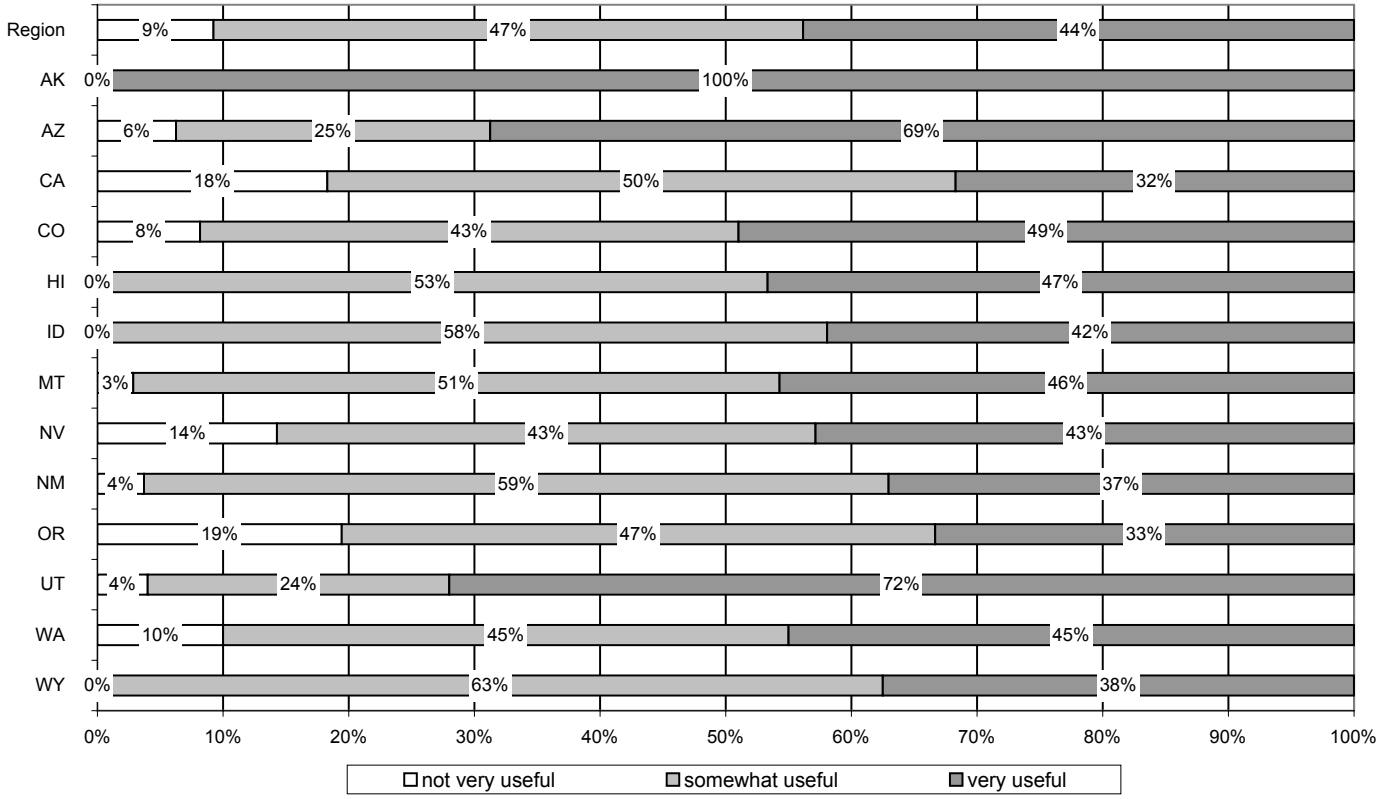
Figure 48. How would you rate the usefulness of information from a land-grant university when presenting information on sustainable agriculture (Q13a)?



How would you rate the usefulness of information from Sustainable Agriculture Research and Education Program (USDA SARE/SAN) when presenting information on sustainable agriculture (Q13b)?

As shown in Figure 49, the majority of participants (91%) across the western region rated information from Sustainable Agriculture Research and Education Program (USDA SARE/SAN) as being at least somewhat useful when presenting information on sustainable agriculture. Four states (Alaska, Hawaii, Idaho, Wyoming) had 100% of their participants rate the information from SARE as being as least somewhat useful when presenting information on sustainable agriculture.

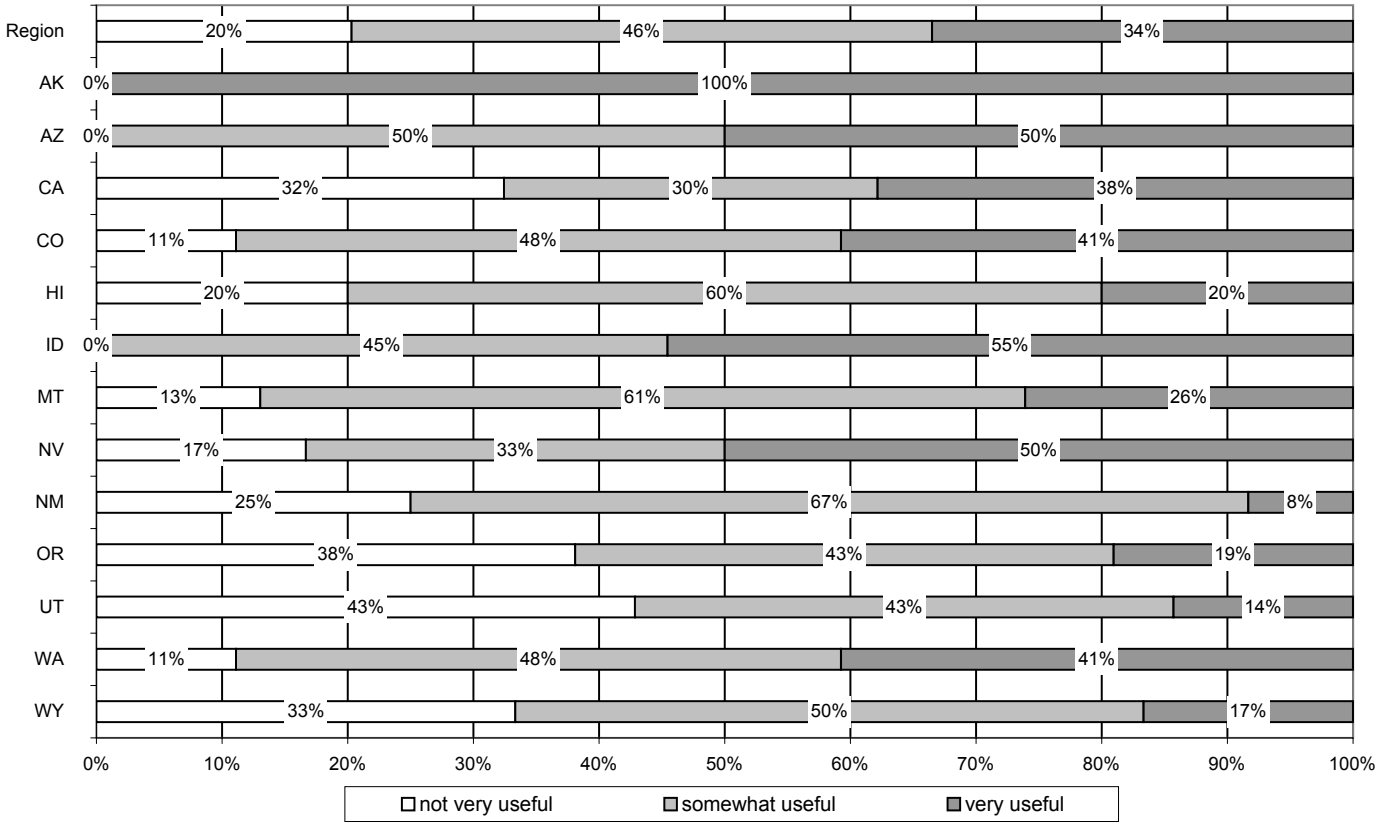
Figure 49. How would you rate the usefulness of information from Sustainable Agriculture Research and Education Program (USDA SARE/SAN) when presenting information on sustainable agriculture (Q13b)?



How would you rate the usefulness of information from ATTRA (Appropriate Technology Transfer for Rural Areas) when presenting information on sustainable agriculture (Q13c)?

Figure 50 shows that 80% of the participants across the western region rated information from ATTRA (Appropriate Technology Transfer for Rural Areas) as being at least somewhat useful when presenting information on sustainable agriculture. Four states (Alaska, Arizona, Idaho, Nevada) had at least 50% of their participants rate the information from ATTRA as very useful when presenting information on sustainable agriculture.

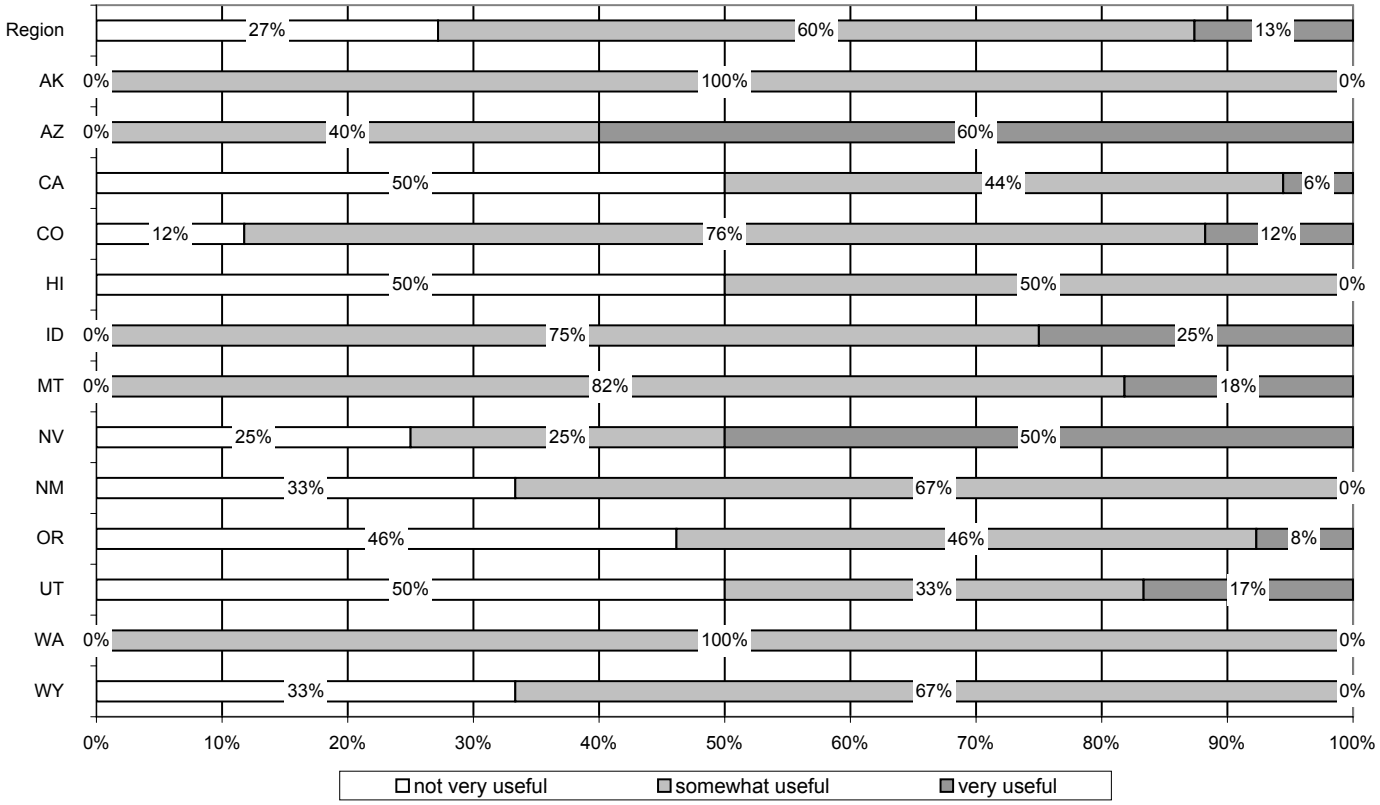
Figure 50. How would you rate the usefulness of information from ATTRA (Appropriate Technology Transfer for Rural Areas) when presenting information on sustainable agriculture (Q13c)?



How would you rate the usefulness of information from Alternative Farming Systems Information Center (AFSIC, part of the National Ag Library) when presenting information on sustainable agriculture (Q13d)?

As displayed in Figure 51, close to three-quarters (73%) of the participants across the western region rated information from Alternative Farming Systems Information Center (AFSIC, part of the National Ag Library) as being at least somewhat useful when presenting information on sustainable agriculture. Furthermore, 100% of the participants from five states rated the information from AFSIC as being at least somewhat useful. However, half the participants (50%) from three states (California, Hawaii, Utah) rated this information as not very useful.

Figure 51. How would you rate the usefulness of information from Alternative Farming Systems Information Center (AFSIC, part of the National Ag Library) when presenting information on sustainable agriculture (Q13d)?



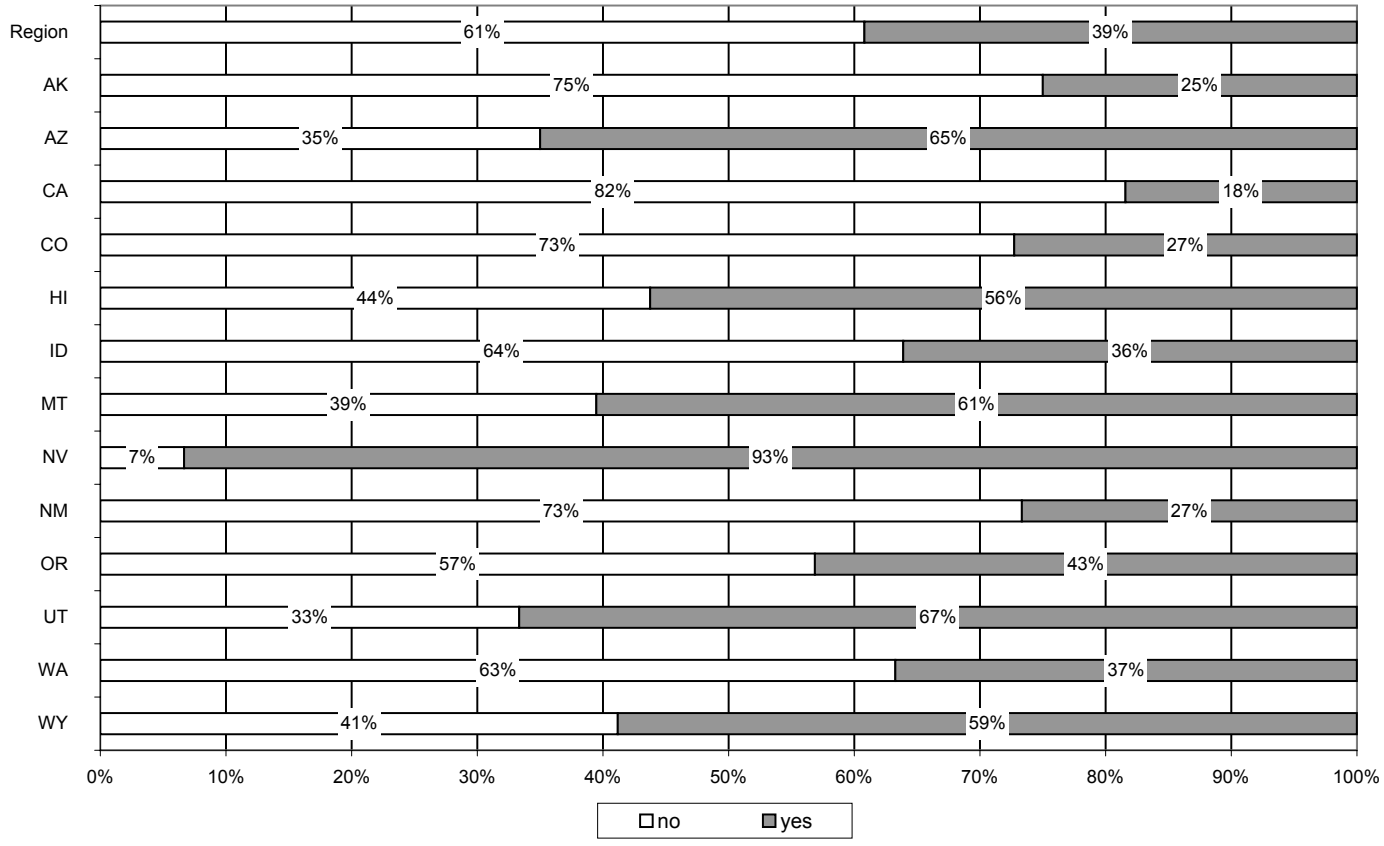
Participation in USDA Western SARE Functions

Question 14 on the survey asked participants, "Which of the following Western SARE functions have you participated in?" Four functions were listed and participants were asked to indicate in which functions they had participated.

Which of the following USDA Western SARE functions have you participated in? SARE-sponsored professional development activity (Q14a).

Figure 52 shows that across the western region, 39% of the participants reported that they had participated in a SARE-sponsored professional development activity. Nevada had the most participants with 93%, while California had the fewest with 18%. The rest of the states had a range of 25% to 67% of their participants indicate participation in a SARE-sponsored professional development activity.

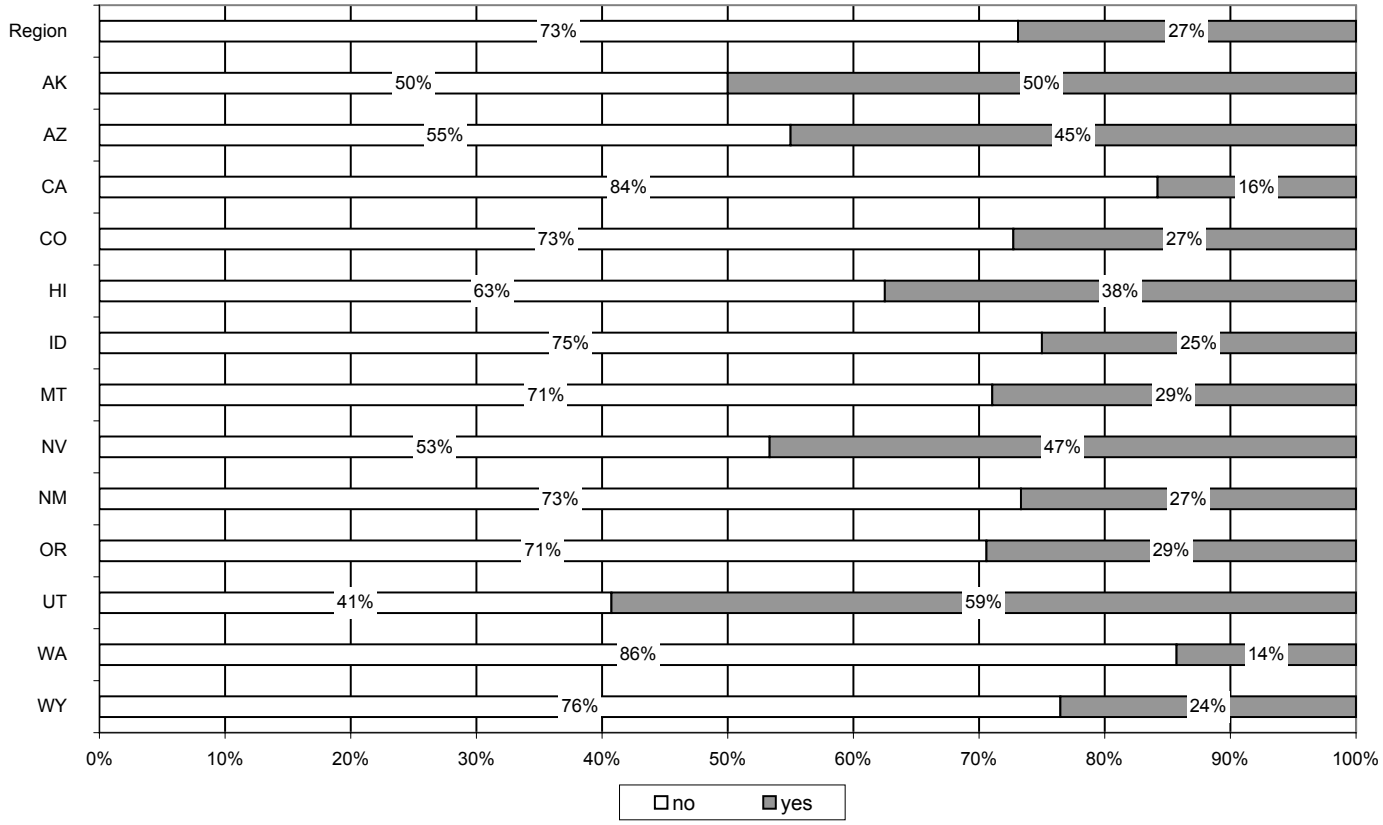
Figure 52. Which of the following USDA Western SARE functions have you participated in? SARE-sponsored professional development activity (Q14a).



Which of the following USDA Western SARE functions have you participated in? Tour of SARE-funded research (Q14b).

As seen in Figure 53, approximately one-quarter (27%) of the participants across the western region indicated that they had participated in a tour of SARE-funded research. Utah had the most participants at 59%, while Washington had the fewest participants at 14%. The remaining states ranged from 16% to 50% of their participants who said they had participated in a tour of SARE-funded research.

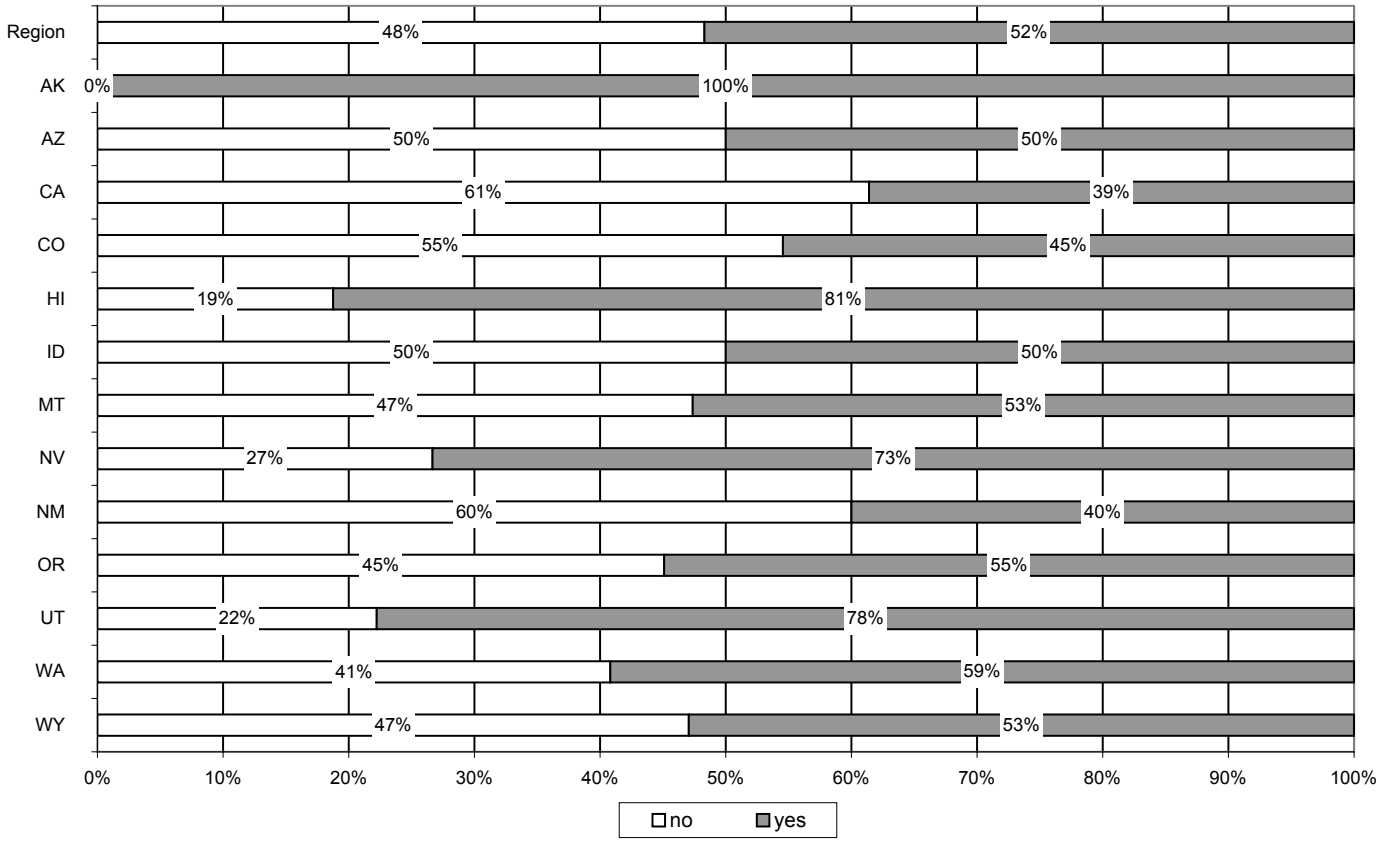
Figure 53. Which of the following USDA Western SARE functions have you participated in? Tour of SARE-funded research (Q14b).



Which of the following USDA Western SARE functions have you participated in? A SARE-sponsored meeting or conference (Q14c).

Figure 54 shows that over half the participants (52%) across the western region reported that they had participated in a SARE-sponsored meeting or conference. Only three states (California, Colorado, New Mexico) had less than half their participants (50%) indicate that they had participated in this type of activity. The rest of the states ranged from 50% to 81% of their participants reporting that they had participated in a SARE-sponsored meeting or conference.

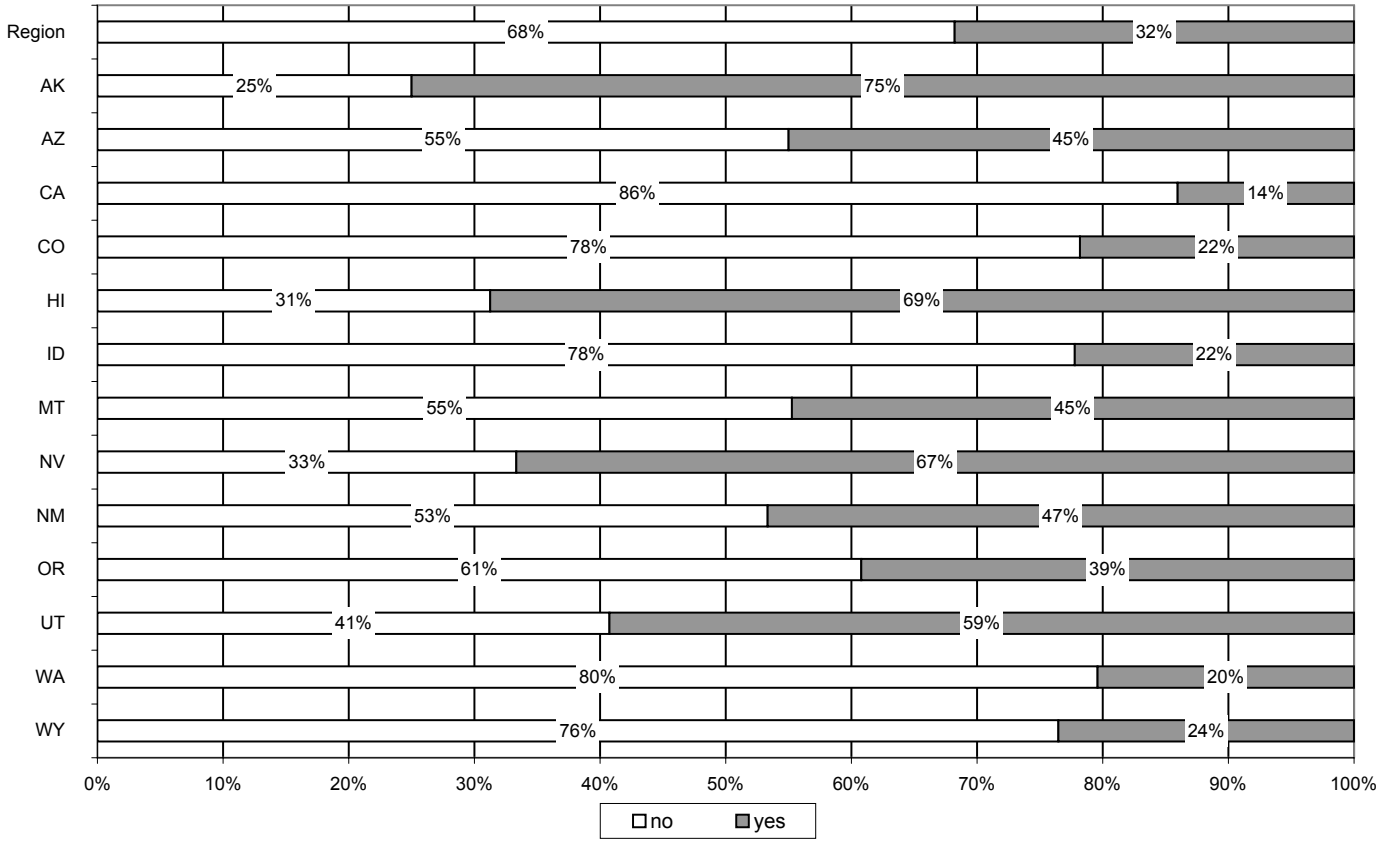
Figure 54. Which of the following USDA Western SARE functions have you participated in? A SARE-sponsored meeting or conference (Q14c).



Which of the following USDA Western SARE functions have you participated in? A program or tour funded by my state's SARE Professional Development Coordinator (Q14d).

As seen in Figure 55, across the western region, 32% of the participants reported that they had participated in a program or tour funded by their state's SARE Professional Development Coordinator. Five states had more than 75% of their participants indicate that they had not participated in this activity. The remaining states had between 39% and 75% of their participants indicate that they had participated in a program or tour funded by their state's SARE Professional Development Coordinator.

Figure 55. Which of the following USDA Western SARE functions have you participated in? A program or tour funded by my state's SARE Professional Development Coordinator (Q14d).



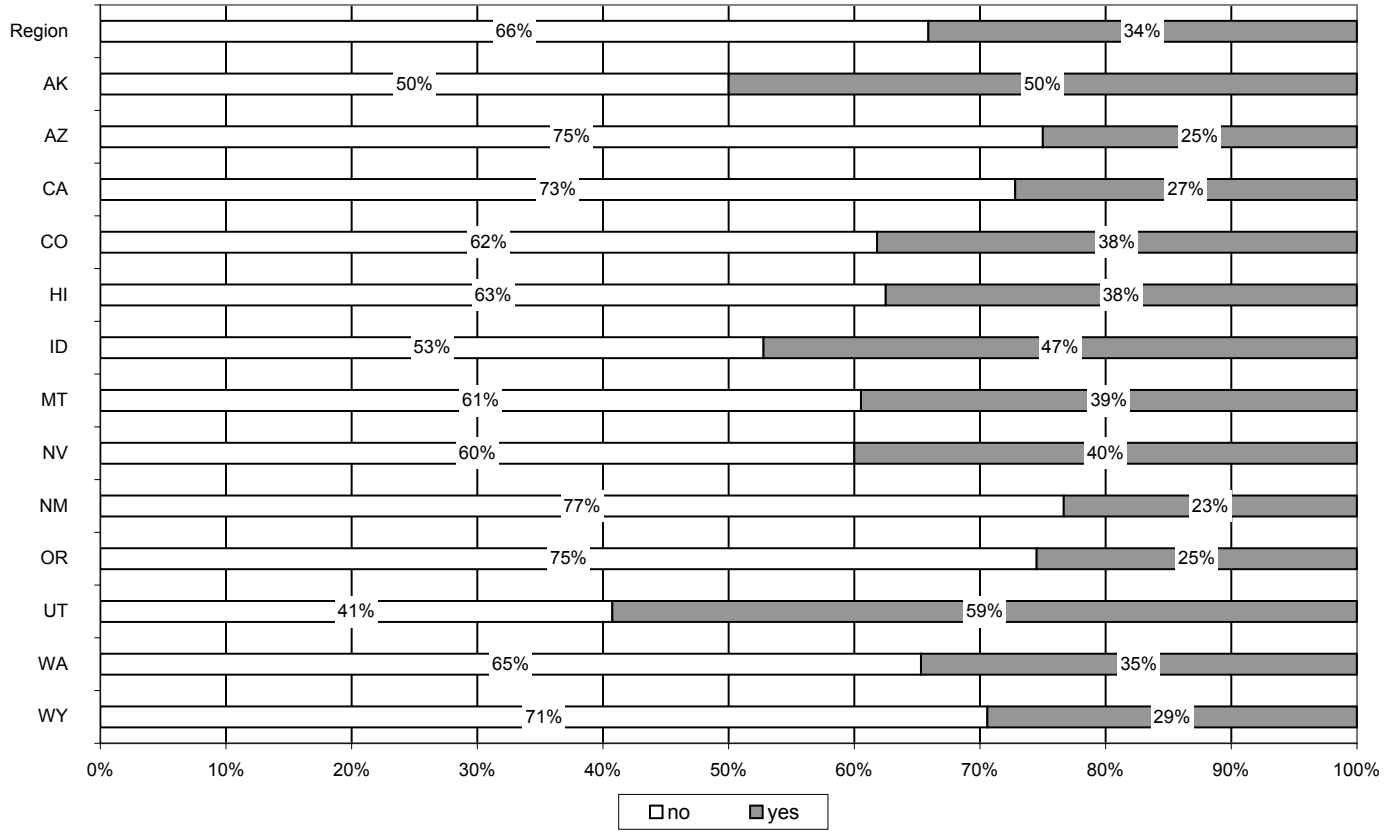
Participation as a Cooperator in USDA Western SARE Functions

Question 15 on the survey asked participants, "Which of the following Western SARE functions have you participated in as a cooperator?' Three functions were listed and participants were asked to indicate in which functions they had participated.

Which of the following USDA Western SARE functions have you participated in as a cooperator? A SARE-funded research and education project (Q15a).

Figure 56 shows that approximately one-third (34%) of the participants across the western region reported that they had participated in a SARE-funded research and education project as a cooperator. Four states (Alaska, Idaho, Nevada, Utah) had at least 40% of their participants indicate that they had participated in this type of function. The other nine states had between 23% and 39% of their participants report that they had participated in a SARE-funded research and education project as a cooperator.

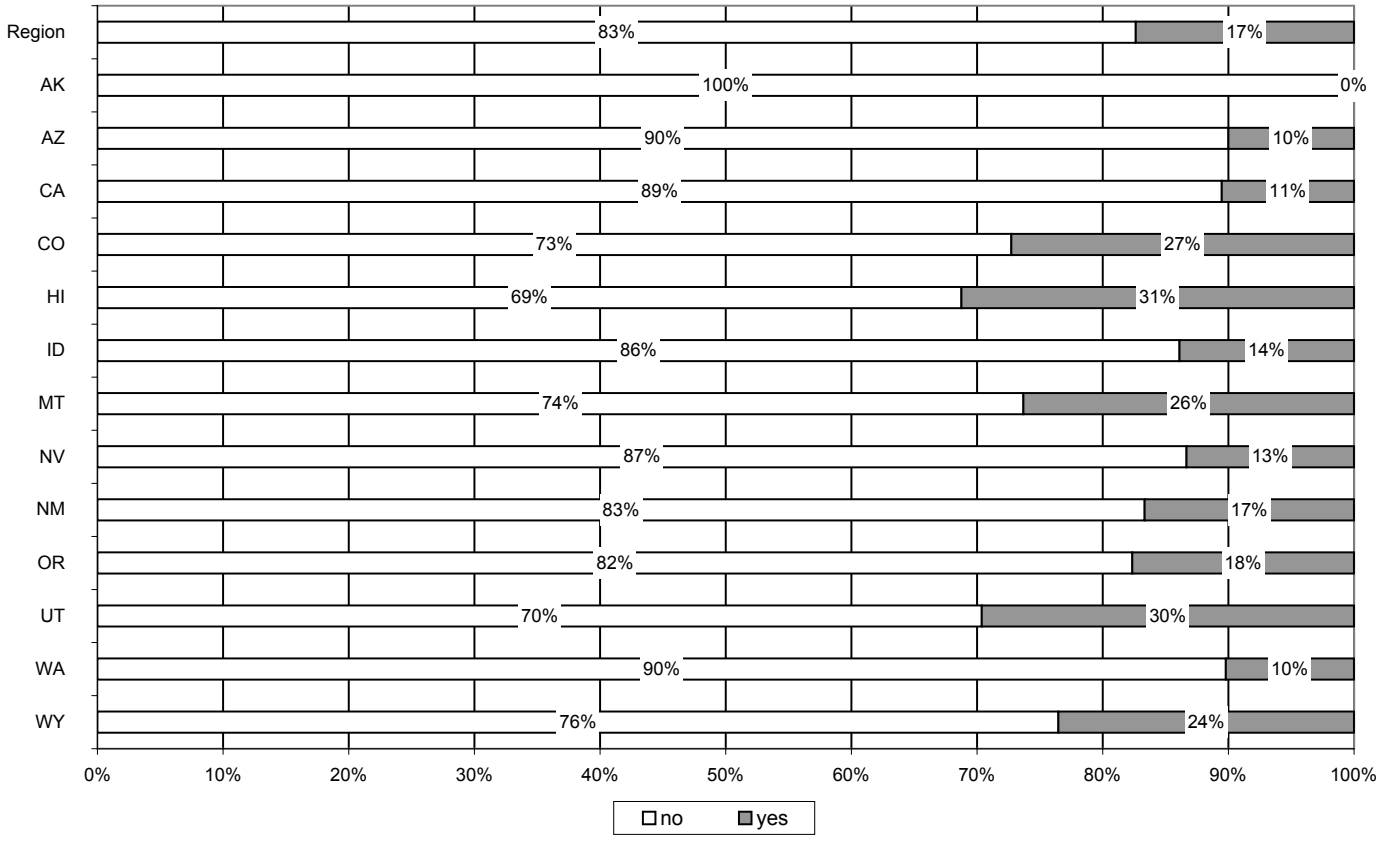
Figure 56. Which of the following USDA Western SARE functions have you participated in as a cooperator? A SARE-funded research and education project (Q15a).



Which of the following USDA Western SARE functions have you participated in as a cooperator? A SARE-funded producer grant (Q15b).

Figure 57 shows that only 17% of the participants across the western region reported that they had participated in a SARE-funded producer grant as a cooperator. Two states (Hawaii, Utah) had 30% or more of their participants indicate that they had participated in this activity. Three states (Alaska, Arizona, Washington) had 10% or fewer of their participants report that they had participated in a SARE-funded producer grant as a cooperator.

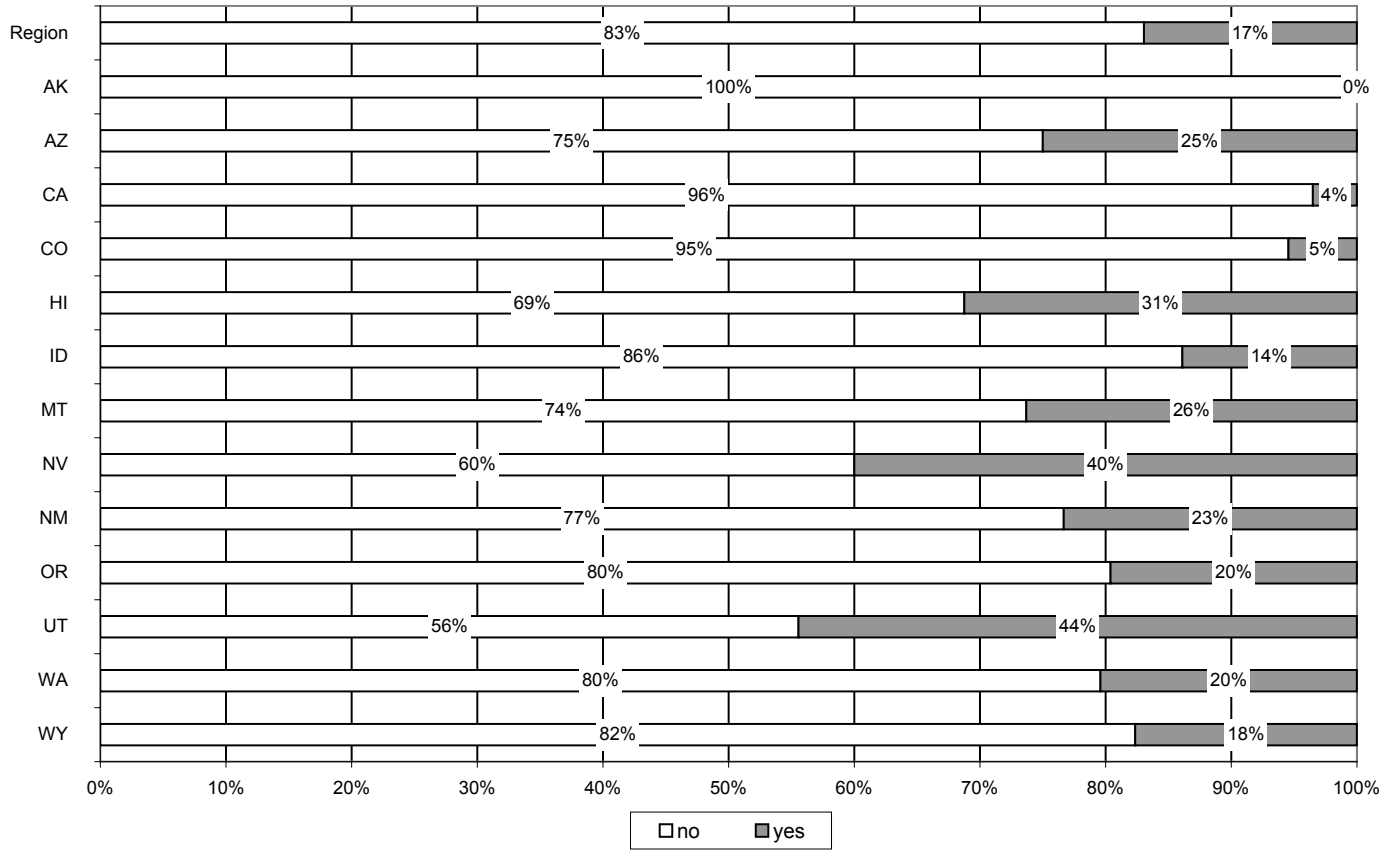
Figure 57. Which of the following USDA Western SARE functions have you participated in as a cooperator? A SARE-funded producer grant (Q15b).



Which of the following USDA Western SARE functions have you participated in as a cooperator? A SARE-funded Professional Development Program grant (Q15c).

Figure 58 shows that only 17% of participants across the western region indicated that they had participated in a SARE-funded Professional Development Program grant as a cooperator. Three states (Alaska, California, Colorado) had less than 10% of their participants report that they had participated in this activity as a cooperator. On the other hand, two states (Nevada, Utah) had at least 40% of their participants report that they had participated in a SARE-funded Professional Development Program grant as a cooperator.

Figure 58. Which of the following USDA Western SARE functions have you participated in as a cooperator? A SARE-funded Professional Development Program grant (Q15c).



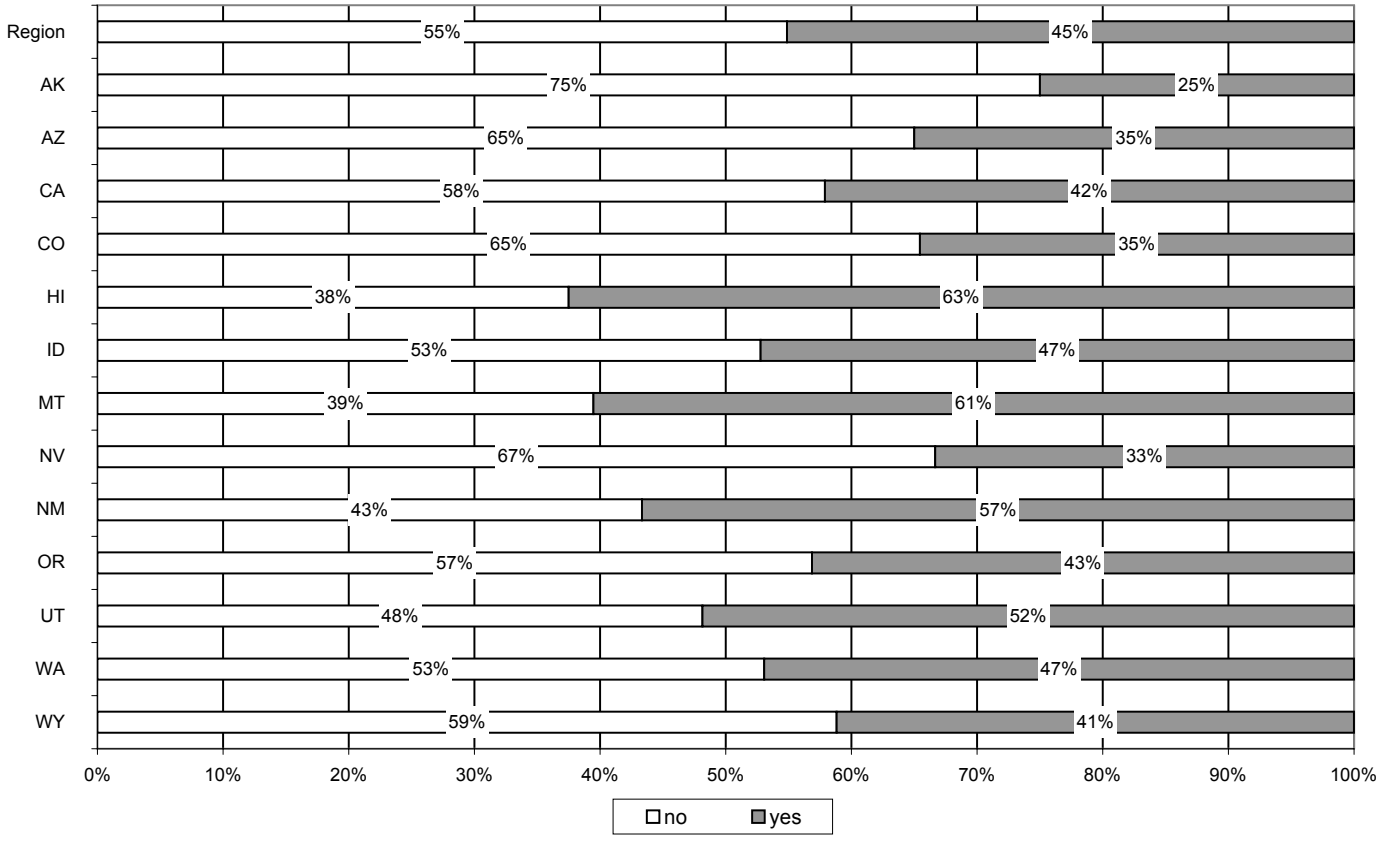
Desired Information

Question 16 on the survey asked participants about the types of agriculture information that would be most helpful to them in their work. Nine different types of information were listed and participants were asked to fill in all that apply.

What type of sustainable agriculture information would be most helpful to you in your work? Soil-building crop rotations including cover crops (Q16a).

As shown in Figure 59, almost half the participants (45%) across the western region reported that information on soil-building crop rotations including cover crops would be helpful to them in their work. Four states (Hawaii, Montana, New Mexico, Utah) had over 50% of their participants indicate that this information would be helpful to them. The remaining states had between 25% and 47% of their participants say that this information would be helpful.

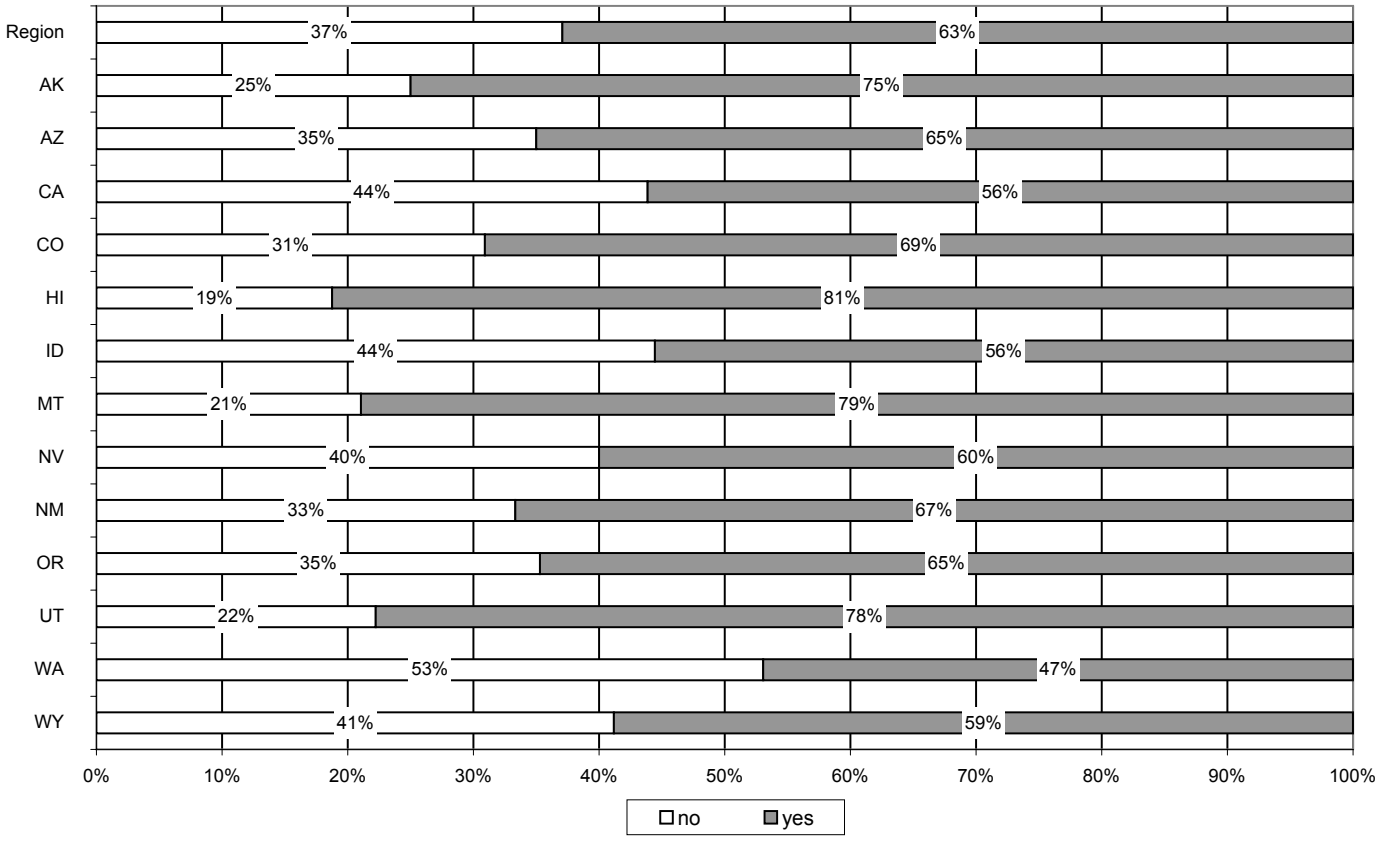
Figure 59. What type of sustainable agriculture information would be most helpful to you in your work? Soil-building crop rotations including cover crops (Q16a).



What type of sustainable agriculture information would be most helpful to you in your work? Ecologically-based weed management strategies (Q16b).

Figure 60 shows that 63% of participants across the western region reported that information on ecologically-based weed management strategies would be helpful to them in their work. Five states had 40% or more of their participants indicate that this information would not be helpful to them. However, the remaining eight states had a range of 65% to 81% of their participants say that this information would be helpful.

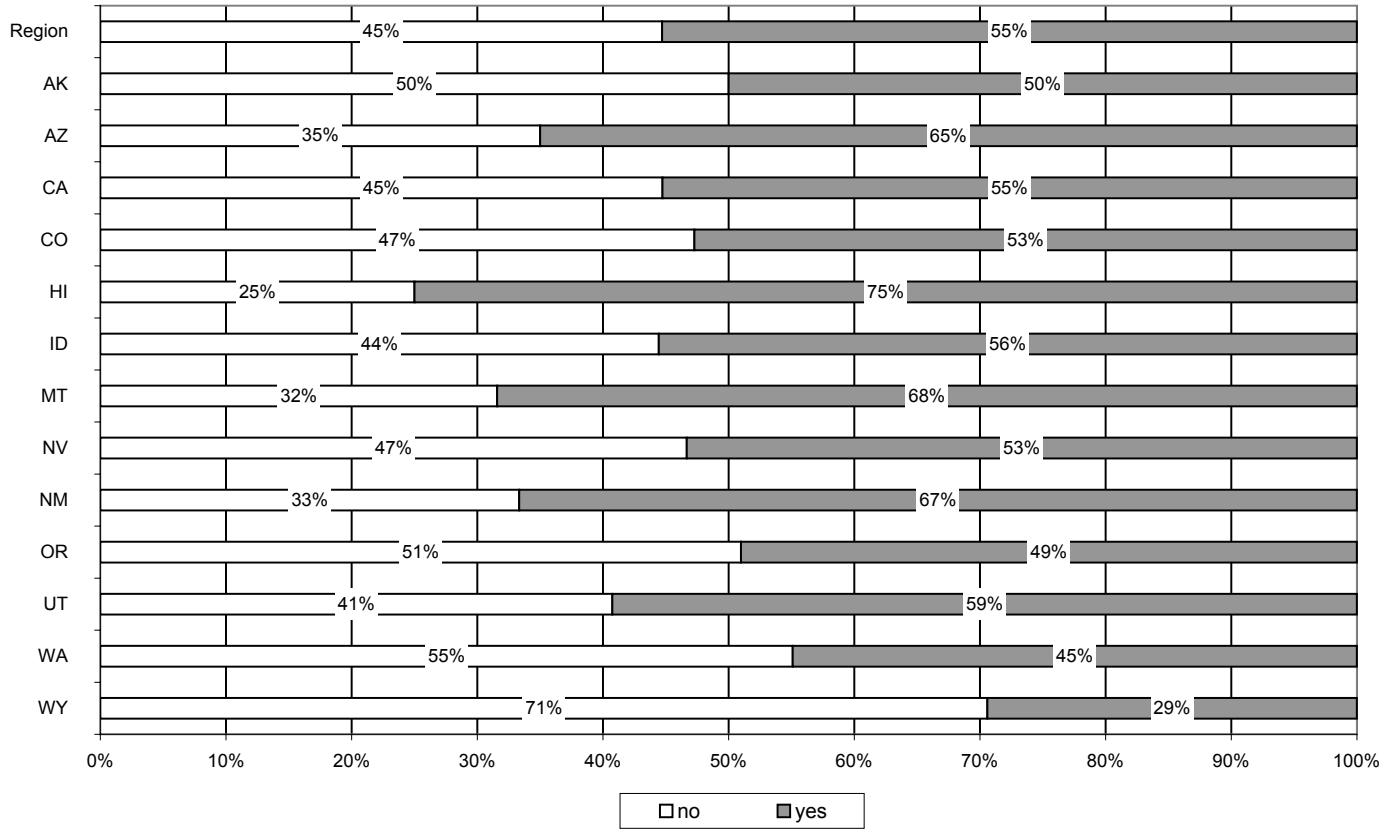
Figure 60. What type of sustainable agriculture information would be most helpful to you in your work? Ecologically-based weed management strategies (Q16b).



What type of sustainable agriculture information would be most helpful to you in your work? Ecologically-based insect and disease management strategies (Q16c).

As shown in Figure 61, over half the participants (55%) across the western region indicated that information on ecologically-based insect and disease management strategies would be helpful to them in their work. Four states (Alaska, Oregon, Washington, Wyoming) had 50% or fewer of their participants report that this type of information would be helpful to them. The rest of the states had between 53% and 75% of their participants indicate that this information would be helpful.

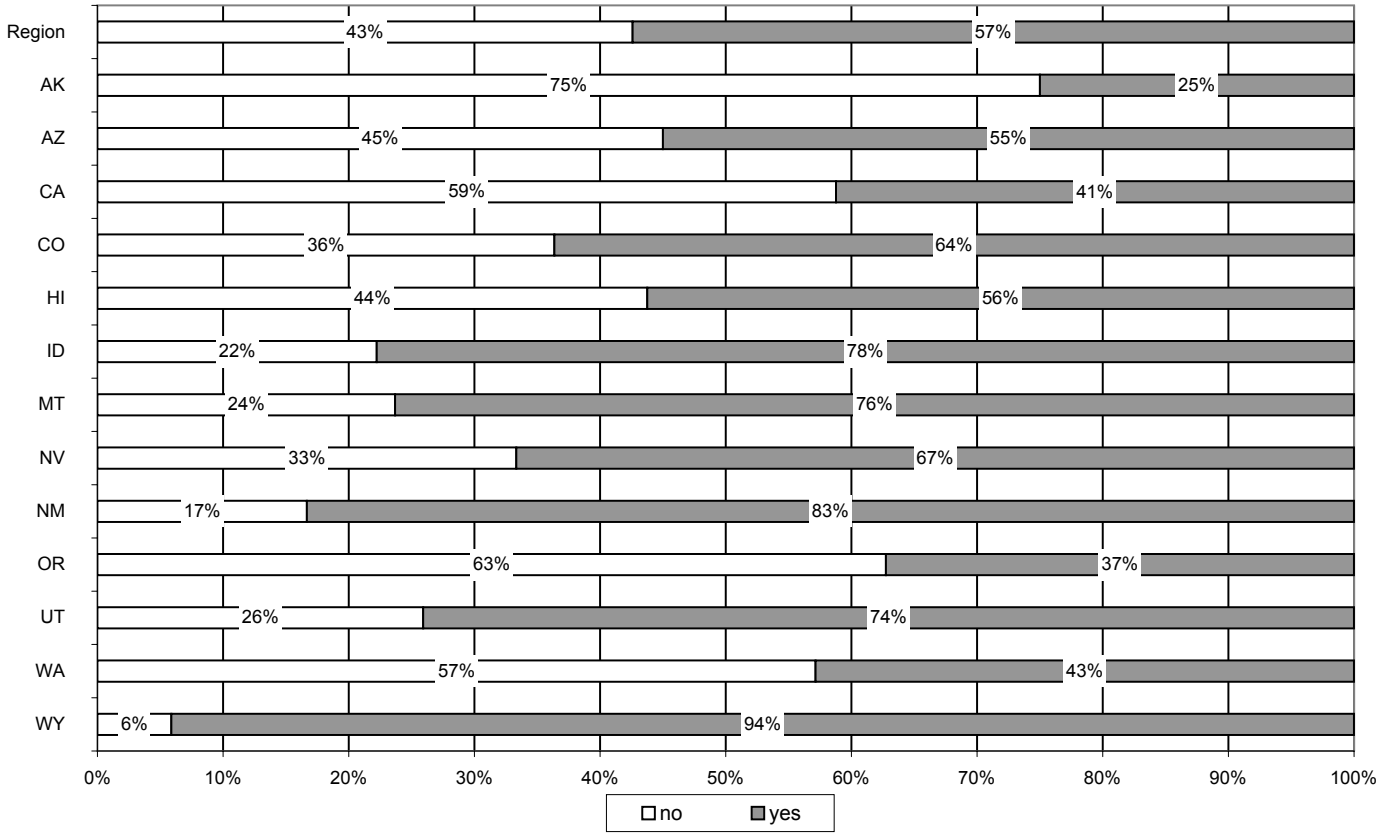
Figure 61. What type of sustainable agriculture information would be most helpful to you in your work? Ecologically-based insect and disease management strategies (Q16c).



What type of sustainable agriculture information would be most helpful to you in your work? Alternative marketing approaches (e.g., direct marketing, eco-labeling) (Q16d).

Figure 62 shows that 57% of participants across the western region reported that information on alternative marketing approaches (e.g., direct marketing, eco-labeling) would be helpful to them in their work. Four states (Alaska, California, Oregon, Washington) had over 50% of their participants indicate that this type of information would not be helpful to them in their work. The remaining nine states had a range of 55% to 94% of their participants say that this information would be helpful.

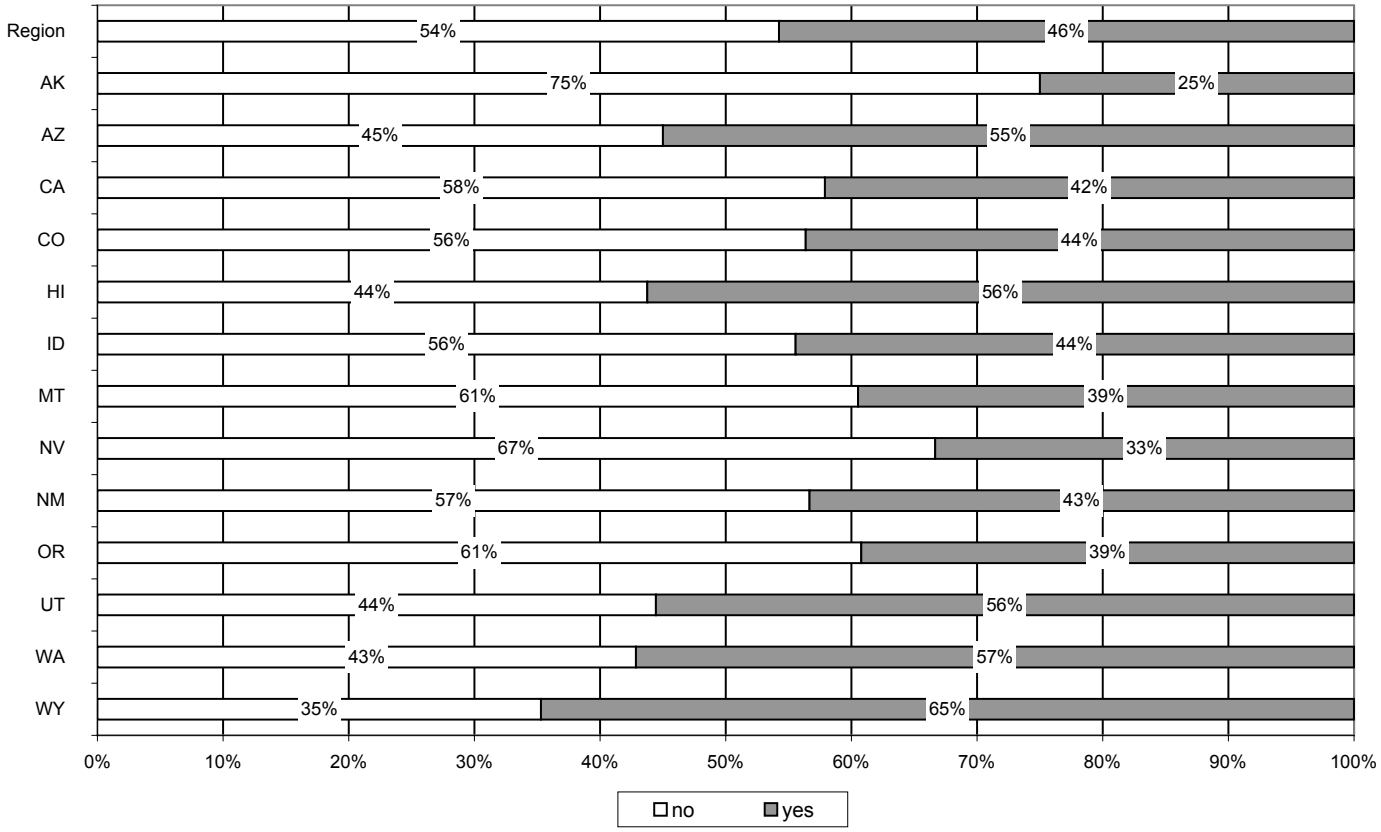
Figure 62. What type of sustainable agriculture information would be most helpful to you in your work? Alternative marketing approaches (e.g., direct marketing, eco-labeling) (Q16d).



What type of sustainable agriculture information would be most helpful to you in your work? Organic agriculture (Q16e).

As displayed in Figure 63, close to half the participants (46%) indicated that information on organic agriculture would be helpful to them in their work. Eight states had at least half their participants (50%) indicate that information on organic agriculture would not be helpful to them.

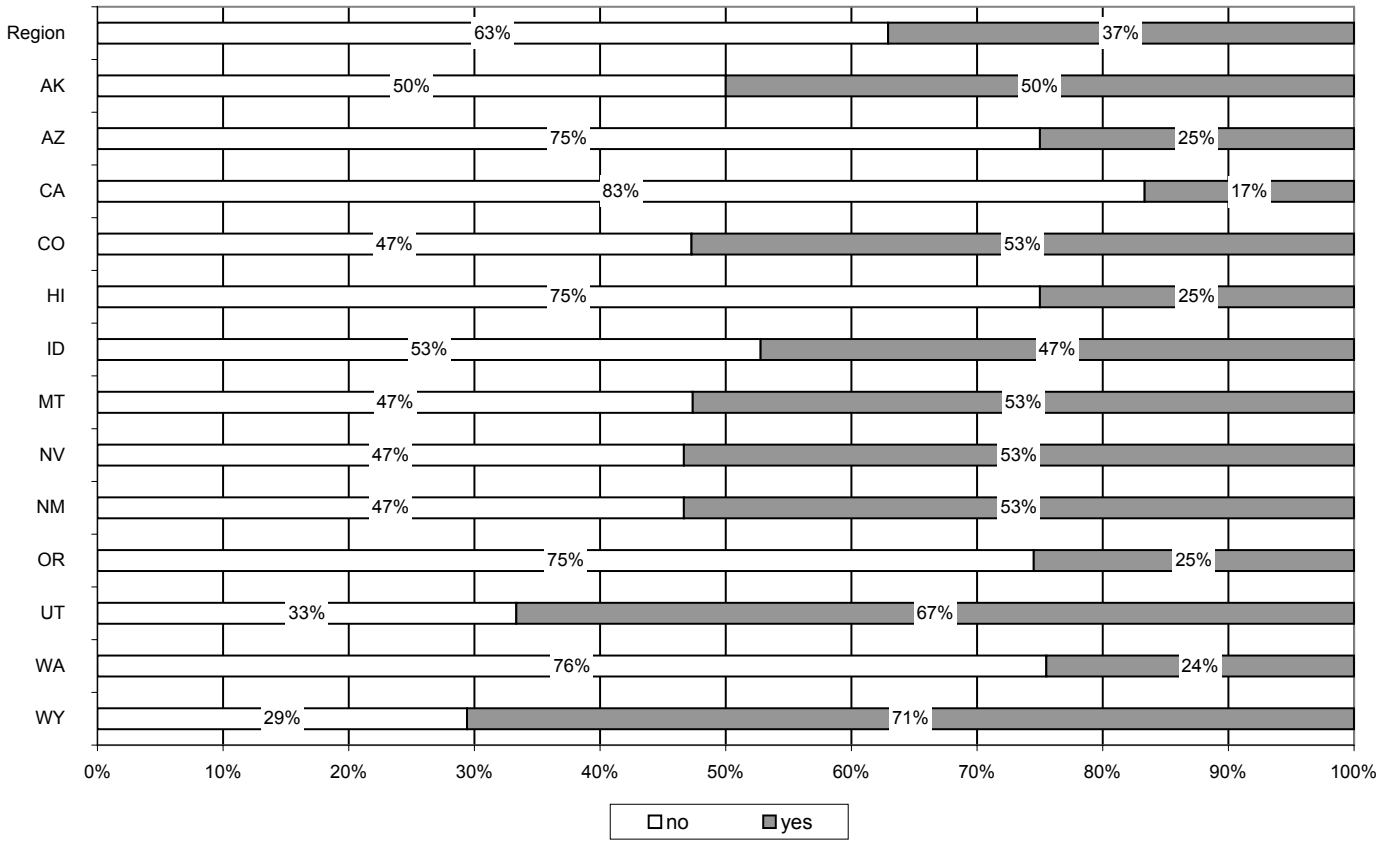
Figure 63. What type of sustainable agriculture information would be most helpful to you in your work? Organic agriculture (Q16e).



What type of sustainable agriculture information would be most helpful to you in your work? Management of intensive grazing systems (Q16f).

Figure 64 shows that 63% of the participants across the western region reported that information on management of intensive grazing systems would not be helpful to them in their work. There was a broad range of responses among states on this item. Wyoming had 71% of its participants indicate that this type of information would be helpful to them. California, on the other hand, had only 17% of its participants who said that information on management of intensive grazing systems would be helpful to them in their work.

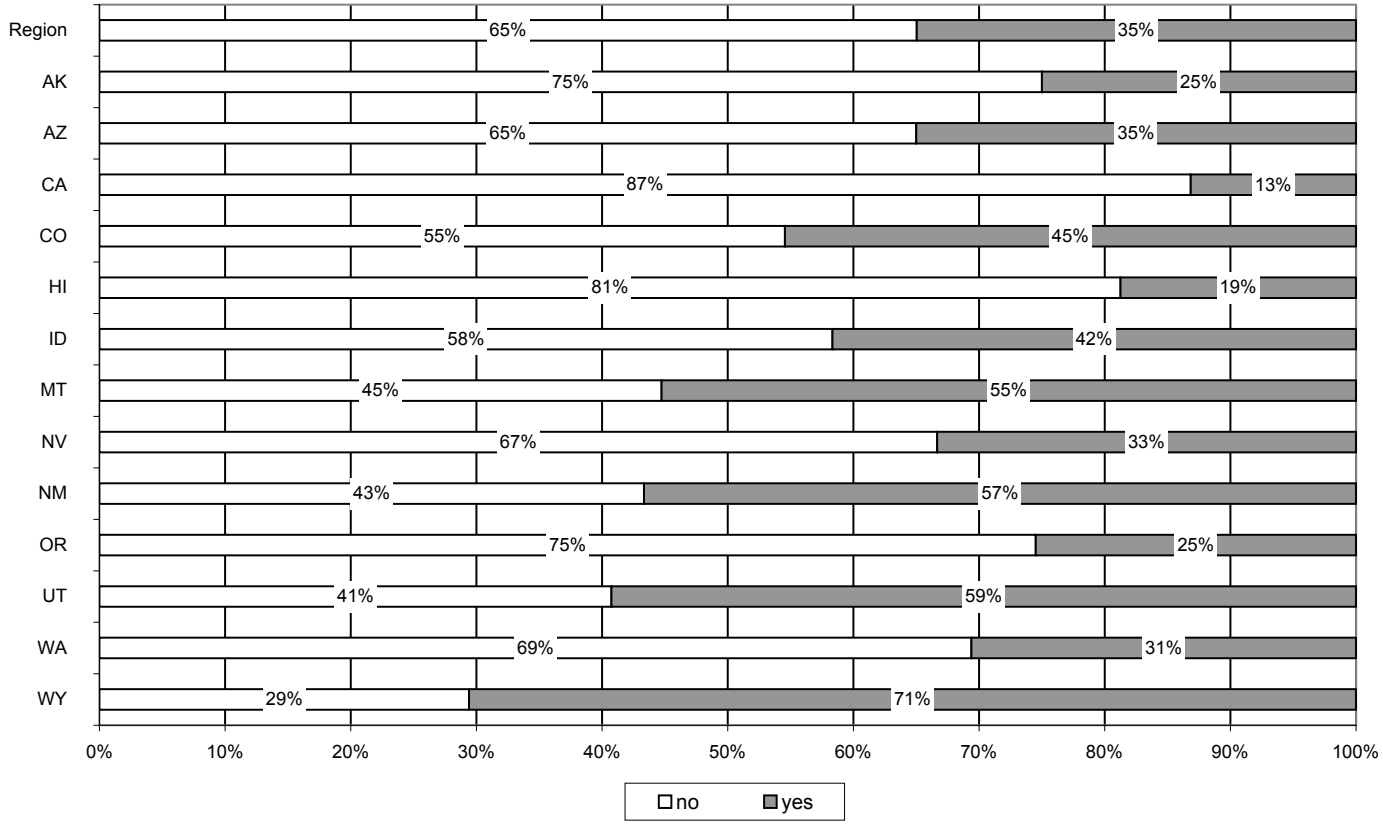
Figure 64. What type of sustainable agriculture information would be most helpful to you in your work? Management of intensive grazing systems (Q16f).



What type of sustainable agriculture information would be most helpful to you in your work? Alternative methods for maintaining livestock health (Q16g).

As seen in Figure 65, approximately two-thirds (65%) of the participants across the western region reported that information on alternative methods for maintaining livestock health would not be helpful to them in their work. Only two states (California, Hawaii) had less than 20% of their participants indicate that this type of information would be helpful to them. However, Wyoming had 71% of its participants report that information on alternative methods for maintaining livestock health would be helpful to them in their work.

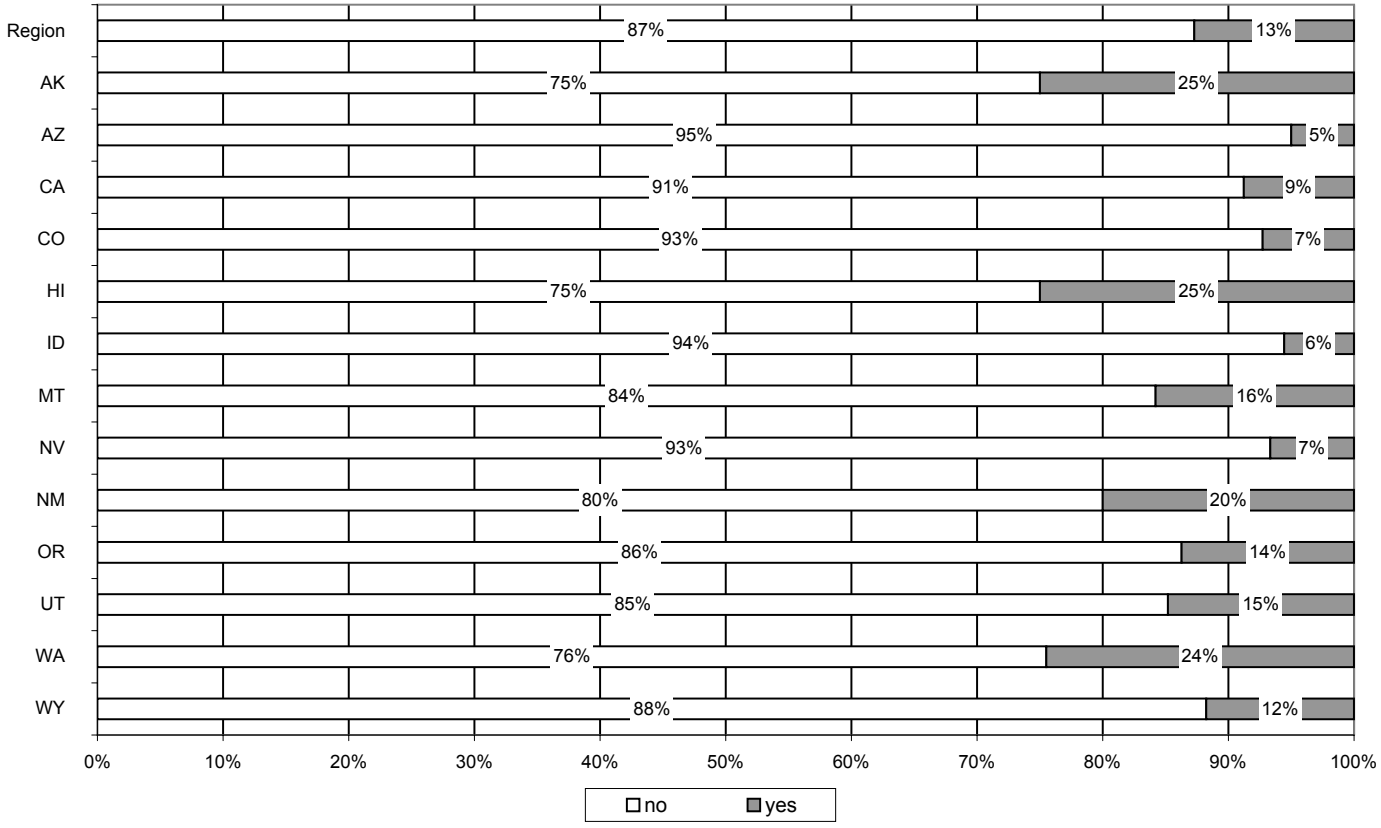
Figure 65. What type of sustainable agriculture information would be most helpful to you in your work? Alternative methods for maintaining livestock health (Q16g).



What type of sustainable agriculture information would be most helpful to you in your work? Agro forestry (Q16h).

As shown in Figure 66, only 13% of participants across the western region indicated that information on agro forestry would be helpful to them in their work. Five states had less than 10% of their participants report that this type of information would be helpful to them in their work. Only four states (Alaska, Hawaii, New Mexico, Washington) had 20% or more of their participants indicate that information on agro forestry would be helpful to them.

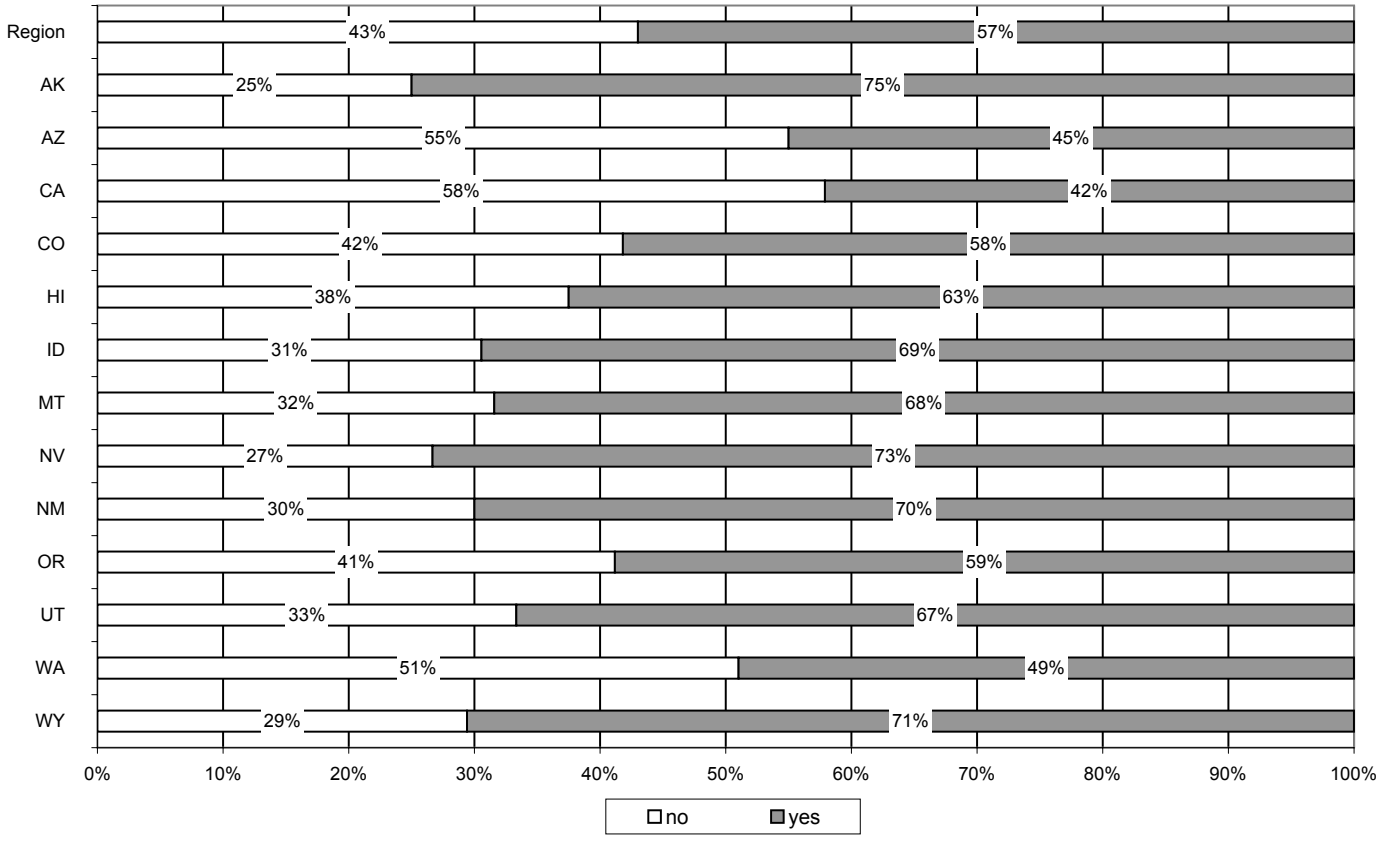
Figure 66. What type of sustainable agriculture information would be most helpful to you in your work? Agro forestry (Q16h).



What type of sustainable agriculture information would be most helpful to you in your work? Economics of alternative farming systems, such as organics (Q16i).

Figure 67 shows that 57% of the participants reported that information on the economics of alternative farming systems, such as organics, would be helpful to them in their work. All of the states had at least 42% of their participants report that this information would be helpful to them in their work. Four states (Alaska, Nevada, New Mexico, Wyoming) had 70% or more of their participants indicate that this type of information would be helpful to them.

Figure 67. What type of sustainable agriculture information would be most helpful to you in your work? Economics of alternative farming systems, such as organics (Q16i).



General Sustainable Agriculture

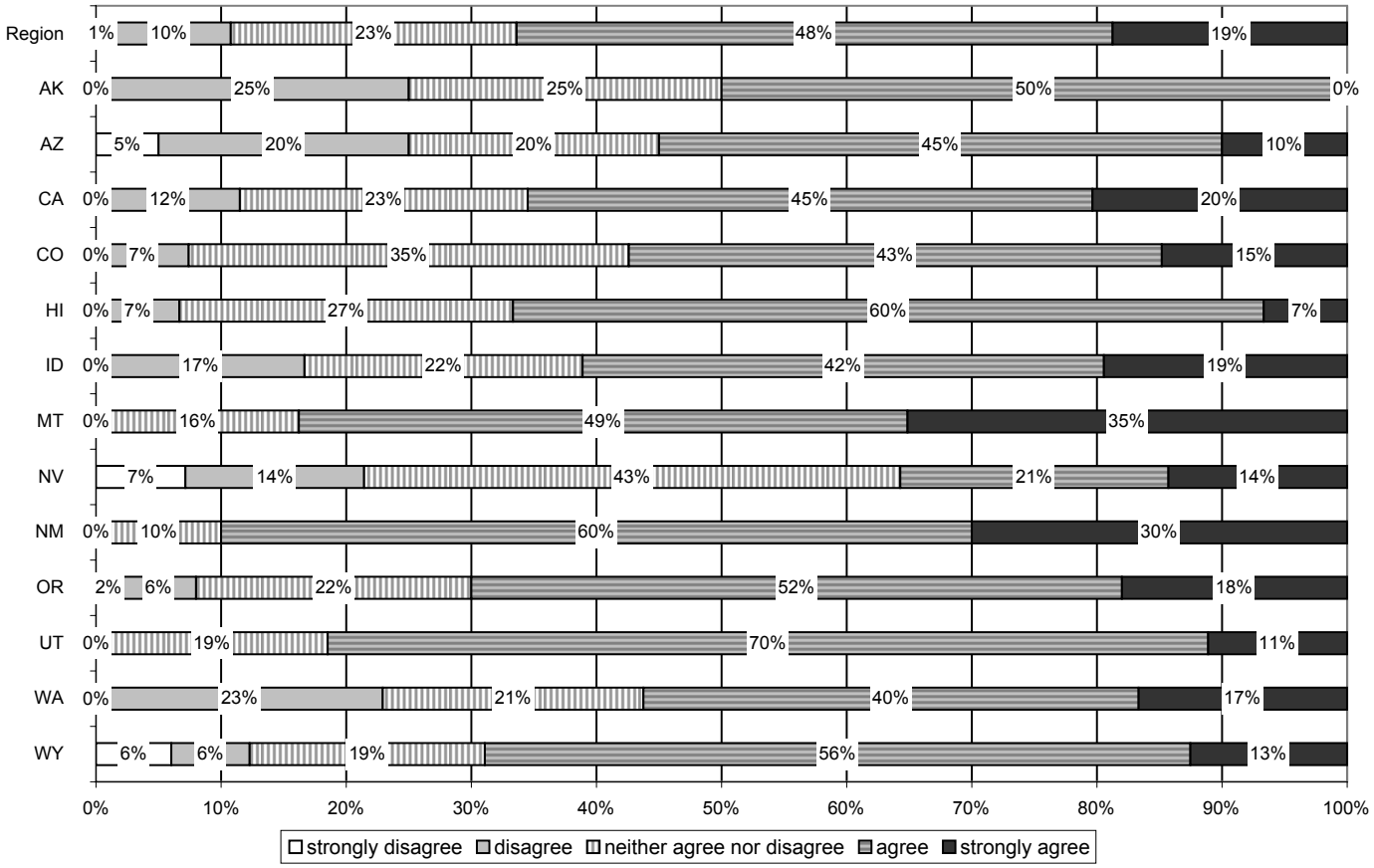
Agriculture as Practiced Today

Question 17 asked participants about agriculture as it is practiced in their area today. For each item, participants were asked to indicate their level of agreement. Potential responses included *strongly agree, agree, neither agree nor disagree, disagree,* and *strongly disagree*.

Agriculture as it is practiced in my area today enhances environmental quality (Q17a).

As shown in Figure 68, two-thirds (67%) of participants across the western region agreed or strongly agreed that agriculture as it is practiced in their area today enhances environmental quality. These responses were similar across states, with the exception of Nevada, where only 35% of participants agreed or strongly agreed with this statement. While 11% of participants across the region disagreed or strongly disagreed that agriculture practice enhances environmental quality, individual state responses ranged from 7% to 25%.

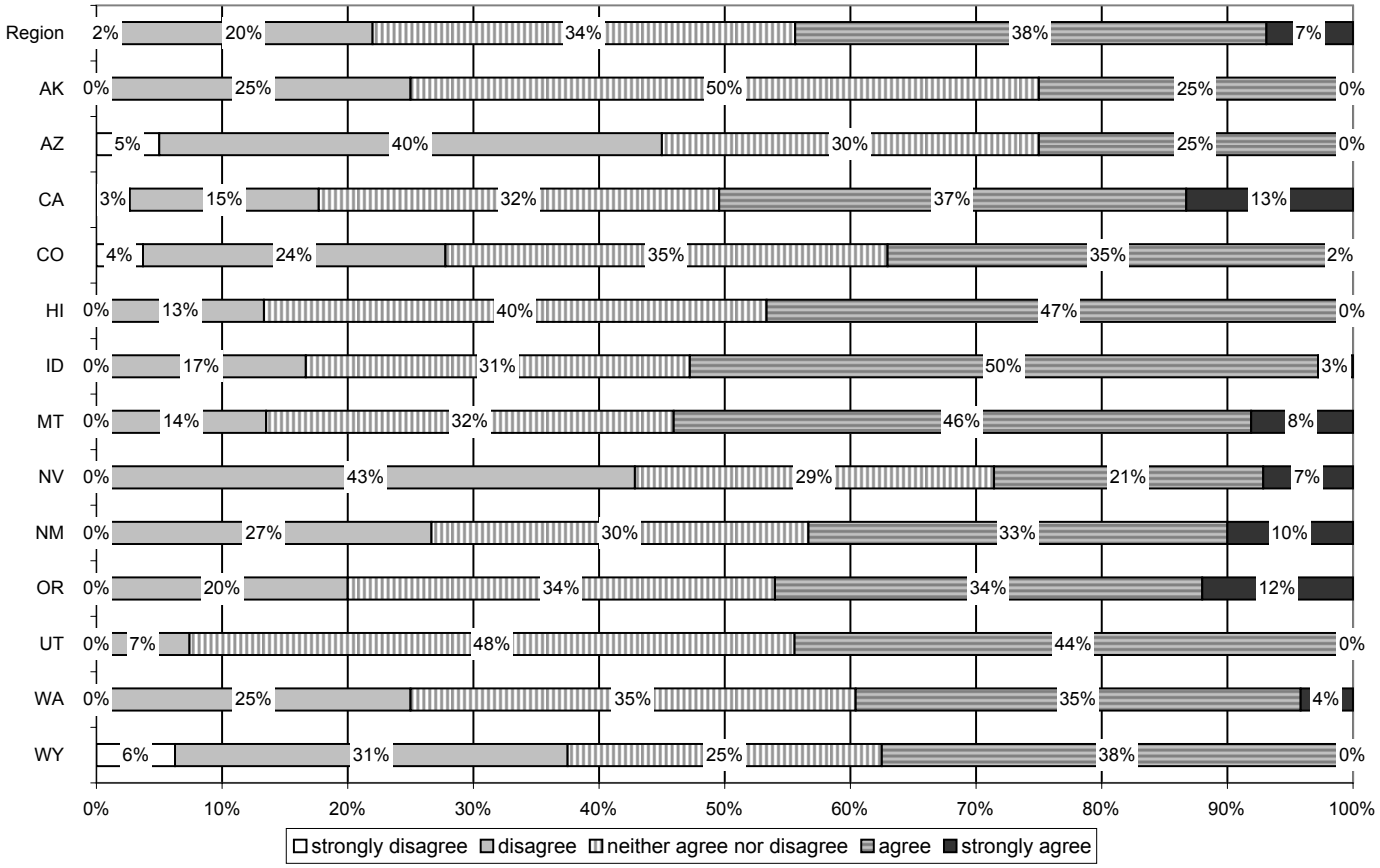
Figure 68. Agriculture as it is practiced in my area today enhances environmental quality (Q17a).



Agriculture as it is practiced in my area today is economically profitable (Q17b).

As shown in Figure 69, nearly half (45%) the participants across the western region agreed or strongly agreed that agriculture as it is practiced in their area today is economically profitable. Responses were similar across states, with the exception of Alaska, Arizona, and Nevada where only 25% to 28% of participants agreed or strongly agreed. While 22% of participants at the regional level disagreed or strongly disagreed with this statement, in Arizona and Nevada, 45% and 43% of participants, respectively, disagreed or strongly disagreed that agriculture is economically profitable.

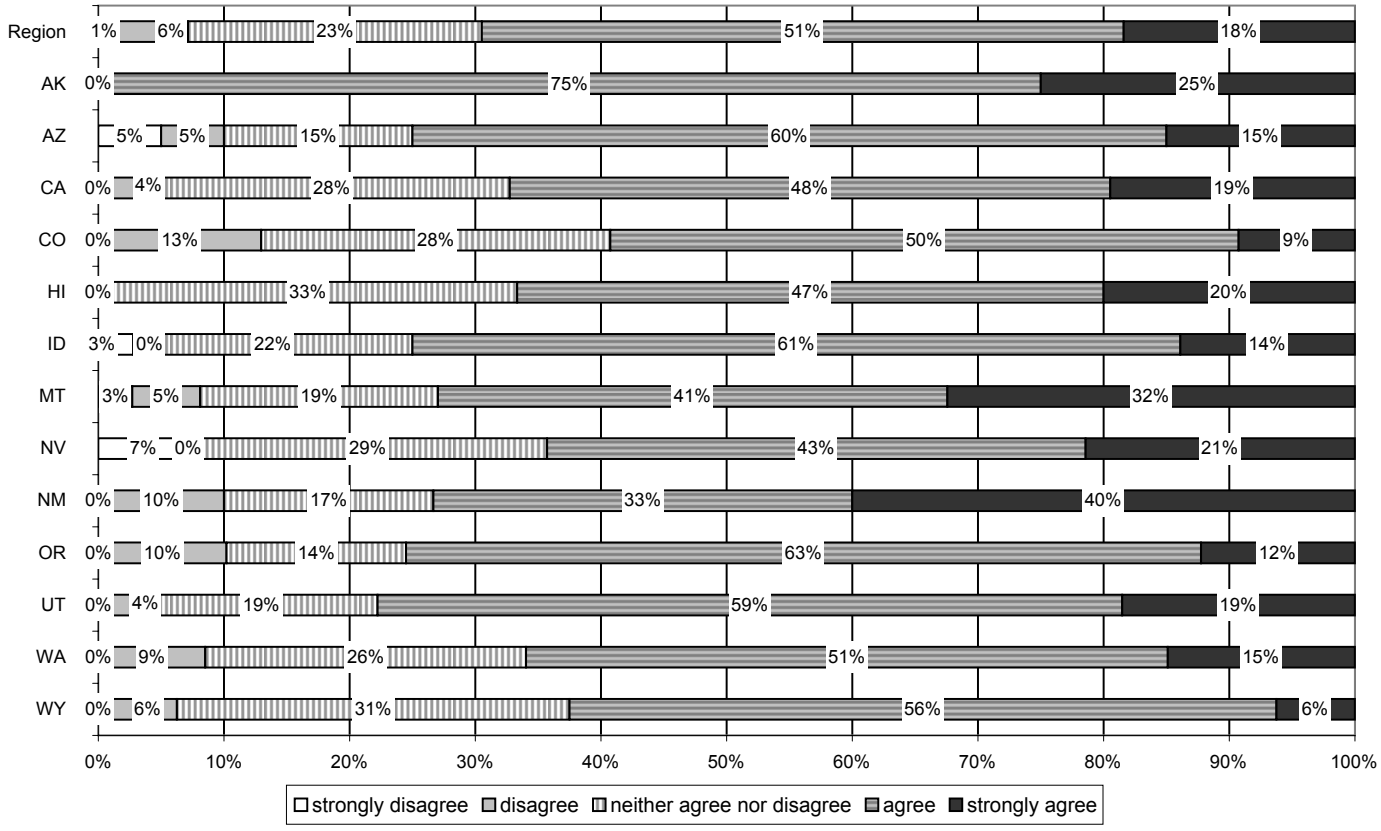
Figure 69. Agriculture as it is practiced in my area today is economically profitable (Q17b).



Agriculture as it is practiced in my area today enhances the quality of life for farmers/ranchers (Q17c).

As shown in Figure 70, over two-thirds (69%) of participants across the western region agreed or strongly agreed that agriculture as it is practiced in their area today enhances the quality of life for farmers/ranchers. Percentages were very similar across states. A small percentage (0% to 13%) of participants in each state disagreed or strongly disagreed with this statement. However, with the exception of Alaska, from 14% to 33% of participants neither agreed nor disagreed that agriculture enhances the quality of life for farmers/ranchers.

Figure 70. Agriculture as it is practiced in my area today enhances the quality of life for farmers/ranchers (Q17c).



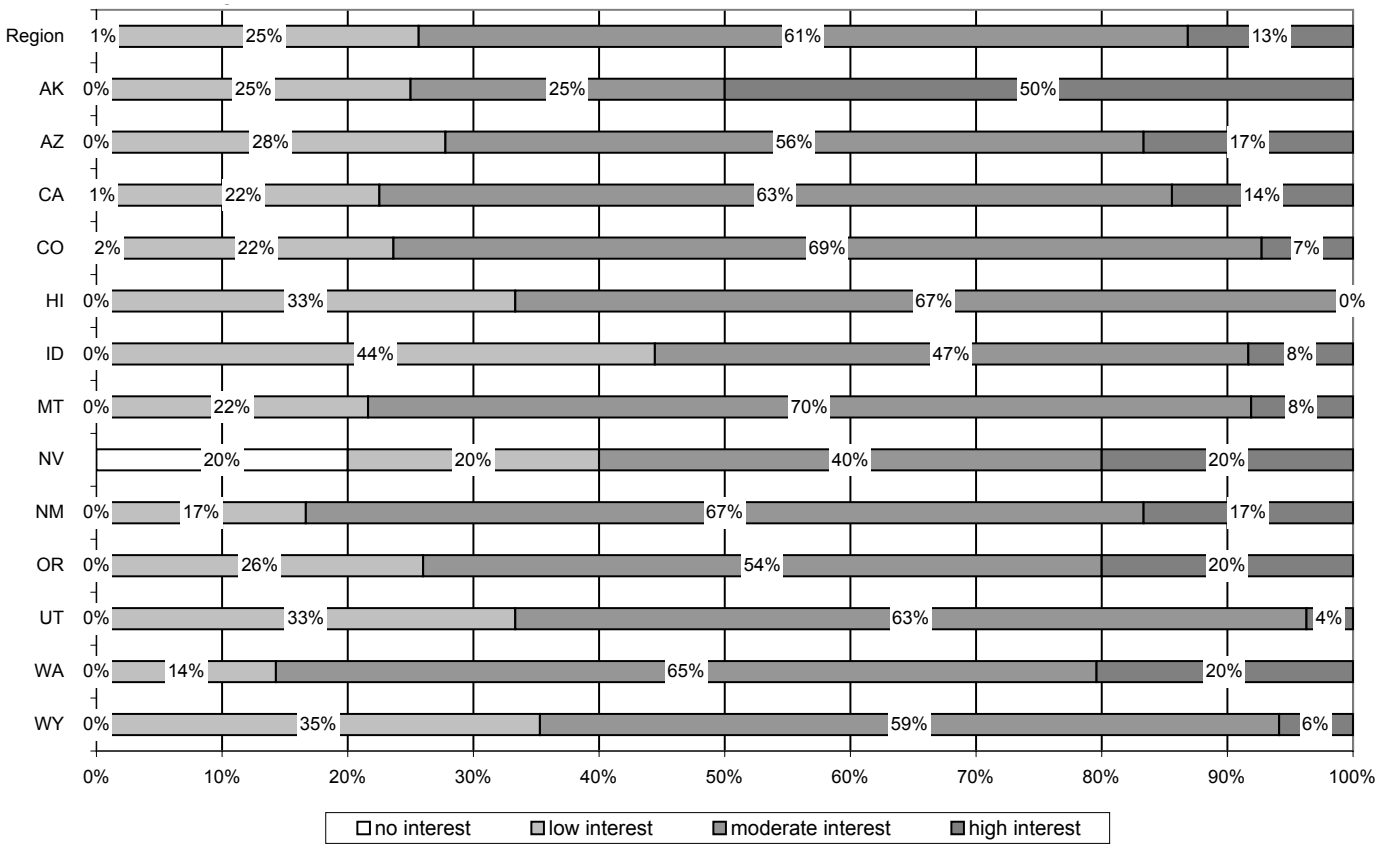
Interest of Farmers/Ranchers in Learning About Sustainable Agriculture

In question 18, participants were asked about the level of interest farmers/ranchers in their areas have in learning about sustainable agriculture with potential responses of *high interest, moderate interest, low interest,* and *no interest.*

How would you rate the level of interest farmers/ranchers in your area have in learning about sustainable agriculture (Q18)?

As shown in Figure 71, 61% of all participants in the western region indicated that farmers/ranchers in their area have moderate interest in learning about sustainable agriculture. With the exception of Alaska (25%), Idaho (47%), and Nevada (40%), responses were similar across individual states. In all states, a very small percentage (0% to 2%) of participants reported that farmers/ranchers had no interest in learning about sustainable agriculture. In Alaska, half the participants (50%) reported high interest by farmers/ranchers, while in Hawaii, no participants reported high interest.

Figure 71. How would you rate the level of interest farmers/ranchers in your area have in learning about sustainable agriculture (Q18)?



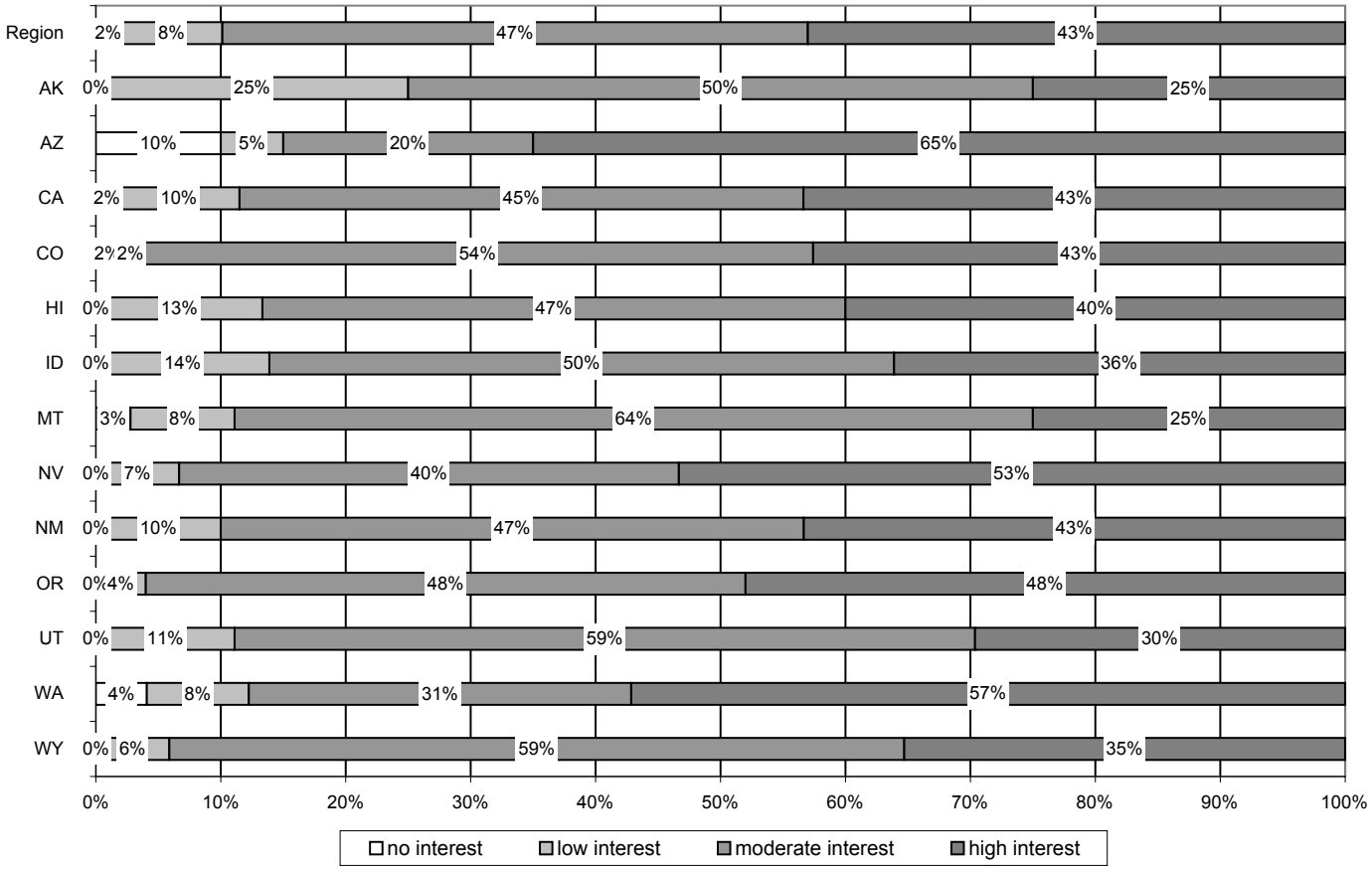
Interest in Educating Others in Sustainable Agriculture

Question 19 asked participants about their own level of interest in educating others in sustainable agriculture in their service area with potential responses of *high interest, moderate interest, low interest,* and *no interest.*

How would you rate YOUR level of interest in educating others in sustainable agriculture in your service area (Q19)?

As shown in Figure 72, 90% of participants across the western region indicated they had moderate to high interest in educating others in sustainable agricultural in their service area. Arizona had the greatest percentage (65%) reporting high interest. However, participants in several states did report low interest in educating others in sustainable agricultural in their service area.

Figure 72. How would you rate YOUR level of interest in educating others in sustainable agriculture in your service area (Q19)?



Summary

The purpose of this survey is to help guide the WSARE PDP grants program by gaining insights into the experiences and thoughts of sustainable agriculture educators. This report has provided a brief description of the methods used to obtain and analyze data and a detailed account of state-by-state results organized around six general areas: level of expertise in various areas of sustainable agriculture, sources of information and usefulness of information, desired information, programming, participating and cooperating in SARE activities, and general sustainable agriculture. The results described in this report are best interpreted by those familiar with the context of the particular state or region under consideration. Hopefully, this report will serve as a resource for future discussions and planning sessions.