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### Abstract

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### Keywords

Colorado AgrAbility Project (CAP), Outreach Efforts, target, farmers, ranchers, disabilities

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## Abstract

The Colorado AgrAbility Project (CAP) provides farmers and ranchers who have disabilities with the information and assistive technologies needed to remain successful producers. At present, however, CAP services are underutilized, and the rate of use is declining. This study investigates awareness and attitudinal barriers that might constrain farmers and ranchers with disabilities from seeking assistance. It also identifies preferred outlets for distributing agricultural information in the hope that this will improve the efficacy of outreach efforts. Mail survey research involving 798 randomly selected Colorado farmers and ranchers was conducted in the spring of 2006. Findings suggest that lack of awareness constituted the primary obstacle to increased use of CAP services. Farmers and ranchers were more inclined to refer others in need to CAP than to seek help themselves. Participants identified other farmers and ranchers as preferred sources for information and expressed interest in the stories of farmers and ranchers with disabilities who had been helped by CAP. Based on survey findings, strategies for improving the effectiveness of outreach efforts are proposed, including mobilizing opinion leaders in the farming and ranching communities, recruiting past CAP clients as spokespeople, and placing CAP success stories in agricultural publications.

## So What?

Encouraging farmers and ranchers to seek help in dealing with disabilities involves unique challenges. This study determined the information sources preferred by Colorado farmers and ranchers and identified obstacles that might deter them from seeking assistance with disabilities through the Colorado AgrAbility Project. Based on these findings, strategies are proposed for improving the effectiveness of outreach efforts to farmers and ranchers with disabilities.

## Research

As numerous researchers have documented, farming and ranching are physically demanding and hazardous professions. In the United States, farmers and ranchers are second only to nonconstruction laborers in disability rates from work-related injuries (Leigh & Fries, 1992; National Safety Council, 2004). In 2003 alone, 110,000 people in agriculture suffered disabling injuries (National Safety Council). Having a preexisting injury, disability, or chronic health condition in turn increases the risk of subsequent work-related injuries (Beseler & Stallones, 2003; Hwang et al., 2001; McCurdy & Carroll, 2000; Sprince et al., 2003), and this risk appears to increase with age (Brison & Pickett, 1991). The cost of agricultural injuries is immense, with farming contributing direct costs of \$1.66 billion and indirect costs of \$2.93 billion to occupational injury costs in 2000—30% more than the national average of occupational injury costs (Leigh, McCurdy, & Schenker, 2001).

The challenges facing Colorado are typical of those facing agricultural states across the nation. The state derives a substantial amount of income from agriculture, with Colorado farmers reporting \$5.2 billion in total sales in 2000 (Colorado Agricultural Statistics Service, 2003) and a net income of \$367.3 million in 2002 (U.S. Department of Agriculture, 2004). Of the 31,361 farms in Colorado (National Agricultural Statistics Service, 2005), 17.2% reported work-related injuries over a recent 3-year period (Stallones & Xiang, 2003). From such studies, researchers have extrapolated that 5.7 Colorado farmers per 100 will sustain injuries each year (Stallones & Xiang). Lost income from injury, disability, or illness threatens not only the welfare of individual farming and ranching families in Colorado, but also the financial stability of the state as a whole.

Along with the physical hazards of farming and ranching, the social and emotional impacts of agricultural injuries have also been well documented (Robertson, Murphy, & Davis, 2006). Fetsch, Blackburn, and Hilleman (1986) surveyed Colorado farmers and ranchers during the agricultural crisis of the mid-1980s. They found that over 70% of the sample had negative perceptions of their overall economic situation at the time. A secondary analysis of these data revealed that more desperate or negative overall perceptions were associated with higher levels of stress and depression (Fetsch & Jacobson, 2005). Among those assisted by Colorado AgrAbility, however, only 24% had negative perceptions of their overall situations (Meyer & Fetsch, 2006).

The 1990 Farm Bill authorized the AgrAbility program to provide information and technical assistance to farmers and ranchers with disabilities so that they could remain active in agriculture (U.S. Department of Agriculture, n.d.). The USDA Cooperative State Research, Education, and Extension Service (CSREES) used a competitive grant process to award

program funds to land-grant universities who partnered with nonprofit service providers to initiate 21 projects in 24 states, providing information, education, and on-site services to farmers and ranchers with disabilities, injuries, or chronic health conditions (K. Hunter, personal communication, March, 2, 2006; U.S. Department of Agriculture).

Representative of such projects, the Colorado AgrAbility Project (CAP) is a collaborative partnership between Colorado State University Extension Service (CSUE) and Easter Seals Colorado. Initiated in 1998, CAP outreach efforts have focused on mitigating the negative effects of physical disabilities and mental health problems by encouraging Colorado farmers and ranchers to make use of CAP information and services and to inform others of the benefits available through CAP. To accomplish these objectives, CAP hosts up to 15 workshops for Colorado farmers, ranchers, and professional caregivers per year on the topic of accommodating disabilities, and provides up to 45 on-site rehabilitation assessments and individualized consultative services a year. To encourage workshop participation and use of on-site services, CAP relies primarily on direct-mail flyers, success stories, radio spots, news releases, and face-to-face contacts by CSUE agents.

CAP has largely succeeded in achieving its modest objectives for numbers of farmer and rancher referrals over the past few years, including a peak of 52 referrals in 2002-2003 (Fetsch, 2005). Workshop participation has also doubled over the past 4 years, and the number of professional caregivers accessing CAP information has tripled, reaching nearly 100 in 2004.

However, given the estimated number of farmers and ranchers with disabilities in Colorado, it is clear that CAP information and services are dramatically underutilized. According to the U.S. Census Bureau (2001), 13.8% of Coloradoans age 5 and up reported having a disability in 2000. Based on this percentage, CAP estimates that more than 13,000 of approximately 97,000 people living on farms and ranches in Colorado have a disability (Colorado Agricultural Statistics Service, 2004; National Agricultural Statistics Service, 2005) and could potentially benefit from CAP information and services. To date, however, CAP has served only 150 Colorado families. Moreover, evaluation data indicate that the number of farmers and ranchers with disabilities seeking assistance through CAP is beginning to taper off.

Anecdotal evidence suggests that Colorado farmers and ranchers may lack awareness of CAP and the information and services it offers. It is also possible that a culture of pride and self-sufficiency leads some to prefer to deal with disabilities on their own, rather than seeking outside help. Finally, the nature and severity of the disability may affect farmer

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and rancher willingness to seek assistance, with mental health issues being perceived as more embarrassing than physical disabilities. Beyond anecdotal evidence, however, reasons for the low utilization of CAP services are largely unknown. Clearly, insights into the awareness levels, attitudes, and media use habits of Colorado farmers and ranchers are needed in order to encourage those with disabilities to take greater advantage of the services available through CAP.

This article presents the results of a random-sample mail survey of 798 Colorado farmers and ranchers conducted in the spring of 2006. As a first step toward improving the public outreach strategies employed by CAP, answers to the following questions were sought:

1. Through which channels do Colorado farmers and ranchers prefer to receive news about agricultural issues?
2. To what extent are Colorado farmers and ranchers aware of and willing to use CAP services?
3. Are there attitudes that facilitate Colorado farmers' and ranchers' seeking assistance through CAP or constrain them from doing so?

Researchers used the survey findings to propose strategies for effectively communicating with farmers and ranchers who are dealing with disabilities.

## Methods

### *Participants and Procedure*

Mail survey research was conducted in the spring of 2006 to investigate awareness levels, attitudes, and media use habits among Colorado farmers and ranchers. Using a computer-generated random sampling technique, the Colorado Agricultural Statistics Service selected a sample of 798 Colorado farmers and ranchers from the population of 31,361 Colorado farms.

Using a method adapted from Dillman (2000), a first wave of survey questionnaires was distributed by mail. Each packet included a cover letter, a questionnaire, a preaddressed, postage-paid reply envelope, and a \$1 bill as an incentive to complete and return the questionnaire. Two weeks later, postcards were mailed to the entire sample, reminding farmers and ranchers to complete and return questionnaires and thanking those who had already done so. Two weeks following the reminder postcards, the questionnaire was distributed a second time to the entire sample by mail (sans the \$1 incentive).

The U.S. Postal Service returned as undeliverable 24 of the 798 survey packets. Of the remaining 774 farmers and ranchers, 395 returned questionnaires, for a response rate of 51.0%.

Two hundred and twenty-six respondents (57.4%) were 55 years of age or older, 293 (78.3%) were male, and 348 (94.8%) were white. With respect to education, 82 (21.9%) had a high school diploma or GED, 81 (21.6%) had completed an undergraduate degree, and 44 (11.3%) had completed a graduate or professional degree. The percentage of people with undergraduate degrees in the sample was high in comparison to the percentage of all U.S. citizens with undergraduate degrees (15.5%), but was representative of educational levels in Colorado (21.6%) (U.S. Census Bureau, 2001). Two hundred and thirty-seven (62.7%) had worked in farming or ranching 25 years or longer. Farms ranged in size from 1 to 40,000 acres, with a median farm size of 240 acres.

### Measures

The questionnaire was four pages long and consisted of five parts. Some items were adapted from past CAP questionnaires used to evaluate the effectiveness of educational workshops.

The first part of the questionnaire asked respondents about their farming or ranching experience, including years worked, type of farm (individual, partnership, or corporate), class of farm (livestock, fruit and vegetable crops, or forage crops), location, size of farm (in acres), and perceptions of how the future looked on a scale from 1 to 5 (*very bleak* to *very good*).

The second part asked about preferred sources for information about Colorado AgrAbility and other agricultural news. From a list of 10 news sources—ranging from general-interest television, radio, and newspapers to targeted media such as agricultural publications, organizations, and Extension agents—respondents identified the source they used the most, as well as other sources they used occasionally. Respondents were also asked to write down the names of their favorite news outlets.

The third part of the questionnaire assessed awareness of and willingness to use CAP services, as well as general attitudes toward dealing with disabilities. First, using a 10-point scale, respondents indicated their general level of awareness of CAP. Then they indicated if they had heard of and would consider using each of five CAP services, including publications, a Web site, educational workshops, on-site visits, and information on assistive technologies. Finally, using 10-point Likert scales anchored by 1 (*strongly disagree*) and 10 (*strongly agree*), they indicated the extent to which they preferred to deal with physical issues on their own, would find seeking help for mental health issues too embarrassing, would seek help from CAP only as a last resort, would refer others in need to CAP, would look down on those who sought help through CAP, and other attitudinal concerns.

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After providing assurances of confidentiality and anonymity, the fourth part of the questionnaire asked respondents if they, or people they knew, were dealing with physical or mental health issues. Those who responded “yes” were asked if they had approached CAP for assistance with farming or ranching needs. Those who indicated they had utilized CAP services were asked five follow-up questions regarding which services they had used and their satisfaction with the assistance obtained through CAP. An open-ended question invited respondents to share recommendations for improving the education, services, and assistance provided by CAP.

Finally, demographic data were collected, including age, gender, race and ethnicity, and education. An open-ended question provided respondents with the opportunity to offer any additional comments about CAP or the survey.

Results were analyzed using the statistical analysis software package SPSS. Responses to open-ended questions were qualitatively analyzed to identify themes regarding CAP services, outreach strategies, and recommendations for improvement.

### Results

The first research question examined the channels through which Colorado farmers and ranchers preferred to receive news about agricultural issues. As shown in Table 1, the source used most often for agricultural news was agricultural publications. Among 369 respondents, nearly half (45.5%) indicated they used agricultural publications the most, while an additional 36% indicated they relied on agricultural publications some of the time. The three most popular agricultural publications were *The Fence Post*, *Ag Journal* (two Colorado-based agricultural publications), and the *High Plains Journal*.

The second most preferred source for agricultural news was other farmers and ranchers. Nearly 26% of respondents relied on other farmers and ranchers the most for agricultural information, with another 39.4% turning to other farmers and ranchers some of the time.

Next in popularity was radio, followed by general-interest newspapers, television, family and friends, general-interest magazines, and Extension agents. Consistent with findings obtained by Suvedi, Campo, and Lapinski (1999), only 9.8% identified the Internet as the source they used the most for agricultural information.

The second research question assessed the extent to which Colorado farmers and ranchers were aware of and willing to use CAP services. General awareness of CAP was low, with a mean of 2.19 on the 10-point awareness scale. Among 369 respondents, more than half (61.7%) circled “1,” indicating that they were not at all aware of CAP.



**Table 1.** Preferred Sources of Agricultural News

News Source	Used the Most		Also Used	
	<i>n</i>	%	<i>n</i>	%
Agricultural publications	168	45.5	133	36.0
Other farmers/ranchers	95	25.7	145	39.4
Radio	64	17.3	130	35.2
General-interest newspaper	63	17.1	147	39.8
Television	61	16.5	131	35.5
Family/friends	51	13.8	95	25.8
General-interest magazine	50	13.6	120	32.5
Extension agents	40	10.8	116	31.5
Internet	36	9.8	102	27.6
Agricultural organizations	35	9.5	98	26.6
Other	2	.5	7	1.9

*Note.* Percentage points total greater than 100, as some respondents checked more than one most-preferred source.

Awareness of specific CAP services was similarly low, with 19.1% of respondents indicating they had heard of educational workshops and 18.7% indicating they had heard of CAP publications. Willingness to make use of CAP's Web site (10.6%), information on assistive technologies (10.2%), and on-site visits (9.1%) was slightly higher than actual awareness of those services (9.2%, 9.9%, and 7.3%, respectively).

Forty-eight respondents indicated that they were dealing with physical issues, while 15 were dealing with mental health issues. Fifty knew someone else who was dealing with a physical issue, while 29 knew someone who was dealing with a mental health issue. Among these individuals, however, only 7 indicated that they had approached CAP for assistance, with 4 attending educational workshops, 3 requesting on-site visits, and 2 using information on assistive technologies. While these numbers are admittedly low, satisfaction with the information and assistance obtained through CAP was generally high, with most indicating they were extremely satisfied.

Analysis of open-ended questions indicated that many respondents had never heard of CAP, but thought CAP was a good idea and were interested in receiving more information about CAP services as a result of receiving the survey. Several ideas for raising awareness and encouraging use of CAP services were proposed, including targeting younger farmers and ranchers,

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providing true stories and first-person examples, placing advertisements in agricultural publications, and sending direct mailings to Colorado farmers and ranchers.

The final research question attempted to determine if Colorado farmers and ranchers possessed attitudes that might discourage them from seeking CAP assistance. Descriptive statistics confirmed impressions that farmers and ranchers were inclined to deal with physical problems on their own ( $M = 6.74$  on the 10-point Likert scale). A one-way analysis of variance and post hoc multiple comparisons test revealed that less experienced farmers and ranchers ( $M = 5.12$ ) were less willing to deal with physical problems on their own than were their more experienced counterparts,  $F(322,6) = 2.05$ ,  $p = .072$  (Table 2). An independent samples  $t$ -test indicated that male farmers and ranchers ( $M = 6.99$ ) were significantly more inclined to deal with physical problems on their own than were female farmers and ranchers ( $M = 6.00$ ),  $t = 2.88$ ,  $p < .01$ .

Respondents were divided as to whether or not they would seek help through CAP only as a last resort ( $M = 5.31$ ). Farmers and ranchers having less than a high school diploma or GED ( $M = 2.50$ ) were significantly more likely to disagree with this notion,  $F(307,5) = 2.79$ ,  $p < .05$ , as were younger farmers and ranchers (25-34,  $M = 4.18$ ; 35-44,  $M = 4.06$ ),  $F(309,6) = 1.95$ ,  $p = .072$  (Table 3). Respondents tended to disagree that seeking help for mental health issues would be too embarrassing ( $M = 4.17$ ), although those with 45 years of experience or more ( $M = 4.89$ ) were significantly more likely to feel embarrassed about seeking this type of help than those with fewer than 5 years of experience ( $M = 3.00$ ),  $F(307,5) = 2.48$ ,  $p < .05$  (Table 2).

Very few indicated that they would look down on others who sought help through CAP ( $M = 2.31$ ), although farmers and ranchers 75 years of age and older ( $M = 4.44$ ) were significantly more inclined to do so,  $F(315,6) = 3.29$ ,  $p < .01$  (Table 3). Rather, respondents indicated a willingness to refer other farmers and ranchers in need to CAP ( $M = 6.81$ ). Farmers and ranchers with fewer than 5 years of experience ( $M = 8.40$ ), as well as those with 45 or more years of experience ( $M = 7.20$ ), were significantly more inclined to refer others in need to CAP than those with experience levels in the mid-range,  $F(300,5) = 2.54$ ,  $p < .05$  (Table 2).

Table 2. Mean Attitudes Toward Seeking Assistance for Disabilities by Experience

Attitude	Years Working in Farming/Ranching					F
	< 5 (n = 17)	5-14 (n = 65)	15-24 (n = 43)	25-34 (n = 60)	35-44 (n = 55)	
Prefer to deal with physical problems on own	5.12 <sup>a</sup> (3.16)	6.63 <sup>b</sup> (2.51)	6.62 <sup>b</sup> (2.65)	6.60 <sup>b</sup> (2.49)	6.93 <sup>b</sup> (2.53)	2.05
Would not hesitate to seek assistance from CAP	6.69 <sup>a</sup> (2.80)	5.64 <sup>a</sup> (2.66)	5.41 <sup>a</sup> (2.43)	5.36 <sup>a</sup> (2.73)	5.30 <sup>a</sup> (2.83)	.97
Would switch to another career	5.69 <sup>ab</sup> (2.73)	6.02 <sup>a</sup> (2.84)	5.85 <sup>a</sup> (2.95)	5.12 <sup>ab</sup> (2.82)	5.31 <sup>ab</sup> (3.10)	1.92
Would seek assistance from CAP only as last resort	5.19 <sup>a</sup> (3.35)	5.70 <sup>a</sup> (2.74)	5.05 <sup>a</sup> (2.19)	5.63 <sup>a</sup> (2.88)	4.79 <sup>a</sup> (2.76)	.82
Would look down on farmer/rancher who asked CAP for help	2.13 <sup>a</sup> (2.22)	2.12 <sup>a</sup> (1.82)	1.91 <sup>a</sup> (1.86)	2.53 <sup>a</sup> (2.42)	2.32 <sup>a</sup> (2.28)	.66
Would refer other farmers/ranchers to CAP	8.40 <sup>a</sup> (2.32)	6.51 <sup>bc</sup> (2.49)	6.91 <sup>abc</sup> (2.46)	6.04 <sup>c</sup> (2.83)	6.80 <sup>bc</sup> (2.60)	2.54*
Seeking help f or stress/depression is too embarrassing	3.00 <sup>a</sup> (2.39)	4.40 <sup>abc</sup> (2.83)	3.81 <sup>a</sup> (2.06)	3.63 <sup>a</sup> (2.60)	4.04 <sup>abc</sup> (2.72)	2.48*

Note: Means based on 10-point Likert scale ranging from 1 (*strongly disagree*) to 10 (*strongly agree*). Standard deviations in parentheses. Means lacking a shared letter superscript differ significantly at  $p < .05$  by Tukey's procedure for post hoc comparisons. Comparisons are made only within each row (horizontally).

\* $p < .05$

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Table 3. Mean Attitudes Toward Seeking Assistance for Disabilities by Age

Attitude	Age at Last Birthday (Years)					F
	25-34 (n = 12)	35-44 (n = 34)	45-54 (n = 93)	55-64 (n = 99)	65-74 (n = 74)	
Prefer to deal with physical problems on own	7.00 <sup>a</sup> (2.33)	6.24 <sup>a</sup> (2.77)	6.52 <sup>a</sup> (2.53)	6.72 <sup>a</sup> (2.45)	7.20 <sup>a</sup> (2.61)	1.03
Would not hesitate to seek assistance from CAP	6.27 <sup>a</sup> (2.49)	6.00 <sup>a</sup> (2.57)	5.78 <sup>a</sup> (2.67)	5.55 <sup>a</sup> (2.75)	5.46 <sup>a</sup> (2.95)	.50
Would switch to another career	3.08 <sup>a</sup> (1.78)	4.27 <sup>ab</sup> (2.82)	5.80 <sup>c</sup> (2.55)	5.67 <sup>c</sup> (3.10)	5.35 <sup>bc</sup> (3.23)	2.79 <sup>*</sup>
Would seek assistance from CAP only as last resort	4.18 <sup>abc</sup> (2.44)	4.06 <sup>b</sup> (1.85)	5.40 <sup>ac</sup> (2.57)	5.42 <sup>ac</sup> (2.94)	5.88 <sup>ac</sup> (3.11)	1.95
Would look down on farmer/ rancher who asked CAP for help	1.82 <sup>a</sup> (1.33)	1.67 <sup>a</sup> (1.45)	2.20 <sup>a</sup> (2.05)	2.46 <sup>a</sup> (2.50)	2.13 <sup>a</sup> (2.05)	3.29 <sup>**</sup>
Would refer other farmers/ ranchers to CAP	7.27 <sup>a</sup> (2.94)	7.22 <sup>a</sup> (2.39)	6.62 <sup>a</sup> (2.55)	6.93 <sup>a</sup> (2.65)	6.71 <sup>a</sup> (3.06)	.80
Seeking help for stress/ depression is too embarrassing	4.42 <sup>a</sup> (2.64)	3.75 <sup>a</sup> (2.82)	4.20 <sup>a</sup> (2.66)	4.28 <sup>a</sup> (2.62)	3.93 <sup>a</sup> (2.95)	.73

Note. Means based on 10-point Likert scale ranging from 1 (*strongly disagree*) to 10 (*strongly agree*). Standard deviations in parentheses. Means lacking a shared letter superscript differ significantly at  $p < .05$  by Tukey's procedure for post hoc comparisons. Comparisons are made only within each row (horizontally). Findings for respondents 18-24 ( $n = 2$ ) have been omitted.

\* $p < .05$ . \*\* $p < .01$

## Recommendations

The Colorado AgrAbility survey sought a clearer understanding of Colorado farmers' and ranchers' media use preferences, their awareness of CAP and the services it provides, and their attitudes toward seeking help for physical or mental health issues. Based on analysis of survey results, following are recommendations regarding public outreach strategies that can be used by CAP and other outreach organizations to encourage farmers and ranchers to seek assistance in dealing with illnesses, injuries, or disabilities.

### *Impact Objectives*

While awareness of CAP services was low, satisfaction among farmers and ranchers who had contacted CAP for help was high. Analysis of open-ended questions validated a generally positive attitude toward CAP and an interest in receiving more information about services.

Based on these findings, the primary obstacle to increasing use of CAP services appears to be lack of awareness rather than negative attitudes. Increasing farmer and rancher awareness of CAP and its services should therefore be the primary objective of public outreach efforts in the near term so as to achieve long-term behavioral objectives regarding the number of referrals and the use of specific services. To help raise awareness and initiate word of mouth, CAP could consider augmenting its current workshops on specific health and family topics by conducting a series of workshops on the services it offers.

### *Target Audiences*

In light of the finding that farmers and ranchers with less than 5 years of experience were less inclined to deal with physical problems on their own, greater emphasis should be placed on younger, less experienced farmers and ranchers as a primary target of public outreach efforts. Targeting members of organizations such as the National FFA Organization and 4-H could yield long-term increases both in willingness to use CAP services and willingness to refer others to CAP.

While farmers and ranchers were not always inclined to seek help themselves, they were willing to refer other farmers and ranchers in need to CAP. Hence, greater emphasis should be placed on mobilizing opinion leaders or intervening audiences (i.e., those in a position to influence farmers and ranchers who are dealing with disabilities). Intervening audiences might include female farmers and ranchers as well as highly experienced farmers and ranchers who are viewed as opinion leaders by their peers. The fact that the second most preferred source for agricultural news was other farmers and ranchers offers support for this recommendation.

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### *Message Strategies*

Given the interest in and reliance on other farmers and ranchers, CAP could recruit one or more past clients to be the public face of the project, conveying messages to other farmers and ranchers in need through workshops, speeches to agricultural organizations, peer interventions, and success stories in agricultural and local news publications.

More research is needed to understand the communication needs of farmers and ranchers with less than a high school diploma or GED, who were more inclined to seek assistance in dealing with disabilities. The enlistment of professional writers and communicators, who are familiar with tools for determining readability level and accustomed to writing for farming and ranching audiences, is recommended to achieve impact objectives.

To address concerns among experienced farmers and ranchers about seeking help for mental health issues, communications should acknowledge the possible embarrassment involved in seeking help for mental health issues but point out that seeking assistance for stress or depression has become more socially acceptable over the years. The potential benefits of seeking such help should also be emphasized.

### *Media Tactics*

Agricultural publications emerged as the most preferred source for agricultural news, underscoring the importance of print news sources devoted to farming and ranching (Grieshop, 1999; Oskam, 1995; Richardson, Clement, & Mustian, 1997; Suvedi et al., 1999). Efforts to place CAP messages in *The Fence Post* and *Ag Journal* should therefore continue; CAP messages should also be placed in *High Plains Journal*. A combination of uncontrolled tactics (e.g., feature news releases on CAP success stories) and controlled tactics (e.g., paid advertisements) is recommended, the former to reduce costs while enhancing message credibility and the latter to ensure that readers are exposed to messages. Repeated exposure to messages is necessary to ensure that messages will be recalled and acted upon by farmers and ranchers in need of help (Besley & Shanahan, 2005). To guide message placement and validate assumptions regarding message exposure, future CAP surveys could include questions assessing frequency of media use in addition to media preferences.

Complementing the mass media tactics noted above, which are necessary to ensure broad exposure, and taking into account the importance of personal contacts (Grieshop, 1999; Richardson & Mustian, 1994), CAP and other outreach organizations should maximize opportunities for face-to-face communications with primary and intervening audiences in the farming and

ranching communities. A specific suggestion would be to create a speakers' bureau, for which CAP could recruit past clients, Extension agents, and professional caregivers (e.g., occupational and physical therapists) to serve as spokespeople. CAP could make these clients and interveners available to speak at monthly meetings of agricultural organizations, civic events, schools, and other local venues. Face-to-face communications enhance credibility (Quandt et al., 2004; Smith, 2005; Wilcox & Cameron, 2006) and would help initiate word-of-mouth among intervening audiences attending the events. Promoting these events to agricultural and local media via press releases would likely mean free publicity, given the strong human interest inherent in clients' stories.

Of the contacts received as a result of current CAP public outreach efforts, a number came from farmers and ranchers who had received a CAP survey in the mail. Direct mailings were among the recommendations offered in response to open-ended questions. Public relations experts state that personal communications such as letters and phone calls are second in credibility to face-to-face contacts (Wilcox & Cameron, 2006). Specific recommendations include converting the current CAP brochure to a mailer and including CAP materials in survey packets if and when the present mail survey is re-administered.

### *Evaluation*

The impact of CAP public outreach efforts on the number of referrals received, number of requests for information received, and use of specific CAP services can be evaluated fairly simply through frequency counts. To evaluate the effectiveness of outreach efforts in terms of raising awareness and bringing about the positive attitudes necessary to achieve behavioral objectives, CAP should consider readministering the survey described in this article on a regular basis (e.g., every other year). To determine the effectiveness of specific messages and tactics, measures of exposure and recall could be added to the questionnaire. The timing of survey administration is critical, as studies show that farmers and ranchers are more willing to respond to mail surveys when they are sent during January and February, so as not to overlap with production and harvest schedules (Pennings, Irwin, & Good, 2002). Monetary incentives may also be useful in increasing response rates (Pennings et al.).

### **Conclusions**

In sum, insights derived from the survey of Colorado farmers and ranchers suggest a number of strategies, messages, and tactics that can be used to enhance the effectiveness of public outreach efforts targeting farmers

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and ranchers with disabilities. These strategies include targeting younger, less experienced farmers and ranchers; mobilizing experienced farmers and ranchers and female farmers and ranchers to act as interveners; recruiting farmers and ranchers with disabilities as spokespeople; and maximizing use of agricultural publications and interpersonal tactics to convey messages to target audiences.

Credibility is key to communicating effectively with farmers and ranchers with disabilities. A highly credible source can produce more positive attitudes toward the position advocated and induce greater behavioral compliance than sources that are less credible, particularly when the message being conveyed is perceived as valid (Nan, 2007; Pornpitakpan, 2004; Sternthal, Phillips, & Dholakia, 1978). Public relations experts concur, indicating that a credible spokesperson can enhance message effectiveness (Smith, 2005; Wilcox & Cameron, 2006).

Overall, farmers and ranchers involved in this study are interested in hearing the stories of others like themselves who have been helped by outreach organizations such as CAP. They prefer to receive information on available services from peers or through well-established, credible agricultural publications. While farmers and ranchers may prefer to deal with disabilities on their own, exposure to valid messages regarding available services may increase their willingness to refer others in need to CAP. By approaching communications strategically and taking source credibility into account, CAP and other outreach organizations should be in a better position to ensure that farmers and ranchers with disabilities receive the assistance they need for continued success in their agricultural endeavors.

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## Keywords

AgrAbility, farmers, ranchers, families, disabilities, survey, public outreach

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