

## **A Qualitative Analysis of *Partners in Progress: Wheat Research at OSU***

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### **Abstract**

This qualitative case study examined a new annual Oklahoma Agricultural Experiment Station (OAES) report, *Partners in Progress: Wheat Research at OSU*. Subjects were stakeholders in OAES wheat research efforts. The primary method of data collection was personal interviews. Findings were triangulated with data collected through field-administered surveys, field observations, and inspection of artifacts. Data analysis showed that stakeholders were unclear about the intended audience for the publication. Researchers/authors believed the audience to be both wheat producers and public policy/decision makers. Wheat producers thought the publication was targeted to a very broad audience including public policy/decision makers, producers, other wheat researchers, and even college students. Most producers recognized the publication as a marketing tool for OAES. Most agreed the primary purpose of the report was to communicate with members of the Oklahoma Wheat Commission. A small number of producers read the publication to glean practical information they could apply in their own wheat production operations. Overall, the new publication appeared to not be communicating effectively with producers other than those serving on commodity commission boards. One explanation for this communication failure was poor distribution of the reports. The reports were helpful in demonstrating public accountability to public policy decision-makers; however, because many producers never saw the reports, they were not an effective means of demonstrating accountability to producers.

## Introduction and Theoretical Framework

Agricultural experiment station histories (Knoblauch, 1962; Gilmore, 1967; Kerr, 1987), document that state experiment stations have used progress reports for a variety of purposes, including sharing research findings among agricultural scientists, educating agricultural producers, and garnering public support for state experiment stations and their programs by demonstrating the value of their research. In 1997, administrators and communications specialists at the Oklahoma Agricultural Experiment Station (OAES) developed a new series of progress reports. The new series, called the *Partners in Progress*, included commodity-specific annual progress reports that chronicled OAES research progress related to wheat, beef, soybeans, and peanuts and that helped explain how commodity checkoff money earmarked for research was used.

Traditionally, OAES progress reports have attempted to share research results with a broad audience, ranging from researchers to producers. Obviously, such a broad audience would have widely diverse uses for the information, and communicating to such broad audiences could be problematic for agricultural communicators. This important pitfall of experiment station reports nationwide was identified early in experiment station history and has persisted over time. In 1909, A.C. True, Director of the Office of Experiment Stations, speaking at the annual meeting of the Experiment Station Committee on Organization and Policy (ESCOP), noted his awareness of agricultural research publications that failed to communicate clearly (Knoblauch, et al., 1962, p. 62):

...the scientific workers naturally want to present the matter so that it will be acceptable to scientific men. Thus they have in mind as they write these publications the necessities of the scientific presentation of the subject. The result is that they do neither one thing nor the other, and the material is not put in scientific form or in good popular form.

This ambiguous form, likely related to a number of publication characteristics such as writing style, level of technicality, and functionality of design, indicates a lack of audience analysis and the absence of a clearly defined purpose (Houp & Pearsall, 1984).

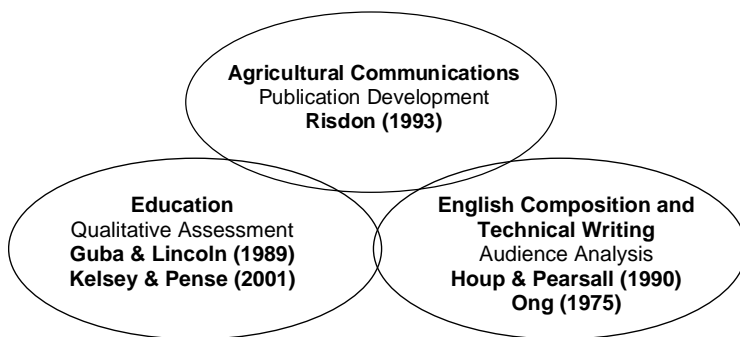
According to the OAES Associate Director, the purposes of the new type of publication were (1) to provide scientific information to agricultural producers who can apply it in their work, and (2) to show accountability and impacts to stakeholders (particularly members of commodity groups who make checkoff payments, legislators, and funding agencies such as commodity group boards (D.C. Coston, personal communication, September 14, 1998). The Oklahoma commodity groups targeted include the Oklahoma Wheat Commission, the Oklahoma Beef Industry Council, the Oklahoma Peanut Commission, and the Oklahoma Soybean Board, each of which provide research dollars from checkoff funds to the Experiment Station.

Previous agricultural publications research indicated that for the *Partners in Progress* publications to be most effective, the audiences needed to be characterized and categorized according to their needs and preferences in order for publications staff to develop the most usable publications possible (Tucker, et al., 1997). If the audience were to confirm that *Partners*

*in Progress* publications had merit, and if the audience preferences regarding this type of publication were known, this information could then be incorporated into a set of guidelines for the publications. Design changes would be based on data grounded in research and theory rather than on supposition. According to Risdon's (1990) six-stage model for developing agricultural publications, basing design decisions upon research about audience and purpose rather than on supposition is central to the notion of good agricultural publication planning.

Additionally, this qualitative audience analysis and evaluation of the *Partners in Progress* series grew from the theoretical framework placing an importance on gathering stakeholder input for government-funded projects (Ayers, 1987; Bryk, Kelsey & Pense, 2001). The term stakeholder input, normally used in discussions of university research agendas, also has meaning in the agricultural communications realm. The idea that public monies, such as commodity checkoff funds, earmarked for research, should be allocated according to a democratic process also applies to determining how the results of publicly funded research should be communicated. Stakeholder input is equally valuable to the agricultural communications process as it is to the agricultural research agenda-setting process.

Because of the need for democratic input into the dissemination process, gathering stakeholder input may best be accomplished through qualitative research, which has an inextricable tie to democratic decision-making. Kelsey and Pense (2001), drawing upon the premises of qualitative research methodologists Guba and Lincoln (1989), proposed a methodology for collecting stakeholder input, one that included gathering information not only from agents (researchers/authors in this study) and beneficiaries of university programming (intended audience members who benefited from *Partners in Progress*, in this study), but also from underrepresented citizens who have not benefited from university programming (intended audience members who did not benefit from *Partners in Progress*, in this study).



*Figure 1.* Qualitative audience analysis: A unique combination of theoretical frameworks for the *Partners in Progress* study.

In summary, this study draws its theoretical framework from paradigms in three unique academic fields: publication development in agricultural communications, qualitative assessment in education (and agricultural education), and audience analysis in English composition and technical writing (Figure 1). This theoretical framework operates well with the long-standing notion of the need for thorough audience analysis in communication situations. The qualitative methods employed in this study provided an excellent way to gather thick, rich data on various

types of audience members as well as detailed feedback on the communicative quality of the agricultural publications.

### **Purpose and Objectives**

This investigation assessed the communicative effectiveness of one of the publications in the *Partners in Progress* series—*Wheat Research at OSU*. The conclusions of this study equipped OAES communicators and administrators with research-based information gathered from stakeholders about how to improve the *Partners in Progress* series of publications as a communications tool.

Specifically, analysis of qualitative data collected from wheat researchers/authors and from other stakeholders in OAES research provided answers to the following research questions:

1. What types of readers comprise the groups of people who use the Partners in Progress reports as information sources?
2. For what purposes do people read the reports?
3. What are the audiences' needs and expectations regarding writing style, level of technicality, and design?
4. Do these reports effectively attain the OAES's goal of disseminating research results to producers for the purposes of sharing practical research-based information for producers to use?
5. Do these reports effectively attain the OAES's goal of disseminating research results to stakeholders for the purpose of demonstrating accountability?

### **Methods and Procedures**

As Tucker (1996) noted, data produced by survey methodology can be superficial and may be overused in agricultural communications research. Therefore, this study incorporated methods from the qualitative research genre and held to a constructivist approach (the belief that through communication about events, people, and their roles in society an explanation of reality can be constructed based on existing knowledge of social culture) (Littlejohn, 1992).

#### *Sampling*

Purposive sampling (Patton, 1990) and an emergent system of snowballing, which involved identifying subjects by recommendation of previously interviewed subjects (Stone et al., 1999), were used to select participants. Purposive sampling is an important part of qualitative case study research because of its power to provide an insider's view of the case.

The number of subjects participating in this case study was 34. Twenty participated in the survey portion of the study. Seventeen policy/decision makers (commodity group board members, all identified as beneficiaries) and three researchers/authors (OSU wheat researchers, all identified as agents) completed the 15-question survey, which was delivered face-to-face at various commodity group board meetings and in the university offices of the agents. Seventeen stakeholders—three researchers/authors who had participated in the survey, plus three other

researchers/authors and 11 producers—participated in the interview portion of the study. The interview process, which was the primary mode of investigation, began with researchers/authors (n=6) and resulted in the identification of additional stakeholders other than the wheat researchers/authors, namely wheat producers who fit into the categories of beneficiaries (n=5) and underrepresented citizens (n=6). Table 1 characterizes the stakeholders who participated in interviews. (Note: In the Tables 1 and 2, subjects are differentiated according to their statuses as a stakeholders (Guba and Lincoln, 1989). The stakeholder types included “agents”—researchers/authors; “beneficiaries”—producers and public policy decision makers who benefited from *reading Partners in Progress: Wheat Research at OSU*; and “underrepresented citizens”—producers who did not read the publication or who did not benefit from reading it.

Table 1  
*Stakeholders Participating in the Partners in Progress Interviews*

| Stakeholder No. | Type             | Connection to the Wheat Industry  |
|-----------------|------------------|---|
| 1               | Agent            | OSU Researcher/ <i>Partners in Progress</i> Author                      |
| 2               | Agent            | OSU Researcher/ <i>Partners in Progress</i> Author                      |
| 3               | Agent            | OSU Researcher/ <i>Partners in Progress</i> Author                      |
| 4               | Agent            | OSU Extension Professional/ <i>Partners in Progress</i> Author          |
| 5               | Agent            | OSU Researcher/ <i>Partners in Progress</i> Author                      |
| 6               | Agent            | OSU Researcher/ <i>Partners in Progress</i> Author                      |
| 7               | Beneficiary      | Cattle and Wheat Producer / Ag Agency Employee                          |
| 8               | Beneficiary      | Wheat Producer  |
| 9               | Beneficiary      | Wheat Producer / Ag Agency Employee                                     |
| 10              | Beneficiary      | Cattle and Wheat Producer / Accountant / Member of Growers' Association |
| 11              | Beneficiary      | Wheat Producer / Director of Growers' Association                       |
| 12              | Underrepresented | Cattle and Wheat Producer   |
| 13              | Underrepresented | Wheat Producer  |
| 14              | Underrepresented | Wheat Producer  |
| 15              | Underrepresented | Cattle/Wheat Producer   |
| 16              | Underrepresented | Wheat Producer  |

#### *Data Collection Procedures and Instrumentation*

Data were collected through a variety of methods and instruments, allowing for appropriate triangulation of data. Data collection methods included interviews, surveys, collection of artifacts, and participant observation. Instruments used in conjunction with these methods included a questionnaire and an interview schedule, which served as a dynamic outline providing direction for the interviews. Data collection and analysis spanned 12 months and ended when the project had reached the point of data saturation (Lincoln & Guba, 1985).

The primary data collection method was stakeholder interviews, which were predominantly non-structured (Guba & Lincoln, 1989). Though each of the interviews began

with questions from a preliminary interview schedule based on the research questions of this study, new questions emerged during the interviews, as is often the case with qualitative methodology (Emerson, 1995). The final interview schedule took shape as the initial interviews were conducted. Operational interview questions evolved in the initial interviews that best elicited responses that answered the five basic research questions. The interviews were largely unstructured initially, with the interviewer eliciting the respondents' claims, concerns, and issues in their own terminology. As common themes emerged and became clearer, however, the interviewer was able to ask more and more pointed questions; and, this in turn, resulted in a revised outline for successive interviews.

Though surveys were not the primary method of data collection in this study, they served two important roles: they aided in triangulation of data, which added credibility to the study; and they were a good method of gathering data with a specific group of subjects, namely the beneficiaries. Surveys were provided to wheat producers who were public policy/decision makers—board members of the Oklahoma Wheat Commission Oklahoma Beef Industry Council, and the Oklahoma Wheat Research Foundation—at their monthly board meetings. Face validity of the survey was determined by a panel of experts (Dillman & Sallant, 1994), including an agricultural research administrator and three agricultural education researchers. Content validity and instrument reliability was verified logically through pilot-testing. The survey contained two open-ended questions related to the constructs of audience and purpose, and 13 Likert-type questions related to style, level of technicality, and design preferences. Responses to the open-ended survey questions were entered as qualitative data and were analyzed along with transcripts resulting from subsequent interviews of other stakeholders. Responses to the Likert-type questions were recorded and the raw data were presented as findings, demonstrating a representation of the group's response to questions related to style, level of technicality, and design preferences.

Throughout the period of time spent in the field process, the researcher collected artifacts, namely wheat-related publications used by stakeholders. These artifacts helped support and clarify the claims made by some stakeholders regarding their use of popular publications to educate themselves about wheat-related issues. Examples are OSU fact sheets made available to wheat producers at wheat field days, OSU Production Technology Reports that a wheat researcher said he likes to hand out at producer meetings, and publications that producers claimed they read to get information about wheat production and management practices, which included the *Oklahoma Farmer-Stockman* and *The High Plains Journal*.

Occasionally, the researcher made observations that constituted data not provided through interviews or surveys. Detailed field notes were taken at field days and producer meetings. These notes described the context and setting for the interviews and were entered as data and analyzed along with the transcripts of the personal interviews.

### *Data Analysis*

Analysis of qualitative data followed Patton's (1980) suggestions for creating categories through marginal notes on transcripts. This process was simplified by the use of ATLAS.ti, software, which allows users to enter notes electronically into word processor documents, linking

the notes with the text to which they refer. This allowed the researcher to categorize specific excerpts from interview transcripts and other textual data and to identify emerging themes. It also allowed for the process of memoing (Emerson, 1995), which entailed electronically linking observational notes to specific interview excerpts. After verification through triangulation techniques, the emergent themes became the findings of this study. Logical conclusions and implications followed, resulting from what Patton (1980, p. 341) refers to as the researcher's "notions about causes and consequences." The implications were intended to aid in further development and improvement of the *Partners in Progress* series and similar publications.

### *Credibility, Transferability, Dependability, and Confirmability*

Qualitative researchers, in an effort to differentiate the qualitative research lexicon from quantitative research terminology, coined new terms to describe "rigor" and "adequacy" in their research designs (Lincoln, 1999). Guba and Lincoln (1989) propose four criteria for judging rigor and adequacy: credibility, transferability, dependability, and confirmability.

*Credibility* of the study was enhanced by prolonged engagement, persistent observations, peer debriefings, and member checks.

As with any qualitative research, *transferability* of the results, conclusions, and recommendations of this case study are limited to very similar situations. Particularistic in nature, the transferability of this case study is explained by Merriam's (1988, p. 13) statements regarding qualitative case study research:

- It can suggest to the reader what to do or what not to do in a similar situation.
- It can examine a specific instance but illuminate a general problem.

Descriptive detail will allow others to decide if the findings are applicable to other cases. This study did not intend to generalize statistical results of a case study to other populations, but some analytical generalizations may be drawn, and the results are possibly applicable to other OAES publications and other external communications efforts.

The *dependability* of the study was enhanced through detailed records of the data collected and the data analysis procedures. Audio tape served as a verbatim account of the interviews conducted. This, in combination with the archived documents and field notes, served to strengthen the study's dependability. Additionally, this study's strategy for enhancing qualitative validity included five methods listed by Merriam (1998): triangulation, member checks, long-term observation, peer examination, and participatory research. Ultimately, as with any qualitative case study, readers of this study should consider closely the context of the case and the researcher's perspective as they attempt to understand it through their own schemas.

*Confirmability* was maintained by having made complete transcripts available to colleagues who reviewed the narrative. Unfortunately, because of space limitations in this paper, the display of exemplary excerpts from interview manuscripts was not possible. They are available in the unpublished doctoral dissertation resulting from this study (Miller, 2001).

## Findings

Because the instruments (survey questionnaire and interview schedule) were developed based on the initial research questions, subjects' responses to the interview and survey questions, in aggregate, became thematic and therefore constituted the major findings of this study. In some cases, the themes that emerged did not independently answer the original research question, but with several themes emerging in relation to each research question, the collection of themes worked together to answer each question clearly. Space limitations of this paper prohibited inclusion of what are possibly the most convincing data supporting the findings, conclusions, and implications of this study—excerpts from interview transcripts. Normally, such excerpts would be presented in a narrative that tells the story of the case under observation. However, in this paper, findings (as well as conclusions and implications) are presented in the form of analytic summaries in text tables, which provided an efficient method of presenting 18 emergent themes and numerous conclusions and implications. For a more inclusive report on the findings, including excerpts from interview transcripts, see Miller's (2001) unpublished dissertation. This method of reporting is congruent with methods proposed by Rist (1982) and Merriam (1988).

Table 2 summarizes the major themes that emerged as they relate to the initial research questions.

Table 2.

*Major Emergent Themes among Stakeholders in the Partners in Progress: Wheat Research at OSU Communications Effort*

| Research Questions  | Emergent Themes  |
|---|--|
| <p>1. What types of readers comprise the groups of people who use the <u>Partners in Progress</u> reports as information sources?</p>   | <ul style="list-style-type: none"> <li>• Many producers had never seen Partners in Progress: Wheat Research at OSU.</li> <li>• Agents (researchers/authors) believed the primary audience for Partners in Progress: Wheat Research at OSU was policy/decision makers.</li> <li>• Identification of the audience was unclear among beneficiaries and underrepresented citizens (the intended Partners in Progress audience).</li> <li>• A small faction of ardent readers existed.</li> </ul> |
| <p>2. For what purposes do people read the reports?</p>   | <ul style="list-style-type: none"> <li>• Some read to keep up with OAES research progress.</li> <li>• Some read to gather information for use in making policy and public decisions.</li> <li>• Some progressive producers read to educate themselves about wheat production and management practices.</li> </ul>  |
| <p>3. What are the audiences' needs and expectations regarding writing style, level of technicality, and design, and what is the order of importance of these needs?</p>  | <ul style="list-style-type: none"> <li>• Audience needed less technical information and more visual information.</li> <li>• Publications needed to be shorter.</li> <li>• Short, bulleted statements were beneficial.</li> <li>• Audience desired applied research results.</li> <li>• Agents believed audience would benefit from electronic communication.</li> </ul>  |
| <p>4. Do these reports effectively attain the Experiment Station goal of disseminating research results to producers for the purposes of sharing practical research-based information for producers to use?</p> | <ul style="list-style-type: none"> <li>• Agents thought the reports were effective for policy/decision makers.</li> <li>• Most producers were not served by the reports.</li> <li>• Producers preferred face-to-face communication.</li> <li>• Other publications provided more practical, applicable research results.</li> </ul>   |

(table continues)

| Research Questions  | Emergent Themes   |
|---|---|
| 5. Do these reports effectively attain the Experiment Station's goal of disseminating research results to stakeholders for the purpose of demonstrating accountability? | <ul style="list-style-type: none"> <li>• The reports helped persuade commodity group members that wheat checkoff money was spent wisely on research.</li> <li>• The reports might have persuaded producers not to request a checkoff refund.</li> </ul> |

### Conclusions

The problems A.C. True noted in 1909 concerning agricultural research publications (Knoblauch, et al., 1962) persisted more than 90 years later in the *Partners in Progress* publications, which, ironically, strove to solve such problems. Ambiguity, especially in terms of audience and purpose negatively affected the *Partners in Progress: Wheat Research at OSU* effort, even though the publications were targeted to a commodity-specific audience. The ambiguity, combined with poor distribution of the publication, led to perceptions of limited benefits for some stakeholders, though researchers/authors and some policy/decision makers still valued the publication.

These conclusions are intrinsic in nature, providing insight into how communicators and administrators in the OAES might improve this particular communication effort. However, agricultural communications practitioners planning similar communications efforts might find value and applicability in the conclusions. Table 3 summarizes the specific conclusions resulting from the themes that emerged in this study.

Table 3.  
*Summary of Conclusions Resulting from Emergent Themes*

| Themes  | Conclusions  |
|---|--|
| <ul style="list-style-type: none"> <li>• Many producers had never seen <i>Partners in Progress: Wheat Research at OSU</i>.</li> <li>• Agents (researchers/authors) believed the primary audience for <i>Partners in Progress: Wheat Research at OSU</i> was policy/decision makers.</li> <li>• Identification of the audience was unclear among beneficiaries and underrepresented citizens (the intended <i>Partners in Progress</i> audience).</li> <li>• A small faction of ardent readers existed.</li> </ul> | <p>The audience for <i>Partners in Progress: Wheat Research at OSU</i> was unclear to stakeholders and had been misidentified by agents.</p> |

(table continues)

| Themes  | Conclusions   |
|---|---|
| <ul style="list-style-type: none"> <li>• Some read to keep up with OAES research progress.</li> <li>• Some read to gather information for use in making policy and public decisions.</li> <li>• Some progressive producers read to educate themselves about wheat production and management practices.</li> </ul>   | <p><i>Partners in Progress: Wheat Research at OSU</i> served three main purposes according to stakeholders:</p> <ol style="list-style-type: none"> <li>1. Marketing the OAES by informing stakeholders of research progress;</li> <li>2. Informing public policy/decision makers about research progress to help them make policy decisions (e.g., how to allocate Oklahoma Wheat checkoff funds earmarked for research);</li> <li>3. Educating a small group of progressive producers who actively seek research-based information regarding wheat production and management practices.</li> </ol> |
| <ul style="list-style-type: none"> <li>• Audience needed less technical information and more visual information.</li> <li>• Publications needed to be shorter.</li> <li>• Short, bulleted statements were beneficial.</li> <li>• Audience desired applied research results.</li> <li>• Agents believed audience would benefit from electronic communication.</li> </ul> | <p>Three conclusions emerged relating to audience needs and expectations:</p> <ol style="list-style-type: none"> <li>1. The reports must be short and should contain graphics and graphical elements that are simple and easy-to-read;</li> <li>2. The reports must focus heavily on applied research;</li> <li>3. Though agents would like to begin relying on the World Wide Web more heavily as a communications medium, only a few producers are ready to embrace this medium.</li> </ol>   |
| <ul style="list-style-type: none"> <li>• Agents thought the reports were effective for policy/decision makers.</li> <li>• Most producers were not served by the reports.</li> <li>• Producers preferred face-to-face communication.</li> <li>• Other publications provided more practical, applicable research results.</li> </ul>                                      | <p>The reports did not fully achieve the goal of disseminating practical research results to producers because producers are not receiving the reports. This conclusion points back to problems with clear identification of audience and purpose and to a problem with distribution.</p>   |

(table continues)

| Themes  | Conclusions   |
|---|---|
| <ul style="list-style-type: none"> <li>• The reports helped persuade commodity group members that wheat checkoff money was spent wisely on research.</li> <li>• The reports might have persuaded producers not to request a checkoff refund.</li> </ul> | <p>The reports, had they been distributed to more stakeholders, might have been effective at persuading stakeholders had they been distributed more widely. Because they were distributed effectively to public policy/decision makers, agents believed, the reports served their purpose with that audience.</p> |

### **Implications and Recommendations**

The above conclusions imply that improvements can be made in the *Partners in Progress: Wheat Research at OSU* communications effort as well as with other communications efforts between OAES researchers and stakeholders. The following seven recommendations for practice and research resulted from this qualitative analysis.

#### Recommendations for Practice and Research

1. OAES administrators and communications professionals should decide definitively on a specific audience (either policy/decision makers or wheat producers) and focus on communicating well with that audience through *Partners in Progress: Wheat Research at OSU*. Risdon's (1990) model for publication development is a good model to follow because it calls for careful audience analysis and planning before any writing ever occurs. Once the audience is chosen, audience members should be made aware that the publication targets them specifically and that they should read it for a certain purpose. It is now more important than ever that Experiment Station publications be marketed to a specific target audience. A basic prerequisite for all writing, development of a target audience—the fictional audience described by Ong (1975—that authors can envision as they write will aid in communication effectiveness.

2. Whether the chosen audience is policy/decision makers or wheat producers, the publication should be shortened in terms of overall length and in terms of length of individual articles. Little, if any, research exists on the time agricultural producers spend reading publications, but participants in this study indicated the need for short, easily readable publications and articles. The lack of research-based information on this subject indicates the need for more investigation on the reading habits of agricultural producers.

3. OAES administrators and communications professionals should consider marketing its shorter, more practical publications to wheat producers. Publications like Production Technology reports and Extension fact sheets contain the short, more visual information that producers indicated they need. These recommendations are congruent with previous recommendations based on findings by Wanjohi (1993), Boone and Smith (1996), and McGinley (1993) that lay readers of agricultural research publications generally desire more visual information, especially photographs.

4. The OAES could benefit from an increased emphasis on placing wheat-related news releases in regional farm magazines. This communication method is a long-standing tradition among agricultural communicators at land-grant institutions. However, the findings of this study, which show that many of the participants received national and regional farm publications at no cost, demonstrate that communicators can solve some problems with distribution of research-based information by getting the information into these magazines in the form of news stories.

5. An emphasis on face-to-face communications with stakeholders is necessary. Stakeholders participating in this study agreed that face-to-face communication is the method most preferred by both the audience and by the communicators. This supports Tilley and Crowley's (1998) findings that social relationships are important to wheat producers as they consider whether to request a checkoff refund. The cost-effectiveness of face-to-face communications should be studied carefully; however, some stakeholder claims in this study indicate that though face-to-face contact is relatively expensive in terms of time and money, it is also a highly effective form of communication with producers.

6. Communication efforts employing the World Wide Web should continue to be developed, although it was not yet acceptable as a primary medium for wheat producers in Oklahoma. The finding that many producers participating in this study did not use the World Wide Web as a primary information source is important. Though the Web may be the wave of the future, communicators still must choose media that are most effective at the time in terms of reach and impact. More research on the agriculture industry's use of the World Wide Web is necessary and will continue to be necessary as agricultural communicators continue to track the needs and preferences of their audience members.

7. Qualitative research methodology is sometimes overlooked as a tool for communicators to use in evaluating communications situations. Its theoretical base, however, fits well with the concepts of audience analysis and stakeholder input. More qualitative case studies focused on agricultural publications such as this will add to the database of what communicators know about agricultural publications and their effectiveness. Also, because of the potential intrinsic value of qualitative data to agricultural communicators, they should consider using qualitative methods as a tool for evaluating publications and analyzing audiences.

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