Abstract

The objectives of this research synthesis were to 1) identify current agricultural communications research literature 2) identify areas of deficiency, and 3) make recommendations for further agricultural communications research. A total of 121 articles published in the Journal of Applied Communications from 1992-2001 were reviewed. Articles were grouped into 17 categories. Thirteen categories were determined by the Agricultural Communications in Education (ACE) Special Interest Groups. Four additional categories (accountability, ACE-related, professional development, and other) were added after reviewing the articles. The top categories of research over a 10-year period (1992 – 2001) were information technology (14.9 %), electronic media (13.2 %), and communications management (12.4 %). Agricultural communicators research a variety of subject matters with different issues related to the profession. Limited research has been conducted in the areas of graphic design (0.0 %), photography (0.8 %), marketing (1.7 %) and academic programs (2.5 %). Future agricultural communications research should be conducted to include all special interest groups of the Agricultural Communicators in Education, as well as new areas of interest such as risk communications.
Introduction

Over the past decade, many forces have challenged American agriculture. These forces include demographics; urbanization; rapid gains in worldwide agricultural production capacity; domestic farm and trade policies; lifestyle changes; global competition in basic and high-technology industries; and the explosion in knowledge caused by increasingly sophisticated computers, digital equipment and biotechnology techniques. Likewise, we are seeing an increase in public interest in the ever-growing agricultural and food controversies such as pesticide use, product labeling, overuse of antibiotics, BSE (mad cow disease), genetic modification of food, foot-and-mouth disease, concerns of food security and threats of agro-terrorism. As a result of these vast and diverse issues confronting the American agricultural industry a growing number of agriculturalists and public institution recognize the need for communications. Thus, agricultural communicators across the country have been called upon to assist with establishing communication strategies to address these emerging issues.

To this note, Hays (2000) contends “[Agricultural] Communicators in the final decade of the 20th century may find themselves overwhelmed by the astonishing increases in the amount of information and the number of channels through which it may flow. Research provides practical insights for the [agricultural] communicator—whose primary job still remains reaching people through the right channels.” Moreover, Hays (2000) declares “The communicator who wants research information to help guide his or her work has a wealth of information on which to draw. The body of research knowledge about the communication process is large and growing. It can help the communicator understand how communication works and offer direction in communication planning and strategy decisions.”

As a result of this need to advance communications efforts to meet the challenges confronting the agricultural industry there is a growing interest in publishing literature that relates to agricultural communications. Yet, to date the growing mass of literature has not been synthesized to organize the common assumptions, hypotheses, theoretical approaches, and research findings.
To a great extent, the growing mass of agricultural communications literature is a collection of content without any coagulating substances to bring it together or to produce coordination, point out interrelationships that exist, and provide direction for future endeavors. As Hays (2000) described “Research, like technology, cannot supplant the talent and dedication of the individual communicator. But it may help provide an advantage in a setting marked by increasing numbers of challenges and growing competition.” Hence, it is imperative that research in this area of inquiry focus on the issues associated with agricultural communications and address those issues in an orderly, systematic approach.

**Purpose/Objectives**

In order to provide the support to agricultural communicators as Hays’ described, the agricultural communications research community needs to take stock of what research has already occurred in the discipline. Or as Manneback, McKenna and Pfau (1984) indicate, “if research and development are to lead the way, we must continually review and evaluate our efforts.” Therefore, it is hypothesized that the review and acknowledgement of voids in the current knowledge base is an effective method of fostering the disciplines understanding and will bring focus to future research endeavors.

Thus, the purpose of this study was to conduct a thorough review of research published in the *Journal of Applied Communications* to critically examine the status of agricultural communications research and provide the profession with a basis from which to direct future research. The *Journal of Applied Communications*, the official publication of the Agricultural Communicators in Education (ACE) organization, has long been seen as the premier peer-reviewed journal for agricultural communications research. According to Telg, Tucker and Dolbier (2001) “the journal offers an avenue to discuss and debate important, sometimes
controversial issues facing our profession today.” Thus, articles appearing in this journal provide a good representation of the professions research interests and application.

To achieve the aforementioned purpose, three objectives where outlined to guide the study:

2. identify areas of deficiency in agricultural communications research.
3. make recommendations for further areas of agricultural communications research.

Methodology

Data was gathered from the Journal of Applied Communications online abstracts available at www.aceweb.org. All articles published from 1992-2001 were included in the study. A total of 121 journal articles were reviewed and grouped by year.

According to Knight (1984), effective analysis of subject matter topics researched lies in the categories used for grouping the topics under appropriate categories. The ACE Special Interest Groups served as the initial categories for this synthesis and four additional categories were added: accountability, ACE/historical articles, professional development, and other. A panel of experts validated this list of 17 subject matter headings. After the categories were validated, each abstract was reviewed based on title, central theme or focus, findings and conclusions and grouped into a final subject matter heading. Data were summarized using frequencies and percentages.

Findings

A total of 121 journal articles have been published in the Journal of Applied Communications from 1992-2001. (Table 1).
Table 1.
Articles published in Journal of Applied Communications (1992-2001)

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Over the ten year period (1992-2001), 29 institutions or universities have been represented by published authors in the *Journal of Applied Communications* including Aristotle University, Clarkston University, Cornell University, International Rice Institute, Iowa State University, Kansas State University, Kon-Kuk University, Michigan State University, North Carolina State, Ohio State University, Oklahoma State University, Oregon State University, Pennsylvania State University, Purdue University, Texas A&M University, University of Arkansas, University of California-Davis, University of Florida, University of Georgia, University of Kentucky, University of Idaho, University of Illinois, University of Minnesota, University of Missouri, University of Nebraska, University of Tennessee, University of Wisconsin-Madison, Visayas State College of Agriculture, and Washington State University.

From these institutions, authors have represented 27 different academic departments or units including: Agricultural Communications & Journalism; Agricultural and Extension Education; Agricultural Economics; Agricultural Engineering; Communications; Computer Science & Mathematics; Design; Housing and Apparel; Development Communications; Distance Learning; Educational Support Services; Entomology; Environmental Horticulture; Food Science; Human Resources & Family Sciences; International Agriculture; Journalism; Mass Communication; Nutritional Science; Pesticide Control; Plant Pathology; Plant Protection; Public Relations; Rural Sociology; Sociology; Soil Science; Technical Communications; and Telecommunications.

Likewise, authors from six non-academic organizations were published including: the U.S. Cooperative Extension Service; State Experiment Stations; Journal of Diarrheal Disease Research; Vietnam Ministry of Agriculture and Rural Development; National Pork Producers
Association; and the U.S. Department of Agriculture. There were 98 different primary authors listed in the journal. While forty-seven (38.8%) of the articles were published by a single author and 74 (61.2%) articles were published by multiple authors.

Fifty-six articles (46.7%) used quantitative methodology and forty-three articles (35.8%) used qualitative methodology. Additionally, there were 21 commentary articles (17.5%). Subject matter topics published in the Journal of Applied Communications are shown in Table 2.

Information technology received the highest reporting (n=18, 14.9%), followed by electronic media (n=16, 13.2%) and communications management (n=15, 12.4%). Limited research has been conducted in the areas of graphic design (n=0), photography (n=1, 0.8%), marketing (n=2, 1.7%) and academic programs (n=3, 2.5%).

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Information Technology

Information technology was the most widely researched area, with 18 articles published. Early research on information technology by Shaffer and Bowen (1992) and Makuch and
Robillard (1992) focused on using the Internet as a new technology and discussed new opportunities for electronic information dissemination. More recently, Emery (1999) concluded that success on the Internet is dependent on understanding the audience, the content the audience wants and how best to deliver it to them. While according to Irani (2000) audiences with high levels of prior computer experience are most likely to use Internet communications technologies. Likewise, Linder and Murphy (2001) found that students are using more web-supported information but continue to rely on print-based course materials.

**Electronic Media**

Electronic media was the 2nd most widely researched area, with 16 articles published. Two articles focused on television, two on electronic news dissemination, three on video teleconferencing, four on radio and five on videos. According to both Fritz (1993) and Beck and Cilley (1994), more agricultural communications units are using e-mail to transmit news. While Patterson and Wykes (1992) and Bower, Courson and Frazier (1994) concluded that video teleconferencing has received positive reactions and can be used as a cost effective alternative to face-to-face meetings. Moreover, Barclay (1997) radio research revealed that stations prefer agricultural information in programs between 4-5 minutes. Whereas, Gamon, Roe and Campbell (1994) found that county Extension offices like the idea of using videotapes but indicate a wide variety of uses for the tapes. While, Booth et al. (1992) found that only half of the agricultural communications departments had a television news component and less than 1/3 of the projects completed were on the topic of agriculture.

**Communications Management**

Communications management was the 3rd most highly researched area in the past 10 years, with 15 articles published. Much of this research focuses on delivery methods and communication preferences of various audiences. Suvedi, Campo and Lapinski (1999) found that the majority of farmers do not use web-based information. Whereas, Thomas (1996a) found that low-cost clipsheets are still an effective means to place story materials in daily and weekly
newspapers as well as electronic media and magazines. While Telg and Dufresne (2001) concluded that it is essential for agricultural communicators to build personal relationships and contacts to calm the public’s environmental and health fears. Banning and Evans (2001) also found that agricultural journalists receive increasing pressure from advertisers about the editorial content of their publications.

**Media Relations**

Media relations was the 4th most numerous topic with 13 articles published. According to Fett, et al. (1995), mass media is important in getting Extension information to large audiences with a good cost/benefit ratio. Thomson and Kelvin (1996) also concluded that the mass media helps the public understand issues relating to regional and sustainable agriculture at the rural/urban interface. Hays (1993) concluded that many large circulation newspapers show an extensive use of agriculture-related news. While Sweeney and Hollifield (2000) found that national newspapers influence the news reporting of agricultural trade publications. Moreover, Sperbeck (1997) recommended that media relations training for faculty and new staff members be advanced to meet the growing demand on agricultural communicators in working with the mass media.

**Professional Development**

Nine articles were published relating to the agricultural communications profession, all appearing between 1993 and 1996. Telg (1993) found that print and television news components of agricultural communications units employed a small number of staff members but turned out a great deal of print or video stories. While Diel (1995) identified daily influences that affect the behavior of agricultural communications personnel. Thomas (1996b) conducted an eight-year comparison of agricultural communication units at land-grant institutions and found an overall decline in funding, staff positions and tenure track positions.
**Distance Education**

Distance education was the $6^{th}$ most researched area with eight articles published over this ten-year period. All articles agree that distance education is a useful tool for agricultural communications and education. Specifically, Nti and Bowen (1998) concluded that in order for distance education courses to be effective, the needs of the learners must be understood. Whereas, Bielema (1997) calls for improvements in facilitating electronic discussions to accommodate different student learning styles. Whilst, Irani and Telg (2001) assessed faculty needs and found a need for training in instructional design, technology use and software use relating to distance education.

**Publications**

Seven articles were published related to publications, and included university, Cooperative Extension and mass media publication research. Four of the seven articles were results from readership surveys. Winn (1998) created a model for Extension publication planning and scheduling. While Gerakis (1997) conducted a readership survey of a university published alumni publication and found that the alumni were interested in research updates, Extension updates, commodity groups and industries and outstanding alumni profiles. Whereas, Tucker, Wood-Turley and Truong (1997) created a model for readership preference in agricultural college publications.

**Research**

Seven articles were published discussing agricultural communications research. Four of these articles were published in 1996. Elefson (1992b) described research methods for observing agricultural journalists. While Ross and Donnellan (1994) conducted a study on the definition of “research productivity” and found differences in opinion between administrators and faculty. Whilst, Tucker (1996) challenged the discipline to view agricultural communications research from a social science perspective.
International

International communications was the 9th most researched topic of study with 6 articles published. Agunga (1993) found that professional communicators must perform a variety of roles in international communications and serve as a facilitator to ensure the overall success of a project or program. Whereas, Carey (1996) stressed the importance of thorough preparation for becoming an international development consultant.

Writing

Five articles were published discussing writing in the agricultural communications profession. Scanlon and Baxter (1993) found that agricultural science graduates in Pennsylvania were found to write less than 8 hours a week. While Elefson (1992a) documented the development of a potential model for the agricultural science news writing process.

Accountability and Evaluation

Accountability and evaluation was one of the less researched topics. It is interesting to note that all four of the evaluation articles were published from 1998-2001. According to Boone and Furbee (1998) communication units should determine how well they serve customers by providing information for performance documentation as well as improvement and decision making support. Whereas, Richardson et al. (2000) concluded that the Extension service must stay ahead of accountability programs in order to avoid changing circumstances in political directions.

Academic Programs

Academic program research was the 12th most researched area in the Journal of Applied Communications over the past 10 years with three articles published. In 1993, Boone, Paulson and Barrick (1993) found a positive rating for the need and role of graduate programs in agricultural communications. Sprecker and Rudd (1998) identified opinions of agricultural communication practitioners in Florida concerning the knowledge and skills that should be taught to agricultural communications students. While, Weckman, Witham and Telg (2000) conducted a
survey of agricultural communications programs at 13 universities in the southern U.S. concerning faculty opinions, class curriculums and academic programs.

ACE/Historical Articles

Three articles were published describing historical or organizational aspects of the ACE organization. Buck and Paulson (1995) characterized ACE members based on educational preparation and membership in professional organization. While Carnahan (2000) provided a brief history of the organization and Donnellan and Snowdon (2000) surveyed ACE members and reported on organizational satisfaction and participation.

Marketing

Marketing was one of the least researched areas of study, with only two articles published. However, Sperbeck, Grantham and Thiesse (1992) found farmers consider marketing information most critical in the spring and trust the Extension service more than private sources. While Fritz and Bell (1995) discussed the marketing of Extension publications in Idaho garden centers and compared sales and profits for different stores and publications.

Photography

Photography was one of the least researched areas, with only one published article. Gravoso and Stuart (2000) studied upland farmers’ comprehension of pictorial messages on environmental protection and found that age was inversely related to visual comprehension and that education, visual exposure and knowledge of environmental protection positively influenced visual comprehension.

Conclusions

Findings indicate that over the past 10 years (1992-2001) agricultural communicators have conducted research in limited areas, with much focus primarily on issues addressing communications management, electronic media, information technology, and media relations. Communications management topics include research related to communications decisions,
information delivery, communications channels, and audience preferences. It is interesting to note that nearly 25% of all ACE members enrolled for the communications management special interest group (ACE, 2002), and that 18% of the articles are related to this category.

Findings confirmed that cooperative research has been well established and decidedly put into action within the agricultural communications discipline. As sixty-one percent of the articles published were written by multiple authors, ranging from 2-6 researchers working together. Additionally, over the ten-year period, there were 11 articles (9.1%) published by authors from different universities. This type of cooperative research appears to be gaining popularity, especially over the past three years, as six of the eleven collaborative articles were published from 1999-2001.

The areas of communications management, information technology and electronic media garnered the most attention in research published during this ten-year period. While the least amount of research was sited in the areas of graphic design, photography, marketing, publishing, and academic programs.

**Recommendations**

This synthesis identified research deficiencies within the agricultural communications discipline. Specific research should seek answers to the following areas to assist agricultural communicators in meeting the growing challenges confronting American agriculture.

1. The extent and impact of coverage of various agriculturally related issues by mass print and broadcast mediums on society, policy and production practice.
2. Status and prospects of agricultural communications graduates.
3. The impact of ownership and control of agricultural media outlets around the world on the quantity and quality of coverage of agricultural related issues.
4. Public perceptions of various agricultural issues due to mass media coverage.
5. An evaluation of the number and type of undergraduate agricultural communication programs in the United States and around the world.
6. A descriptive study on the role mass media plays in charting the political orientation and attitudes of readers toward key agricultural issues.
7. The relative effectiveness of various communications media approaches in enhancing agricultural literacy.

8. Perceptions and attitudes of practicing agricultural communicators on career opportunities and skills needed by future agricultural communications graduates

9. Communication patterns of mass media outlets regarding various agricultural issues

10. An appraisal of the efficiency and effectiveness of the nation’s agricultural communications programs in preparing future agricultural communicators

11. The genesis, viability and effectiveness of agricultural communications regarding various agricultural issues.

12. Assessment of the career readiness and continued training needs of practicing agricultural communicators.

While this is not a complete list of possible research questions, we believe that each of these topics are ripe for a research project to bring together leaders, identify points of agreement and disseminate major findings to the media, professionals, policy makers, and future agricultural communicators.

Implications for Agricultural Communications Research

Findings of this synthesis have provided a basis to remind the agricultural communications discipline where its research has been and where it may advance. Moreover, the findings provide the profession an evaluation or examination of past and present research efforts in the various ACE SIG areas. Finally, findings provide a basis to avoid repetitive studies and focus more on where and on what topics associated with agricultural communications should be emphasized in the future. Hopefully, this study will help current and future agricultural communications researchers establish priorities for future research efforts and lead to findings that will advance agricultural communications and the American agricultural industry.
References


