FILL ER UP: Automating Hometown News Releases

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Background

The Agriculture Program at Texas A&M University boasts more than 3,000 employees statewide, from at least one county agent covering each of the 254 counties to Extension specialists, Experiment Station researchers, university professors, staff support and administrators. Even the state's 434,000 4-H members, to a large extent, stand under the Ag Program umbrella for though they are not paid employees, their actions and accomplishments reflect on the system's agencies.

A large number of these university and agency personnel and 4-H members win awards and receive honors throughout the year. These awards and honors may range from being elected an officer in a professional organization to winning the World Food Prize.

For large international awards such as the World Food Prize, media efforts and coverage are relatively easy and predictable. We are set up to handle the mass media on a state, national and international level. But preparing a two or three-paragraph story just to go in one small hometown newspaper -- and doing this conceivably several thousands of times a year -- is not something that the news staff in Agricultural Communications has time to do. Yet, administrators, faculty and staff place a lot of value on seeing recognition of Agriculture Program people in local newspapers.

In April 1997, Agricultural Communications-News and Public Affairs was asked to cover the student awards ceremony for the department of soil and crop sciences. At least 20 students were being honored either individually or as members of teams for honors and awards collected during the school year. The department wanted a separate story on each student and wanted each story to be sent to that student's hometown newspaper. We agreed to assist with the intention of assigning a senior student worker to the task. The job was done, but it took more than a month between getting information from the department, going through three edits with the student and tracking down addresses for hometown papers (many of them out of the state and one out of the country). Though it was a complete headache for us, the soil and crop

sciences department was very pleased with the effort and asked if we would do similar jobs for them in the future. But before we could commit, we wanted to devise a better way.

At that time, a discussion on a Public Information Officer Internet list indicated that other than hand writing every story, the best method was to use macros and word processing software. This did not seem like a good solution because someone still would be responsible for the time consuming effort of collecting and inputting the information. But the notion of having a template onto which unique information could be entered for individual stories launched the idea of using the Web for handling award/honor story development.

The goal was to develop a hometown news release form on the Web so that faculty, staff and students could enter information about awards and honors, suggest two hometown newspapers to which the information should be sent, and click a button to submit the information to Ag Communications-News and Public Affairs. The information would automatically be transformed into a complete news release with correct style ready for a quick edit before dissemination, and the two suggested newspapers would be easily transferred to for mailing labels or appropriate dissemination.

Method

A news release from a previous award announcement was used as an example to devise a generic release. Words or phrases in that release that would be applicable to a specific winner were turned into blanks. Words or phrases that would be applicable to all award/honor stories remained. The draft of the story looked like this (underlined words designate blanks to be filled in):

Month Today, Year
TITLE
Contact: First Lastname, (ac) phone-number email@tamu.edu

DATELINE -- First Lastname of hometown has received name of honor/award at a recent event in location.
Lastname is a title or degree/classification at location of university/agency affiliation.
Comment on requirements for award/honor.
Description of citations/remarks about the award/honor.
Lastname earned list of degrees, locations and dates.

To get this information, a form had to be developed to ask the right questions, and, where ever possible, to provide a selection of answers in Associated Press style from which the person using the form could select. A draft of the form used to develop the Web page looked like this(information in brackets indicates the instructions for how to write the enabling computer program):

Hometown News Release to Announce Awards and Honors
This Month [provide the months in AP style]
Today [number to click on]

Year [number to click on]
Title: (suggestion: Lastname wins state honors at soil judging contest) [box to fill in]
Contact: (students enter professor who knows about this award/honor you are receiving. Faculty/staff enter your own name) [box to fill in]
Your phone number (students enter phone number of professor named above) [box to fill in],
Your email (students enter phone number of professor named above) [box to fill in] Name of city/town where you are affiliated with Texas A&M: [click on box with all Ag Program locations as options]
Your first and last name: [Box to fill in]
Your hometown: [Box to fill in]
Your award or honor: Box to fill in]
Name of event /contest you attended or organization that issued the honor: [Box to fill in]
Location of event: [Box to fill in]
What is your title for faculty/staff or degree/classification for students: [Box to fill in]
Describe in no more than 250 words the competition that was required to win the award, or the purpose behind the honor that was bestowed: [Comment box]
Describe in no more than 250 words any citations or remarks that were noted as a part of your award/honor. [Comment box]
Select the degrees you have, the university from which you earned it and the year it was bestowed: (Example: bachelor's in agricultural journalism from Texas A&M in 1978. [Click on bachelor's, master's, doctorate and three boxes to fill in]

The next step was to create the computer program that would enable the information entered into the form to automatically merge into a news article and arrive as an email message in the designated computer. With all stories going to one computer, the editor/recipient can verify the validity of the message and forward it to the appropriate staff writer (by beat designation) for dissemination.

The language used to write the CGI (Common Gateway Interface) application program is PERL (Practical Extraction and Report Language). The main reason to choose PERL as the working language is that it is optimized for text processing. It uses sophisticated pattern matching techniques to scan large amounts of data very quickly. PERL naturally became our working language since our hometown news release form is basically all text and needs many pattern matching locations for inputs (e.g. validate user's inputs). PERL is also an interpreted language which means no compilation is needed in contrary to most other computer languages. This feature of PERL makes it easy to code as well as to maintain. All above features make PERL one of the most popular web-based application languages today.

The biggest concern in our design and development of the program was that it be user-friendly. We wanted to make it as convenient as possible to the front-end users who fill in the form, and as efficient as possible to the person who is responsible to process the filled form at the server end. For example, we used many pull-down menus rather than text fields in the web form for those fields who need to conform to certain standards (e.g. Associate Press style for date and state name). So front-end users don't have to worry whether their inputs are correct or not, rather they just click and select.

Another feature we worked diligently to implement was the preview option. We want users be able to see what their inputs look like before submitting, and we want the program to be capable of bringing the users to exactly where they were if they are not satisfied with the preview or simply want to make some changes. It means that they can modify the contents based on the existing inputs rather than starting from a blank form and having to do it all over. We used embedded Javascripts to implement this feature. After the user submits the filled-in form, the CGI program processes the form into the right format and emails it to the designated computer automatically.

Another strategy of developing the program was to make it compatible to various computer platforms and web browsers. The program has been tested on PC, Macintosh, Unix, and Linux. It runs well under Netscape versions 2.0, 3.0 and 4.0, and Internet Explore version 3.0 and 4.0 which are the most used platforms, according to the statistics program we ran on our news Web page.

Results

This project was started in July. The form was put on the Web (agnews.tamu.edu/form.htm) about six weeks later during the first week of August. An email message promoting the site was sent to the "everyone" list of the Agriculture Program to notify more than 3,000 employees. Notice also was included in various online internal publications and notices. Two additional notices have been sent via email to remind various groups about its availability.

There has been some need to assist people with the idea of filling out forms online. Some people attempt to fill in only partial information (apparently thinking that Agricultural Communications will follow up to obtain the missing data), however, the computer language was written so that all vital information must be filled in or message appears indicating that the form must be completed before it can be sent. This has been a good learning tool both to instruct our employees on the use of the Web and to educate them about what is necessary to have a complete news article.

Initially, some people thought they would send the information to us and have us fill in the form. When this happened, we responded via email thanking them for the interest, expressing the desire to help disseminate the information, but tactfully instructing them that they would be responsible for completing the form online. All were glad to do so and, having tried it, expressed that it was useful and easy. In one case, a county agent argued that her county didn't have Web technology and tried to get us to handle the information because of that. We checked with Extension Information and Technology, however, and found that her county had recently purchased a computer with the intent of getting on the Web (as virtually all 254 counties are). Thus, we responded that her county would need to continue with their traditional method of releasing such stories until they get on the Web. Thus, the form is yet another incentive for taking the steps to get on the Web.

Receiving stories generated from the Web site also has helped the Agriculture Communications staff be more aware of events taking place in the state.

Comments about the service have all been positive, both from those who already have used it and those who intend to use it in the future.

Conclusions

This service is new and unique. Since Agriculture Communications didn't have a good system in place to handle hometown news releases, selling the faculty and staff on this idea will require more effort and take longer than pitching an alternative to an existing service. Promotional efforts must continue in order to enable the Web form for hometown news releases to become routine for Agriculture Program employees.

Eventually, the use of the form will increase, and with that so will the publicity for the efforts extended by the Agriculture Program faculty and staff.

Who's out there? Strengthening Internet communication for agriculture through consideration of audience dimensions and user needs

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Abstract

Success in Internet publishing and communications has less to do with mastery of HTML and listserv management than on utilizing a set of skills agricultural communicators already have in abundance: understanding of audience, what content that audience wants, and how best to deliver it to them. Yet a study conducted in spring 1997 found these issues unresolved in much of the Internet activity by State Agricultural Experiment Stations, resulting in missed opportunities for accountability and problems for users seeking quality research information. Whether the focus is on disseminating agricultural research or enhancing extension operations, effective use of the Internet demands careful thought about audience, measurement, and how the network differs from other mediums. By applying such considerations to their work, agricultural communicators can enhance the quality of their online activity and establish dynamic electronic channels of communication with both traditional constituents and diverse new audiences. In addition, new opportunities exist to expand access to agricultural information through participation in emerging global data centers for agricultural news, information, and interactive communication.

Introduction

It used to be that one of the Internet questions most frequently asked of agricultural communicators was "Are you on the Internet yet?" Today the answer is often an enthusiastic "Yes!" The good news is that most agricultural extension and research center communicators are eagerly delving into cyberspace, firing off email and posting information on listservs, mail lists, and to web sites. And reflective of the communicators' growing expertise, web sites representing agricultural units show increasing sophistication, with many rivaling commercial sites in terms of the quality of graphics, expanding content, and inclusion of such sought-after features as search engines and downloadable data. So far, so good.

But somehow in the tumult of testing out the new medium of cyberspace, two important questions are not being asked or, arguably, not asked enough: "What are you doing on the Internet, and why?" A 1997 study of web sites representing agricultural communication units found that the fundamental issues embodied in the questions above who is the audience, what do

they need or want, and what form do they need it in? are getting lost in the excitement and challenge of HTML editors, graphics programs, server options, and other dynamics of instant Internet communication. Too often, a rush to "get something up there" appears to be driving Internet usage rather than a careful consideration of goals, objectives, and audience. Just as frequently, thought appears not to be given to how differences of the Internet demand differently structured information than that of traditional paper-based publications.

This paper aims to encourage agricultural communicators to take a creative time out for evaluation and analysis. With web sites representing agricultural units now typically in their second to third generation of development, it is time to pause and consider experiment and extension Internet activity in context with some of the larger and broader issues that shape communication in cyberspace. This paper seeks to facilitate that consideration by examining some of the challenges confronting web publishers. Through a list of ideas and guidelines distilled from good Internet practice, the paper offers agricultural communicators a set of tools to use in evaluation and planning of their Internet operations. Finally, the article explores some of the competing ideological aims that have challenged agricultural communicators, examining them in light of the Internet's capabilities in the belief that the new medium is uniquely poised to help bridge some of the competing ideas and transform them into powerful new forms of agricultural communication.

Who's Out There, and What Do They Want?

Operating a web site or moderating an Internet-based mailing list can be something of a guessing game. Identifying audience and providing them with content they want in a format they prefer is a challenge encountered by every web publisher. Evidence of this can be found in the innumerable books available on web publishing and equally innumerable discussions of web publishing issues on the Internet.

A study by this author found the issues to be challenging agricultural communicators, as well. In April 1997, I set out to examine how web sites representing state agricultural experiment stations and experiment centers were faring with regard to audience dimensions and other aspects of Internet usage for professional communication. Starting with an initial sample of 25 web sites representing experiment operations, the study used an approach of triangulation to explore the subject matter from three directions. In the first phase, a survey was emailed to the webmaster or other designated email point of contact for each site, with responses evaluated both for their speed of reply and the answers participants provided to a set of questions about their web site, its purpose, evaluation, and perceived effectiveness. The second phase consisted of a content analysis of each web site, and the final phase was a test of the effectiveness of locating research information from each station using three popular search engines.

Problems emerged immediately. Of the 25 stations surveyed, nine did not reply, one had an invalid email address, and one responded days beyond the cutoff point a situation that indicated low attentiveness to communication from site visitors. From these results, the study sample became the 12 stations that did respond to the survey.

In their survey responses, the maintainers and site administrators said the top challenges of

their Internet activity were in identifying audience, measuring effectiveness, and justifying effort. The chief purpose or role of the sites was overwhelmingly said to be to provide general information about the station to a broad audience (selected by 10 respondents), followed by an aim to share detailed information with research affiliates and research users. The target audience for the sites was primarily the general public, specified by seven respondents, although researchers, legislators, and prospective students also figured prominently. Two stations simply noted the audience for their sites was either unknown or generally defined to be anyone outside the station.

Evaluation of web site performance and justification of the effort to establish and maintain the sites also was said to be problematic. Although half the stations in the sample indicated they were monitoring statistics of site usage, no one attached much value to the figures, noting problems of determining precisely what is being counted. Half the sample, including some who monitored statistics, said no formal evaluations of their sites were being conducted. Instead one third of the sample said effectiveness was judged subjectively by the station director and other administrators or through anecdotal responses such as email from site visitors.

To borrow from the information science theorist S.D. Neill (1992), these webmasters found themselves dealing with dilemmas of the unknown: specifically, an undetermined audience, vague measures of effectiveness, information overload (the challenge of managing information in an information society), and most broadly dilemmas of method: of determining what is and is not appropriate for their sites in content, investment of effort, and return on the value.

The ambiguity encountered by the webmasters may strike a wry note in seasoned agricultural communicators since issues of audience and evaluation have long been problematic for the field. Questions associated with the two dimensions are prominent in debate over whether agricultural communication should focus on marketing or service, whether its identity is accurate as a rural-focused organization or one that serves broader needs, and whether agricultural communications should be high tech or high touch (Whiting 1996).

The issues have ramifications at the applied level, as well. In literature associated with training and development needs for agricultural communicators, Lionberger & Gwin 1991, Agunda 1989, and Richardson 1989 are among the practitioners who have called for greater attention and sensitivity to the needs of end-users. Their call has been repeated more recently by MacKenzie 1997, Rohan, Randall, Shulman, Tsai & Watt 1996, Knecht 1996, Beck & Cilley 1994, and Browning & Anderson 1989 in literature about the need to master and integrate electronic forms of information dissemination into agricultural communications efforts.

Cutting Through the Confusion

The key to reducing ambiguity associated with Internet operations that support agricultural communication lies in realizing, as Carl Carter, APR, puts it, that the Internet is not a "computer thing" but a "communications thing." In dialogue on the online forum PR Issues, Carter (1997) advises practitioners that this means "we still have to identify various publics to be reached and set objectives for each, rather than just throwing everything out there." Writing on the public relations value of web sites for universities, Crockett (1997) argues the most

important aspects of web publishing lie in articulating a concept and a mission, developing the content, and presenting information in an attractive, easy-to-read format. (Yet) Anyone who's put together a broadcast spot, edited an alumni magazine, or developed a series of pitch letters has these skills. (p. 16-17).

When asked by this author to identify criteria for judging the public relations value of web sites, members of the listserv PRFORUM supported Crockett's statement, saying the factors for judging effectiveness are the same for any public relations venture: identifying organizational goals, objectives, and the target audience, and serving audience needs in personalized, interactive ways (J.S. Punk, personal communication April 28, 1997, L. Pollard, personal communication April 27, 1997).

Most web sites, and particularly those representing non-profit organizations, evolve over time. Many of the sites representing agricultural communication units are now in their second or third permutation, if not beyond it. Such an evolutionary path of development can lead to a broad, unfocused web sites that grow in many directions as needs and opportunities occur. Now that most sites have been in operation for more than a year, it is time to stop and rethink what is being done. The following 10 points are intended to get readers thinking critically of their web sites and Internet operations and to encourage them to ask questions about the process.

A Checklist for Internet Operations

- **Audience: Who's Your Target? Consider the many stakeholders of your operation and define the target groups of your web site, listing them by priority. Then look at your site and see if the content is organized to serve their needs. Users click through a site in paths. Are the "click paths" that serve your constituents clear and easy to navigate? Place yourself in their position and use the site. Consider asking a stakeholder to visit your site and allow you to watch the process.**

- **Define User Needs and Organize Content Accordingly. What do users want from your site? And, turning the question another way, what do you want users to take away from your site in terms of information and impressions? Ask these questions about each target audience, then look at the site and see if the content is there to achieve those aims and that it is organized clearly enough that messages don't get lost in other text, images, and indirect paths through linked documents. Just as with a printed publication, a web site should directly and clearly convey messages that you want to send.**

- **Be Interactive. Many organizations use the World Wide Web passively, treating it like a bulletin board on which to tack information. But as a communicator, you're smarter than that. The beauty of the web and the Internet in general are their interactivity. Use that power. Encourage visitors to your site to tell you their thoughts and ask questions. Make the invitation for comment obvious by playing it up big right there on the index page and echo the call for comments elsewhere at the site. Make sure each page has a designated maintainer and a way to communicate with that person using a "mailto" link. Provide an email directory of your staff. And because many use the web as a reference source, provide regular telephone and mail addresses, as well.**

- **Provide Leadership. Many web sites began as student projects or were launched by support staff members willing to help out where needed. Such support can be invaluable in maintaining and growing web operations. But as a communications pro, you have insight and perspective into user needs that needs to be invested in the effort. Provide vision and direction to the effort, help your maintainers integrate Internet operations with the unit's other communications programs, and join these staff members to form a web team.**

- **Target Messages, Not Access. Web content should be accessible to as broad an audience as possible. To this end, avoid optimizing your site for performance on specific browsers. You want users of Netscape, Internet Explorer, and text-only browsers such as lynx all to have a positive experience. To ensure they do, look at the site yourself using different computers and browsers. If a text-only interface such as lynx shows missing content and messages of <inline>, <link>, <image>, and <ISMAP>, without content choices, then there's need for work, specifically the thoughtful use of ALT tags. Also keep in mind that many users still do not have a direct connection to the Internet. Modem speeds and quality of telecommunication lines, particularly in rural areas, vary. Bandwidth intensive pages are slow to load and can create problems for users. Aim for lean pages with graphics that are small in file size and load quickly. Also keep a listening ear tuned to positive and negative evaluations of web trends. Frames caught on quickly, but many find them unwieldy to use, and a number of top web designers have dropped them entirely. Aim for usability and design with your audience in mind: Are they music-video crazed teens or is your audience older and more traditional? The answers should have bearing on site design, content, and structure.**

- **Put Away That Shovel! The web is not a printed brochure or magazine, and people don't read it like a book. For that reason, your content needs to be organized differently than it is for printed pieces. Studies have found that few people like to scroll, so keep page lengths shorter than traditional paper equivalents. Also there is need to help users find their way through complex documents or sites. One of the best approaches is with indexes that allow users to understand at a glance what is available and then follow the path that best fits their needs. For large sites, search engines. Even though PageMaker and other programs can now export print-based projects as HTML, resist the temptation of "shovelware." Instead, organize information in ways that mirror user behavior. How do you use the web? Your patterns of use and those of your target audiences hold important clues about how to organize web material.**

- **Justify, Justify, Justify. Java scripts, animated gifs and customized background tiles can be fun to play with, but when they get in the way of information access and meeting user needs, they impair the effectiveness of your communication. Consider every image and bit of information at your site, as well as how the material is structured. Each image should have a purpose and reason for being there. Otherwise, lose it. The same goes for information. In this regard, the similarity to good editing of print publication is striking.**

- **Keep Content Fresh. Use your site dynamically to encourage users to make return visits. Post alerts of breaking or upcoming events on the site's main page. Share information**

about current projects or initiatives. Keep news archives up to date. And watch for little things, such as images of outdoor scenes that are out of sync with the season or email links that are no longer current with your staff or server addresses. It is also good practice to refrain from promoting content that is not ready. Keep it, and the pervasive "under construction" icons, unlinked from your pages until the material is ready. Otherwise, promises of what is coming can confuse what is actually there. Such messages are not found on corporate and other top-performing web sites.

- **Think Beyond the Web: Cross Promote. The Internet is more than the World Wide Web, and its other functions can be powerful tools to reach your audiences. Many users may prefer to receive news of your operations directly by email and, for you, listservs and electronic mailing lists can be a great way to ensure they receive important messages. Both types of mailing lists can be organized from the general topic area (agricultural extension) to the very specific (no-till farming methods). And they can be used in tandem with your web site. For instance, sending out email that alerts people that a popular annual bulletin of seed trial results is available at your site will get the word out quickly and may help reduce demand for paper copies. Explore the possibilities and be sure to promote your web site and Internet operations in your paper correspondence, printed publications, and interpersonal interactions. Of course you can also cross promote on the Internet, which some of the savviest relationship marketers routinely do. If your site adds a subsection devoted to research on fruit trees, find listservs and Usenet News groups related to the subject and alert members to your new content. Routinely registering your site and its significant content areas with search engines is also smart practice.**

- **Evaluate Creatively. Sure, there's no single tool for evaluation, but is that really a problem? Piece together your own evaluation program, tailoring it to your specific needs. Use site statistics to track the number of different machines that visit your site and to understand which areas of your site are experiencing the heaviest usage a useful indicator of the content visitors find most interesting. Keep a log of email received from users, recording both number and purpose of communication. Note the growth and use of listservs and mailing lists and the frequency and substance of comments from colleagues or constituents about your web site.Other resources are at your disposal, as well. For example, focus groups composed of individuals representing your target audiences can be an excellent source of evaluation and ideas.**

  This set of points is intended to get readers thinking creatively about their operations. While most of the items focus on the process of Internet communications, that is, the nuts and bolts of day-to-day operations, the issues they touch upon are part of a larger picture of how agricultural experiment and extension operations communicate with their publics. For that reason a consideration of the broader issues in context with the Internet's capabilities is worthwhile.

The Big Picture: The Internet, Agricultural Communications & Interactivity

In conference presentations and in publication, Larry Whiting, head of communications and technology for Ohio State University, has distilled some of the competing ideologies and points

of view about how agricultural communicators conduct their work and summarized them in a list that he calls "The Ten Great Paradoxical Challenges That Face Extension, Research, and the Land Grant System" (Whiting 1996).

Questions regarding communication are central to many of the dilemmas on Whiting's list, including the ongoing debate about whether agricultural programs should market themselves to build greater awareness among citizens of their services or whether they should concentrate on serving existing stakeholders. Communication also appears in debate over whether interactions with stakeholders should be one way in nature or interactive and whether communicators should continue working one-on-one with people in small group workshops and meetings and through educational print-based material or whether they should shift to tools of mass communication. Issues of communication also surface in the dilemma of agricultural units' image and competitiveness; about whether the units should be proactive or reactive in assessing the needs of the public and addressing them through education and research; and in the "local versus global" debate about the focus of experiment and extension operations.

Historically, the viewpoints held by communicators and their administrations on these dilemmas translated into clear directions for the day-to-day operations of experiment and extension operation communications. The situation led units at some universities to focus on brochures, posters and interpersonal networking while operations elsewhere moved into video and teleconferencing, and still others plunged into wide-ranging international programs.

Through the Internet, many of the competing views that have traditionally divided the work of agricultural communicators can now be served simultaneously in ways that demand little if any additional work by communications staffs. Building interactivity into web and Internet operations is the key, and it is an approach supported strongly by a leading model of organizational communication in the field of public relations: a classification system proposed by Dozier, Grunig & Grunig (1995) for organization-based communications and public relations activities.

The system developed from a three-nation study of communication practices conducted for the International Association of Business Communicators, in which the researchers found the most persuasive communication practices to consist of a two-way flow of communication that (a) invites stakeholders to express their opinions, evaluations and ideas of the services the organization provided and (b) then evaluates the organization's actions and programs in light of the comments received. The approach enables communicators to manage conflict and promote mutual understanding and shared goals by collecting information from audiences and integrating their viewpoints into organizational decision making. It is this model of all the models of interaction identified that Dozier, Grunig & Grunig note enables "communication and public relations (to) make valuable contributions to society as a whole" (p. 13).

Although the Internet was just beginning to diffuse into business operations at the time of the study, its ability to support such two-way flow of communication is clear, and functions of interactivity can easily be adopted into Internet operations representing agricultural extension and experiment units. Ways to do this include soliciting comments from site visitors and posting those comments along with your responses to the web site. Other approaches include evaluating

web site performance through site statistics that identify popular areas of content, and using listservs to communicate electronically with various stakeholders. The result of such practices is a heightened flow of communications between organizations and their intended audiences that can sweep away a great deal of the ambiguity associated with Internet operations while offering communicators an evaluative tool to refine the performance of all of their operations regardless of medium.

Interactivity facilitated by the Internet is also central to a growing trend of establishing electronic centers aimed at sharing agricultural research and information across state and national borders. These "cybercenters" offer individual experiment and extension units an opportunity to link information representing their operations into wide-ranging resource centers aimed at being a first source of reference for online agricultural information. The organizations that maintain the central sites handle the time-intensive work of organizing information and furnishing search engines and other tools to access it. The only demand on individual units is to contact site maintainers and help them link to online material they want to include at the clearinghouse.

In the past year, two such efforts have gotten underway. One, called "E-Answers," is operated by the Agricultural Communicators in Education, or ACE, and resides at www.e-answers.org. E-Answers functions as an information retrieval service representing land-grant institutions in the U.S. and abroad. Users can consult the site for pointers organized by subject and location to agricultural information at specific institutions.

A second effort with similar aims but broader scope is being developed by the World Bank in cooperation with National Agricultural Research Systems (NARS) and the Consultative Group on International Agricultural Research (CGIAR). Under the World Bank's leadership, the organizations are launching an Electronic Global Forum on Agricultural Research, called EGFAR for short. The initiative aims to establish a global center that would enable participants to explore the needs and opportunities for agricultural research, its scope for collaboration, and practical measures to strengthen partnerships. In addition, the center would aim to:

- **function as a one-stop information source for questions on agricultural research for development**
- **enable anyone interested to participate in substantive discussions on agricultural research**
- **help strengthen networking and partnerships among the actors in the global agricultural research community, and**
- **contribute to priority setting and decision-making on agricultural research by providing periodic overviews of major discussions that occur within the system of electronic forums (Consultative Group on International Agricultural Research 1997).**

EGFAR, which is still in development and not yet open to online audiences, resembles a shopping mall in conceptualization, with each shop "belonging" to an international constituency group within the global agricultural community. Initial groups would include regional forums of national agricultural research systems, non-governmental organizations, farmers' organizations, private sector, advanced research institutions, universities, and CGIAR. Each shop would consist of two rooms: the first, a traditional library where constituents place and

access digital information relevant to the forum and where individuals browsing the holdings could submit requests about information they are seeking; the second, a room of "conference tables," with each devoted to a topic of interest to the constituency group. Visitors would sign in, agree to follow a standard protocol for participation, and then take part in the ongoing discussion.

The effort demonstrates the range of services and global sweep that is possible to achieve with Internet operations. It also is a worthwhile example to consider in envisioning how to use the network for local, state, and regional agricultural communication, as well. The potential is there; the challenge can be in realizing it and finding meaningful ways to use it for experiment and station communications. Again, the solution may be found by returning to consideration of audience needs and interests.

Summary

The Internet was created to bring people and information together. As such, it exists as a powerful tool for agricultural communications, and it is clear experiment and extension operations have been quick to recognize the opportunity. Through attention to audience dynamics, care in evaluation, and strategic use of the full abilities of the Internet, agricultural communicators can heighten the effectiveness of their online efforts and, in the process, enhance their interactions both with traditional constituents and new audiences. Such interactivity has the potential to bring rich rewards with benefits that spill over to non-Internet areas of activity. The Internet already is proving itself to be an important tool. Using their innate skills, communicators have the ability to refine that tool and use it to their benefit and the benefit of everyone who depends on access to agricultural information and research.

References

Agunda, R. (1989). Communicating with the audience in mind. ACE Quarterly, 72 (2). 17-23.

Beck H. & Cilley, M.L. (1994). Change and the agricultural communicator: Electronic dissemination of extension information. Journal of Applied Communications, 78 (1), 1-10.

Browning, N. & Anderson, L.J. (1989). Staff training needs for dealing with developing communication technologies. ACE Quarterly, 72 (1). 17-22.

Carter, C. (1997, March 2). Re: Creating web sites that meet PR objectives. Message in online forum. [On-line]. Available: http://www.prforum.com/prforum/cgi-bin /bbs_forum.cgi?forum=prissues&read=000138000128.msg&session=3364e79816e6d0bf& use_last_read=on&last_read=0. [Accessed April 3, 1997].

Consultative Group on International Agricultural Research. (1997, May). Electronic Global Forum on Agricultural Research. Draft concept note.

Crockett, D.J. (1997, March). Wanted: Computer geek quick! CASE Currents, 23 (3), 14-20.

Dozier, D.M., Grunig, L.A. & Grunig, J.E. (1995). Manager's Guide to Excellence in Public

Relations and Communications Management. Mahwah, NJ: Erlbaum.

Knecht, T.W. (1996). Improving the effectiveness of educational programs on the World Wide Web. Proceedings of the 1996 SAAS Convention, Agricultural-Communications Section. [On-line]. Available: http://www.ca.uky.edu/agcollege/agcom/saas96.pdf. [Accessed November 25, 1997]. 27-31.

Lionberger, H.L. & Gwin, P.H. (1991). Technology Transfer: From Researchers ... To Users. University of Missouri: University of Missouri Press.

MacKenzie, D.R. (1997). National center for technology deployment. Proposal submitted to Cooperative State Research, Education and Extension Service. College Park: University of Maryland.

Neill, S.D. (1992). Dilemmas in the Study of Information: Exploring the Boundaries of Information Science. New York: Greenwood.

Richardson, J.G. (1989). Extension information delivery methods: Detecting trends among users. ACE Quarterly, 72 (1), 23-27.

Rohan, P., Randall, R., Shulman, D, Tsai, J. & Watt, A. (1996). A marketing plan framework for the Northeastern Regional Association of State Agricultural Experiment Station Directors. Dartmouth, NJ: Tuck Student Consultants.

Whiting, L.R. (1996). Challenges that face colleges of agriculture. Journal of Dairy Science, 79 (10). 1754-1759.

Assessing Information Sources on Biotechnology Used By Teachers Of Agriculture In The Public Schools -- A Tri-State Study

A Paper Presented to the Southern Association of Agricultural Scientists
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Biotechnology is defined as "using living organisms to improve or develop products or processes useful to mankind" (Savage, 1987). Bread, cheese, beer and wine, yogurt and recycled water are common examples. Recent advances in biotechnology, such as genetic engineering, tissue culture, and fermentation engineering, promise a second "green revolution" for agriculture (Sattelle, 1990; Schneiderman, 1987). A nationwide Louis Harris poll commissioned by the U.S. Office of Technology Assessment (1987) found that only 16% of Americans rated their basic understanding of science and technology as "very good" while 23% were "very interested" in technological matters. Eighty percent of Americans expected future development in science and technology to benefit them. At the same time 71% expected that these developments would pose some risks; however, 62% felt that benefits outweighed risks and just 28% believed that risks outweighed benefits. Two-thirds of the public believed that genetic engineering would make life better for all people.

Barton (1987) found that leadership groups are generally more informed about biotechnology than the general public, and are more likely to see that benefits outweigh risks. Hoban (1990) reported in a major study conducted in North Carolina that public knowledge of genetic engineering is generally low. Since agricultural educators will likely serve a vital role as interpreters of biotechnology to their students and to their communities, it is important that teachers of agriculture understand and have appropriate attitudes (e.g., willingness to study the issues, acceptance of new concepts, etc.) toward the subject. At present, not much is known about teacher attitudes toward the new biotechnology. Martin, et. al. (1989) in a national study, and Malpiedi-Kirby (1990) in North Carolina, found generally positive teacher attitudes toward agriscience instruction in agricultural education, of which the new biotechnology is a part. State leaders need reliable data on which to plan preservice and inservice education programs on biotechnology and related curriculum development. Therefore, baseline data such as in this study are needed to fill the void.

PURPOSE AND OBJECTIVES

The primary purpose of the study was to determine the attitudes of teachers of agriculture toward biotechnology. Specific objectives were to:

a) determine teacher interest in biotechnology; b) assess teacher knowledge of biotechnology; c) learn the information sources teachers used to gain knowledge of biotechnology; d) ascertain teacher acceptance of biotechnology; and e) consider the effects of demographics on teacher attitudes toward biotechnology.

PROCEDURES

This was a descriptive study involving self-assessment on a structured written instrument. The population consisted of teachers of agriculture in the states of Georgia, Maryland and Tennessee. Questionnaires were distributed to those teachers of agriculture aattending their respective summer inservice conferences. Social Security numbers on the returns were used to identify respondents. To insure that the sample was representative of the population, a mailed follow-up was made to a 50% random sample of nonrespondents. Response from the initial mailing was 51.4%. After four weeks, a telephone follow-up was made to a 10% random sample of

nonrespondents. When no significant differences were noted on 15 demographic and response variables, the data from those responding to the follow-ups were combined with the returns from the original respondents. Thus, nearly two-thirds (422 or 66.3%) of the teachers of agriculture in the three states provided data for the study.

Data were collected using the Inventory of Biotechnology in Agricultural Education, as developed by the researchers from the literature and their own education/experience. The Inventory was made up of four sections: Introduction/Directions, Personal Interest in and Knowledge of Biotechnology, Professional Preparation/Involvement in Biotechnology, and Demographics. The instrument was reviewed for content validity by a panel of experts from the University who were involved in research, agriculture, education and biotechnology; their suggestions were incorporated into the final version of the questionnaire. The instrument was trial tested for readability with the 26 enrollees in a graduate course in Agricultural Education. Data were collected during the late summer and fall of 1990. Analysis revealed high reliability --a Cronbach's alpha of .87 for all parts.

ANALYSIS OF DATA

Primarily descriptive statistics -- count, means, medians, frequencies, percentages and Chi square -- were used to analyze the data. Significant differences in means were determined by using t-tests and analysis of variance.

RESULTS

Demographics. Respondents ranged in age from 22-70 years; median age was 39.5 years. Females made up just 7.3% of respondents. Ninety-three percent of the group were Caucasian; the largest minority group was African-American at 4.8%; the next largest minority was American Indian at 1.7%.
Most respondents (50.9%) held masters degrees; 36.5% had bachelors degrees, 8.0% had education specialist degrees and just 2.9% had doctorates. Respondents originated primarily (83%) from the states of Georgia, Maryland, and Tennessee. Experience levels ranged from less than one year to 44 years; the median was 11 years. One-fifth (22.3%) reported experience in teaching other subjects, while eight out of ten (79%) reported other experience, including farming, government, and industry. Most respondents (89.7%) were in A, AA or AAA schools; but 10.3% were in very large systems (AAAA). Median enrollment was 100 students in agriculture. One-half (51.3%) of all participants were in single teacher departments. Agricultural production (50.7%), agricultural mechanics (46.9%) and horticulture (35.3%) were the most common specialties reported. Most respondents (72.5%) were employed for 12 months; however, 16% were on 10 month contracts.

Interest and Knowledge Levels. Mean ratings of perceived interest and knowledge may be viewed in Table 1. In every category mean interest levels were significantly higher ($p<.05$) than mean knowledge levels.

Sources of knowledge. The major sources of information on the new biotechnology used by teachers of agriculture in the three states were as follows: newspapers, 79.6%; agricultural journals, 79.4%; television, 63.5%; inservice workshops, 34.4%; education journals, 32.9%; radio, 31.3%; graduate courses, 15.6%; undergraduate courses, 14.0%; and employment in biotechnology, 5.7%. The providers of information on biotechnology that were most trusted by respondents are indicated in Table 2.

Table 1
Level of interest in and knowledge of biotechnology held by teachers of agriculture (N=422)

Category	Interest			Knowledge			Sig.*
	n	M	SD	n	M	SD	
Animal Biotechnology	404	4.1	1.1	411	2.8	1.1	0.0001
Plant Biotechnology	404	4.0	1.1	411	2.6	1.0	0.0001
Regulations and Safety	400	3.5	1.1	409	2.2	1.0	0.0001
Bio-chemical Production/Modification of Materials	405	3.4	1.1	411	2.0	1.0	0.0001

Waste Management and Treatment	401	3.4	1.2	408	1.9	1.0	0.0001
Human Health Care	402	3.2	1.2	408	2.1	1.1	0.0001
Bioengineering	402	2.8	1.3	407	1.9	1.0	0.0001

aNote: means are on a scale of 1=low;...5=high.
***Level of significance between means of interest and knowledge, using the t-test.**

Table 2
Most trusted providers of information reported by teachers of agriculture (N=422)

Category	n	%	M (a)	SD
University/college	329	78.0	3.9	1.2
Agricultural journals/newsletters	323	76.5	3.6	1.1
Cooperative Extension Service	316	75.0	3.5	1.1
Education journals/newsletters	303	71.8	3.2	1.1
U.S. government agencies	319	75.6	3.2	1.2
Colleagues	313	74.2	3.1	1.1
State government agencies	307	72.7	3.1	1.1
Companies selling biotechnology products/services	312	73.9	2.6	1.2
Other	14	3.3	2.1	1.7

(a)Means are based on a scale of 1 = low...5 = high.

Acceptance of biotechnology. Nearly all (98.8%) of the respondents said that they would use a product developed through biotechnology, primarily because of its greater effectiveness and safety, and the recommendations of experts. Respondents also thought that 97.9% of their colleagues would use these products, for similar reasons.

Most respondents (78.9%) reported that modern biotechnology was being incorporated into the agriculture curriculum. The major means of incorporation are detailed, by state, in Table 3.

Table 3
Methods reported by teachers for incorporation of biotechnology into the agriculture curriculum (N=422)

Method of Incorporation	All		Georgia		Maryland		Tennessee	
	n	%	n	%	n	%	n	%
Infused into regular agriculture classes	224	53.1	87	48.9	37	59.7	99	55.3
Units on biotechnology are taught in selected classes	95	22.5	25	14.0	19	30.6	50	27.9
Selected lessons on biotechnology are taught in all classes	87	20.6	27	15.2	18	29.0	42	23.5
Courses in biotechnology are taught on quarter, semester, or annual bases	16	3.8	6	3.4	7	11.3	3	1.7
Other	16	3.8	5	2.8	2	3.2	9	5

Note: Totals in Table 3 exceed 100% because some respondents checked more than one category.

Respondents indicated that their plans for changes in the curriculum were as follows: a) to add emphasis, 69.4%; b) to keep about the same emphasis, 29.5%; and c) to reduce emphasis, 1%. These data and state totals are indicated in Table 4.

Table 4

Planned changes in the curriculum reported by respondents (N=422)

Response	All		Georgia		Maryland		Tennessee	
	n	%	n	%	n	%	n	%
Add emphasis in biotechnology	275	69.4	118	71.1	51	82.3	105	62.9
Keep about same emphasis	117	29.5	46	27.7	11	17.7	60	35.9
Reduce emphasis on biotechnology	4	1.0	2	1.2	0	0.0	2	1.2

The extent to which factors affected respondents' decisions to teach biotechnology is reflected in Table 5. Availability of teaching materials and funding for equipment and supplies were leading factors; however, inservice preparation and ability levels. of students were also moderately important

Table 5
Factors affecting respondents' decisions to teach biotechnology. (N=422)

Factor	All			Georgia			Maryland			Tennessee			F
	n	M (a)	SD	n	M (a)	SD	n	M (a)	SD	n	M (a)	SD	
Availability of teaching materials	327	3.9	1.2	127	3.8	1.2	49	4.3	1.0	149	3.9	1.2	2.45
Funding for equipment/supplies	314	3.9	1.3	120	3.8	1.3	49	4.0	1.2	143	3.9	1.3	0.09
Provisions for inservice/update training	321	3.6	1.4	126	3.7	1.3	50	4.1	1.1	143	3.3	1.4	9.08*
Ability level of students	328	3.5	1.4	126	3.3	1.5	49	3.7	1.5	151	3.6	1.3	2.49
Preparation time	314	3.1	1.3	122	3.1	1.4	49	3.2	1.4	141	3.0	1.2	0.75
Size of class/enrollment	306	2.5	1.4	117	2.4	1.4	49	2.6	1.5	138	2.5	1.3	0.01
Community attitudes toward biotechnology	296	2.4	1.3	115	2.5	1.3	46	1.9	1.3	133	2.4	1.3	3.22*
Other	17	2.9	1.5	7	3.7	1.7	2	1.0	0.0	8	2.6	0.9	3.54

(a) Means are on a scale of 1 = little... 5 = much.
***Significant at the .05 level.**

Respondents' evaluations of the extent to which biotechnology would affect various aspects of the program are displayed in Table 6.
Enhanced student knowledge of agriculture and improved prestige of the program were seen as positive results by a majority of respondents; SAEP and FFA activities were believed to be less affected.

Table 6
Effects of biotechnology in the curriculum on various aspects of the local Agricultural Education program as perceived by respondents (N=422)

Aspects of Program	**Perceived Effect**							
	Little.....Much							
	n	1	2	3	4	5	M	SD
Student understanding of agriculture	346	42	33	101	109	61	3.3	1.2
Prestige for the program	331	62	39	86	88	56	3.1	1.3

Recruitment of students	340	106	45	90	55	44	2.7	1.4
Student retention	317	70	64	96	59	28	2.7	1.2
Supervised agricultural experience programs	330	112	66	82	55	15	2.4	1.2
FFA Activities	331	116	74	74	37	10	2.2	1.1
Other	12	8	0	0	1	1	1.9	1.4

Effects of demographics. Chi square and t-tests were used to determine if the demographic variables -- state of residence, age, years of teaching agriculture, educational level, years of farming, size of school, student enrollment in agriculture, number of agriculture teachers in the school, and length of contract -- affected ratings of the various response variables. Few significant differences were found, and these may have occurred due to the effects of missing data and small cell size or by chance alone because of multiple comparisons (Oliver and Hinkle, 1981).

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Teachers of agriculture in the three states were most interested in and knowledgeable about animal and plant biotechnology; they were only moderately attuned to the other areas. This was most likely due to the teachers' greater preparation and experience in the animal and plant sciences. Teachers were more interested in the seven areas of biotechnology than their perceived knowledge levels would indicate; this shows a need for improved preservice and inservice education relating to this emerging field.

The vast majority of teachers named, as major sources of information on biotechnology, the mass media -- newspapers, agricultural journals, and television. This was consistent with the findings of Malpiedi-Kirby (1990). Thus greater effort should be made by agricultural educators and communicators to provide factual information to the popular press, as well as to increase the availability of information on biotechnology through workshops and formal classes. Because teachers trust colleges and universities the most as providers of information, teacher educators and agricultural communicators should exert leadership in the discovery and dissemination of knowledge about the teaching and communicating of biotechnology in Agricultural Education. They should also involve experts on scientific applications of biotechnology at inservice workshops and classes for teachers of agriculture and for preservice students.

Teachers of agriculture in the three states generally accepted biotechnology, both personally and professionally -- but they indicated a need for help in incorporating the concepts into their programs. Teacher educators and state supervisory staffs should coordinate planning for implementation of instruction, including strategies for overcoming negative factors and capitalizing on the positive attitudes teachers of agriculture have toward biotechnology.

REFERENCES

Barton, G. (1987), December). Ohio and South Carolina business attitudes toward biotechnology. The Ohio Journal of Sciences. 87(5) 169-174.

Hoban, T. (1990, July). An educational needs assessment of agricultural biotechnology. Summary of a cooperative project. Raleigh, NC: North Carolina State University Department of Extension Sociology.

Malpiedi-Kirby, B. (1990). Attitudes, knowledge, and implementation of agricultural science by North Carolina Agricultural Education teachers. In Martin, R. (Ed.) Proceedings of the Seventeenth Annual National Agricultural Education Research Meeting (pp. 71-78). Ames, IA: Department of Agricultural Education and Studies, Iowa

State University.

Martin, R., Rajasekaran, B., &;Vold, L. (1989). A national study to determine the role of bioscience/biotechnology in the study of agriculture as perceived by vocational agriculture instructors. In Burnett, M. (Ed.) Proceedings of the Sixteenth Annual National Agricultural Education Research Meeting, Orlando, FL. Baton Rouge, LA: Louisiana State University.

Office of Technology Assessment. (1987). New developments in biotechnology: Public perceptions of biotechnology. Washington, D.C.: US Government Printing Office.

Oliver, J.D. &;Hinkle, D. (1981). The multiple comparison problem in vocational education research. The Journal of Vocational Education Research, 6(4), 39-47.

Sattelle, D.B. (1990). Biotechnology in Perspective. Washington, D.C.: Industrial Biotechnology Association.

Savage, E.N. (1987). What is this thing called biotechnology? TIES. Philadelphia, PA: Drexel University.

Schneiderman, H. (1987). What biotechnology has in store for us. The Ohio Journal of Science. 87(5), 182-185.

To Southern Association of Agricultural Scientists-Agricultural Communications Section Home Page

AgNews Web Server: Using new technology to save time

A Paper Presented to the Southern Association of Agricultural Scientists
Agricultural Communications Section
Little Rock, Ark.
February 1998

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Background

The number one goal of the news team is to deliver breaking news and provide an archive of products for Texas media. Traditionally, the team used print-based distribution and maintained an internal "morgue" of stories available by reporter request. This method had obvious shortcomings. Print distribution created a gap of several days between release and delivery of a story. An internal archive inaccessible to reporters discouraged research. The arrival of faxes and email made immediate delivery viable, but did not address archival needs.

In 1994, we realized the potential of the web as a delivery vehicle and decided to join the unit in building a comprehensive website. Through a survey done jointly with the Texas Daily Newspaper Association and Texas Press Association shortly after that, we discovered that the Texas media were headed toward web-based delivery as well. To be a player in the news world, we had to create a content-rich site that would contain both breaking news and a searchable archive of all products.

The nature of such a site would demand daily attention, which would translate to additional work for the news team. Faced with more work than our team could handle and a budget that would not allow the hiring of additional personnel, we decided that automation was a necessity rather than a luxury for a viable news site. Unfortunately, we encountered several limitations with the existing departmental server. Immediate updates were not an option, which meant our site would never serve "breaking news." As well, software to execute selected tasks was not available for the existing server platform. Our student technician recommended switching to a Linux-based web server to enable us to perform instant updates and automated tasks.

Linux is a free, Unix-like operating system that has been actively developed by thousands of people across the world since its original release by Linus Torvalds in 1991. Many people associate "free" with "unreliable," but Linux is actually more reliable and feature-rich than many commercial operating systems. In addition to being a powerful operating system, it also has a lot of powerful software. Free web servers, robust databases, network applications, compilers, and scripting languages come with most distributions of Linux.

When using commercial web servers, it is easy to get trapped into a cycle of buying more and more software to add search capabilities, dynamic content and other popular services to your site. Since the news team has a finite budget, the idea of using free software alternatives that could be tailored to specific needs was an attractive feature of this new plan.

Methodology

With approval from the unit head to launch a Linux webserver for the news team, we upgraded a PC that was no longer in use and installed Linux. The immediate advantage to this solution, was that everyone could update different pages on the server at the same time from their own PCs, using Fetch and Telnet. We also could run several "web sites" from one computer, by using a feature called "virtual hosting." This allows operations of websites like "http://agnews.tamu.edu" and "http://agprogram.tamu.edu" on the same computer, using completely different content. A bonus of this feature is that the long, complex urls could be dropped. Another advantage to the new system was the ease with which we could add web-based programs (often called cgi scripts).

The first project for the AgNews server was a script that automated the posting of news articles to the AgNews web site. The AGNMORE editor maintains a listserv that delivers all of the team's news stories electronically. In previous years, a student worker would convert these stories "by hand" to html and then link them to the website so they could be online the next day. Using a scripting language called Perl, the student technician wrote a script that does this task automatically. Now a story is released through AGNMORE and within seconds is converted to html and placed into the appropriate topical folder. The story is also linked to the "What's New" page, the appropriate archive page and the top page if indicated. All of this occurs automatically and instantaneously, thereby freeing the news team to pursue other endeavors.

A number of other Perl scripts developed since then have made the AgNews website even more original. These scripts include an interactive story designed for National Agriculture Week, a sitewide search interface that mimics familiar interfaces such as Altavista, a hometown news release form and several interactive calendar and information databases.

The interactive story for National Agriculture Week 1997 (http://agweek.tamu.edu) is an example of how the news team is using automation to enhance educational efforts. We wanted to create a fun environment for the children of Texas (and anyone else who visits the site) to learn about agriculture. We also wanted to use some interactivity to capture the attention and imagination of youth. We decided to create "My Agri-Spring Break," an adventurous story about a visit to the country.

At the National Agriculture Week website, the viewer can choose the "Young Writer's Corner" from the top page, and then "Write an interactive story" from the following page. This brings up a form with some fill-in-the-blanks for biographical data and fifteen multiple-choice questions. After filling in the data and answering the questions, the viewer submits the form. Immediately, he is taken to a new page which is a story featuring him as the star and the author.

A simple html form using text blocks and radio buttons is used for the questions page.

Automation takes care of three tasks once a form is submitted. First, a log file of the biographical data is generated so we can maintain demographics for the "authors." Second, the viewer's answers to the fifteen questions are written into a customized text, with the answers acting as links to the original news releases. Third, the stories are saved onto the "Published Stories" page in alphabetical order so viewers can come back at a later date to view their story.

Results

Initial labor has paid off with continuing dividends. Automation has enabled the news team to create a dynamic, growing website without an additional workload. The site is updated several times a week, and sometimes several times a day. Texas media professionals have responded favorably to the AgNews website. The webmaster for the online edition of the Dallas Morning News considers the AgNews website to be a leader in the field. Our audience has reached far beyond the boundaries of Texas; AgNews has become a global delivery tool for residents in more than 100 countries. Monthly hits have increased from just over 4,171 hits for the month of November 1996 (launch month) to more than 96,540 hits for the month of November 1997--an increase of 2,300%.

Conclusion

Automation on a Linux platform has enabled the news team to expand web efforts far beyond original limitations. Breaking news, growing archives and interactivity have drawn Texas media, and indeed a world-wide audience, to our corner of the globe. The news team is no longer limited by a budget, but rather by what we can imagine.

Smart Web Design:What Texas news media demands

A Paper Presented to the Southern Association of Agricultural Scientists
Agricultural Communications Section
Little Rock, Ark.
February 1998

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BACKGROUND

In 1994, the News and Public Affairs team joined the unit in creating an online presence for Agricultural Communications. We uploaded our products and made them available to the media of Texas. We still depended on the fax machine and email as the main methods of news delivery, however. Through communication with reporters, we realized the industry was moving towards web-based technology. We investigated what it would take to meet the online needs of Texas reporters, and concluded that a new webserver was needed. AgNews, a Linux webserver, was launched in November 1996. The next few months were spent designing a "media-friendly" site.

This paper details some of the developments and truths learned along the way.

METHODOLOGY: How we created a media-friendly website

The Big Two: Content and Speed

Ongoing dialogue with Texas reporters has revealed that content is the most important feature for a news website. A reporter may visit AgNews, but if they can't find what they're looking for, they'll leave quickly and probably not return. This is in line with the national habits of web users, according to surveys such as Georgia Institute of Technology's GVU web surveys1. Content and navigation are two sides of the same coin. A site with plenty of information but no formal arrangement is the same as a city without street signs. The destination exists, but you can't find the way there.

In response to demands for content, our first priority was two-fold: to build an archive of existing products and to deliver breaking news. We created an index which would be available on the homepage and sublevel pages. A sub-index for the stories and graphics pages was built around disciplines and recognizable consumer topics. Within this sub-index, we created an online archive dating back to 1993.

We still needed to serve breaking news or the site would remain simply an archive. The webserver then housing our site would not allow instantaneous updates, so we launched the Linux-based AgNews webserver. We now could manually update the server to deliver breaking

news on a daily basis. This was a time-consuming process, however, so automation became our next focus. Our student technician created CGI-scripts to automatically perform daily updates and archiving.

We had one more piece in the puzzle to complete the content issue. Reporters indicated that a search engine is the quickest way to get to the information they need. Thus, a search tool became a necessity for our site. The AgNews server uses SWISH2 software which indexes the site and then allows you to search that index. The student technician developed an interface which mimics the most popular search engines and did some programming to speed up the searching process. The result is that we have a lightning-fast, comprehensive search utility that is easy to use.

The number two concern for reporters visiting a website is download time. Text downloads quickly, so this is a graphics issue. While huge, spectacular images and animation may impress a viewer, they also may chase off a reporter in search of information. Texas media indicate that speed is more critical than the look of a site. What this told the news team is that design is important, in so far as it enhances organization and communication. We decided that AgNews would be a text-heavy site, with graphics used mainly for identification and navigation.

Image Management

The web environment changes execution but not the principals of good design. Design is design, no matter what the medium. New challenges exist for professionals with a print background, but by learning the limitations a designer can achieve outstanding results. Three areas web designers should always consider while preparing graphics are color palettes, gamma settings and image compression.

Color Palettes

There is more to choosing a color palette for web pages than simply pulling out a swatch book. Different computers have different color support, anywhere from 16 colors to millions of colors. PC monitors tend to look darker than Mac monitors. What this means is that I may choose a color which looks like "Aggie Maroon" on my monitor, but "University of Texas Orange" on someone else's monitor.

The web industry has adopted a browser-safe palette3 for creating web graphics. According to surveys such as the GVU web user survey, most users have at least 8-bit color support--or 256 colors. Windows and various programs reserve some of those colors for system use, which leaves 216 colors for the browser-safe palette. These 216 colors have the best chance of looking true across platforms and on different monitors and browsers.

With the millions of colors available in most graphics program, cutting back to only 216 can be a challenge. However, if you want to exercise some control over how the world sees your website, work within the framework of the browser-safe palette.

Gamma Settings

Default gamma settings (the degree of contrast between the mid-level gray values of an image) are different on Mac and PC platforms. Macs have a default of 1.8; PCs have a default of 2.2. What this means is that the image you create will look different on each platform. Mac-created images will look too dark on a PC; PC images will look too light on a Mac. The best solution is to try different light levels within your photo-manipulation software until you find the best compromise for both gamma settings.

Image Compression

Since reporters' number two concern is download time, speed considerations dictate graphics usage on our website. Every image created for AgNews is put through a series of questions. Is this graphic justified? Can it be shaved in physical size? Can it work with fewer colors? Always keep in mind that spectacular images do not compensate for poor content or organization. Images are not a crutch; they are a tool to be used wisely. Minimal graphics allow AgNews to load quickly but still maintain a unique identity.

AgNews graphics are created or imported into Photoshop because of the color control in that software. Images with flat colors are saved at GIF files; photos are saved as JPEGs. GIF files are saved to the browser-safe palette while JPEGs are saved at a quality level of 3 or 4. All images are stripped of Mac specific data such as icons and resource forks4. Once images pass through this process, they are ready for web delivery.

Site Statistics

Web servers maintain log files of all activity on a website. Good statistics software enables the analysis of data to find trends among visitors. Some software will display daily activity while others will show numbers over time. AgNews uses both. We use AccessWatch5 for daily stats because it breaks down activity by hour of the day, domains, hosts and by requests. It also shows the path each viewer takes through the AgNews site. For example, we can see where Aggie Extra viewers tend to go after leaving the top page, and how often they choose each category of links. A daily glance at such activity over time presents a good picture of what draws viewers to our site and where they go from there.

Analog6 software displays comprehensive data by month, week and days, which reveals what sites garner the most activity over time. It also allows you to retrieve stats on a single page or directory, and within a given time frame if so desired. Perhaps one of the best uses of this software is data for referring pages, or urls of websites which supply links to AgNews. By seeing who is linked to specific pages, we can determine who finds it useful and even promote our other sites to them. We also can see which search engines direct visitors to our site.

Statistics software has enabled us to determine where our time is best spent. If we create a site which generates a great deal of activity, we study that site and try to determine what makes it so popular. We'll continue to invest time in expanding and updating that site and even pattern other sites after it. Webpages which generate little attention are rethought and updated only minimally to free time for other endeavors.

Promotion to Texas media

The best promotion is one-on-one communication with news professionals. This is a time-consuming process, but the dividends are ongoing. Media queries are the best opportunity for educating reporters about our website. When reporters call for leads and source materials, we point them to our website when appropriate. Often, a reporter is familiar with the AGNMORE7 listserv, but has not discovered our website, or has never ventured there. By guiding a reporter through the site, they become familiar with our online products and return on their own.

While printed notices about our website go out with the printed monthly packet, we can't insure that the URL reaches the desk of every reporter at a paper. As a result, the team decided to take AgNews to reporters. Writers from the news team have traveled around the state giving workshops for the major dailies of Texas, including the Houston Chronicle and Dallas Morning News. During these workshops on the internet and computer-assisted reporting, the writers use AgNews as their launching point. This is a perfect opportunity to promote the site to reporters across the state, as well as build relationships with the media.

Another tool for enhancing media awareness about AgNews is by creating "inserts" for online newspapers. We developed Aggie Extra as an insert for The Houston Chronicle. The site features a top story and graphic, as well as categorized links of interest to the general public. The site has generated new visitors to AgNews, as well as a partnership with professionals at the Chronicle. This site will be promoted to other dailies over the next year.

Promotion to the world

Search engines are one of the most popular tools for finding webpages, so submitting a site to at least the major engines is a good strategy. Every search engine or directory has a method for submitting a website. Some want simply the url; others ask for a set number of keywords and even site descriptions. To facilitate the submission process, we compiled a toolkit with enough variables to meet most submission requirements. These include the site url, title, descriptions in various word counts, key words in various numbers and complete contact information. This information is kept in a text file that can be opened and copied as often as needed during the submission process. As well, a log of site submissions is kept in print format for easy reference and follow-up.

Something else to include in html documents are META tags, which help some search engines index your site. Websites exist which will generate META tags8 automatically, based on information supplied in an online form.

One of the easiest ways to help visitors return to a website is to use a logical title within the html text. This is especially useful when people bookmark a site (or include it in their list of favorites). When looking through a long list of bookmarks, "AgNews: The Texas A&M University Agriculture Program" is infinitely more useful than "index.html."

RESULTS

Media have come to regard AgNews as a reliable, timely news resource. Professionals from Texas daily newspapers such as the Houston Chronicle and Dallas Morning News have given AgNews positive reviews. Weekly papers use our website for story and image retrieval. Response from a global audience has been encouraging, as well. Queries run the spectrum from an eighth grader in Missouri to a television station in West virginia to snake venom specialists in Africa. The website has expanded our hours of operation to 24 hours a day, seven days a week.

CONCLUSIONS

AgNews developed as a client-driven website. Breaking news and a searchable archive deliver the content reporters demand. Minimal graphics and good organization ensure a speedy, intuitive web presence. The site will continue to evolve based on media feedback.

NOTES

[1] Georgia Institute of Technology's Graphic, Visualization, & Usability Center (GVU) conducts online surveys in October and April. The eighth WWW User Survey had more than 10,000 respondents. (http://www.gvu.gatech.edu/user_surveys/survey-1997-10/)

[2] SWISH stands for Simple Web Indexing System for Humans. SWISH indexes directories of files so they can be searched. (http://www.eit.com/software/swish/swish.html)

[3] The browser safe color palette was coined by Lynda Weinmann, author of "Designing Web Graphics." A downloadable CLUT (color look-up table) for Photoshop is available from her website. (http://www.lynda.com/) Another useful site is the browser-safe color tool page (http://www.cc.ukans.edu/~syd/netscape-216/)

[4] Image Flattener is a free utility that strips out Mac-specific data so that the resulting size file is smaller. (http://ftp.wustl.edu/systems/mac/amug/files/art/)

[5] AccessWatch is a UNIX web utility that delivers detailed information for individual accesses. It is free for academic users. (http://accesswatch.com/)

[6] Analog is a free logfile analysis program available for most platforms. Analog outputs results in fourteen languages. (http://www.statslab.cam.ac.uk/~sret1/analog/)

[7] AGNMORE, a listserv that focuses on news and feature articles about research and educational programs in Texas A&M University's Agriculture Program. (http://agnews.tamu.edu/agnmore.htm)

[8] META tags are lines of text placed between the "header" tags in an html file. Some search engines read these lines of text to index a website. Keywords and site descriptions usually fill meta tags. The META Tag Builder webpage will generate meta tags for you. (META Tag Builder http://vancouver-webpages.com/VWbot/mk-metas.html)

APPENDIX 1 -- TOOLS

Browser-safe color tool -- A website that displays the browser safe color palette online and allows you to view a color's HEX (html code) and RGB (Photo software code) values. (http://www.cc.ukans.edu/~syd/netscape-216/)

GammaToggleFKEY -- a utility that allows you to toggle back and forth between default Mac and PC gammas with a key command. This is useful for setting levels for an image. (http://www.acts.org/roland/thanks/)

Image Flattener -- a utility that strips an image of all Mac-specific data, thereby reducing a files size. (http://ftp.wustl.edu/systems/mac/amug/files/art/)

Major search engines
Northern Lights (http://www.nlsearch.com/)
AltaVista (http://www.altavista.digital.com)
Excite (http://www.excite.com)
Infoseek (http://www.infoseek.com)
Lycos (http://www.lycos.com)
MetaCrawler (http://www.metacrawler.com)
Search (http://www.search.com)
Web Crawler (http://www.webcrawler.com)
Yahoo! (http://www.yahoo.com)

META Tag Builder -- generates META tags for your website based on information you supply. (META Tag Builder http://vancouver-webpages.com/VWbot/mk-metas.html)

Optimizing Web Graphics -- a site which explains the color challenges presented by the web environment. (http://www.webreference.com/dev/graphics/)

Virtual Promote -- a comprehensive site which details all aspects of site promotion. (http://www.virtualpromote.com/)

Webmaster's Guide to Search Engines -- a comprehensive site of all things search engine related. (http://www.calafia.com/webmasters/)

Web Page Backwards Compatibility Viewer -- allows you to view a website through older browsers to see if design works or breaks down in those environments. (http://www.delorie.com/web/wpbcv.html)

Web Page Design for Designers -- a site that focuses on designers and details the many facets of web design, especially as it compares to print design. (http://www.wpdfd.com/wpdhome.htm)

Web Page Monitor Tester -- An innovative site which offers pop-ups of default and popular window sizes for Netscape Navigator and Microsoft Explorer. Useful for determining if a design will work on different size monitors. (http://www.dot.net.au/younis/window.html)

Web Page Validators -- checks your html coding to see if there are any problems, such as

missing tags and broken links. (http://www.ccs.org/validate/)

Yale C/AIM Web Style Guide -- a definitive guide to site design, including graphics creation. (http://info.med.yale.edu/caim/manual/)

APPENDIX 2 -- GLOSSARY

Most of these definitions come from the CMP Technology Network Tech Encyclopedia website. (http://www.techweb.com/)

Browser (web) -- The program that serves as your front end to the World Wide Web on the Internet.

Browser-safe palette -- A suggested range of 216 colors that maintain a "safe" representation across platforms, browsers and monitors.

CGI (Common Gateway Interface) -- A programming interface used to link Web pages to databases and other programs. CGI programs are very small and are written in Perl or some other script or high-level language. They reside on the Web server and function as the glue between the HTML pages and the databases.

Download-- To receive a file transmitted over a network. In a communications session, download means receive, upload means transmit. Downloads depend on file size and network speed. Via a 28.8 modem, small Web pages take seconds when everything is running smoothly, but a 10MB video file takes at least an hour.

Flat color -- The equivalent of spot color for the printing process. Contains no graduated colors or "photo" like tendencies.

GIF (Graphics Interchange Format) -- A popular raster graphics file format developed by CompuServe. It supports 8-bit color (256 colors) and is widely used on the Web, because the files compress well. GIFs include a color table that includes the most representative 256 colors used. Macintosh users call GIF files "giff" files, while PC users call them "jiff" files.

Interface (user) -- The combination of menus, screen design, keyboard commands, command language and help screens, which create the way a user interacts with a computer.

Internet -- "The" Internet is made up of more than 100,000 interconnected networks in over 100 countries, comprised of commercial, academic and government networks. Originally developed for the military, the Internet became widely used for academic and commercial research. Users had access to unpublished data and journals on a huge variety of subjects. Today, the Internet has become commercialized into a worldwide information highway, providing information on every subject known to humankind.

JPEG (Joint Photographic Experts Group) -- Pronounced "jay-peg." A standard for compressing still images that is becoming very popular due to its high compression capability. It depends on the image, but ratios of 10:1 to 20:1 may provide little noticeable loss. The more the

loss can be tolerated, the more the image can be compressed. Compression is achieved by dividing the picture into tiny pixel blocks, which are halved over and over until the ratio is achieved.

Link -- On the World Wide Web, an address (URL) to another document on the same server or on any remote server.

Navigation -- The goal of a website is to define a well-planned course, or to "steer" a user through the site successfully. A good navigation system will let the user know where he is--and where else he can go--at any given moment.

Online -- Available for immediate use. If you use the Internet or an online service, such as AOL or Prodigy, you are online when you have made the connection via modem and logged on with your account number. When you log off, you are offline.

Referring page -- External websites which provide links to your site from within their site.

Search engine -- Software that searches for data based on some criterion. There are various Web sites that maintain directory databases of other Web sites. Yahoo! was the first to gain worldwide attention. Some sites search other sites. Most sites are free and are paid for by advertising, while others charge for the service.

Site (website) -- A server that contains Web pages and other files which is online to the Internet 24 hours a day.

URL (Uniform Resource Locator) -- The address that defines the route to a file on the Web or any other Internet facility. URLs are typed into the browser to access Web pages, and URLs are embedded within the pages themselves to provide the hypertext links to other pages.

Webserver -- A computer that provides World Wide Web services on the Internet. It includes the hardware, operating system, Web server TCP/IP protocols and the Web site content (Web pages). If the Web server is for internal use, it is known as an intranet server.

Website -- A server that contains Web pages and other files which is online to the Internet 24 hours a day.

World Wide Web -- An Internet facility that links documents locally and remotely. The Web document is called a Web page, and links in the page let users jump from page to page (hypertext) whether the pages are stored on the same server or on servers around the world. The pages are accessed and read via a Web browser such as Netscape Navigator or Internet Explorer.

Obtaining Funding to Lessen the Sting of the Fire Ant Problem in Texas: A Success Story in Effective Integrated Legislative Communications

A Paper Presented to the Southern Association of Agricultural Scientists
Agricultural Communications Section
Little Rock, Ark.
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INTRODUCTION

Every time the Texas A&M Agriculture Program administration met with the Texas state legislature during the past six years or so, one question was asked more than any other, "What are you doing about those #@#! fire ants?"

In 1995, something was finally done. Based on input from the organizations involved in fire ant research and education, the legislature created the Fire Ant Research and Management Advisory Account Committee (FARMAAC), comprised of people representing industries affected by the fire ant problem, such as agriculture, cities, utility companies, etc. This committee was charged to oversee the state's fire ant research and management efforts.

In 1996, the Texas Agricultural Experiment Station and the Texas Agricultural Extension Service, working with representatives from the Texas Department of Agriculture, Texas Tech University, University of Texas, and Texas Parks and Wildlife Department developed a statewide research, education and regulatory plan to more efficiently control fire ant populations. The group determined it would need $16 million from the state and from private sources to implement the six year plan.

This group approached Texas A&M Agricultural Communications for help in devising a communications strategy to educate legislators and the general public about the plan so they would support funding, specifically $2.7 million a year from the state legislature.

This paper will discuss the communication opportunities and challenges we faced, the strategies we used, and an evaluation of our efforts.

COMMUNICATION OPPORTUNITIES AND CHALLENGES

In the past, Agricultural Communications has assisted the legislative communications effort by creating fact sheets about the Agriculture Program's proposed research and education efforts. Our administrators then distributed these to legislators and to agricultural industry leaders.

We could have just suggested we do these fact sheets again, but we knew that we had to better integrate our media efforts with our marketing efforts to educate legislators and the general public about the fire ant plan for several reasons:

1. Of all the issues that agricultural research and extension addresses, controlling fire ants is of interest to both agricultural and urban audiences. This would be a great opportunity to show people not familiar with who we are that agricultural research and extension benefits everyone, not just agricultural producers.
2. We had to be in charge of the message that was being sent out. For example, if the media found out a fire ant plan was proposed to be funded, they could send out conflicting messages, such as the plan would eradicate fire ants or would pay for statewide pesticide applications.

We also planned our communications strategy to overcome these challenges:

- Dispel the perception that the plan would eradicate fire ants, when in fact it would only strive to control them to unnoticeable levels.
- Inform people that unlike a state government attempt 10 years ago, this plan would not fund statewide pesticide applications and would not entail government enforcement. Instead, the plan would get communities involved in implementing the best fire ant management methods that would best fit the needs of their citizens.
- Show a unified front on behalf of all the organizations involved by sending out the same message -- that we can work together to find short-term and long-term solutions to controlling fire ants.

COMMUNICATION PLAN AND STRATEGIES

Since we would have to present the communication plan to FARMAAC and the organizations involved, we kept the format of the communications plan simple.

We included the communication plan's purpose (to inform Texans that the fire ant research and management plan exists so they can contribute resources, support legislative funding, or implement pilot community-wide management programs); identified audiences we needed to reach and what we wanted the outcomes to be; stated communications strategies and products for both mass audiences and specific audiences; and identified which organization would be responsible for each strategy. FARMAAC decided to concentrate on the mass media and legislative components in 1997 and address the other audiences after the plan was funded.

The major communication strategies included:

- Forming a communications task force, with representatives from each organization.
- Appointing the legislator who introduced the measure as the spokesperson for the plan and to keep his staff apprised of all communications.
- Integrating marketing and media efforts, with dissemination around key legislative events.

Communications Task Force

This task force was created to ensure communication coordination, especially for mass media distribution. We knew that we at Texas A&M would do the majority of the work since we had more resources to work with. So we led the task force. We held one meeting in December 1996 with the task force to give an overview of the fire ant plan, get input on the communications plan, ensure that everyone knew the message to convey, and built a timeline for completing our communications tasks, with a news conference at the state capitol culminating our efforts. Representatives were asked that their major responsibility be to write articles for their newsletters, magazines, and other communication vehicles as well as write stories for the media about their organization's past successes in dealing with fire ants.

Through e-mail and phone, all task force representatives kept each other informed of what they were doing. Two fire ant technical experts/administrators were assigned to the task force to ensure that all communication products created and disseminated were correct.

Legislator as Spokesperson

We knew we needed a single spokesperson for the plan to further ensure that the right message was consistently sent to legislators and the general public. It would be best that the person not be associated with any of the organizations involved. So we asked Rep. Tom Ramsay, a Northeast Texas rancher who introduced the 1995 legislation for creating the fire ant advisory group, to be the spokesperson. This was a great choice for us because he came across as very sincere about addressing the fire ant problem. He knew it could be a political risk if it failed but he believed in the plan enough to take that risk. Ramsay was only in his second term so didn't serve on major committees that could take up his time nor have other big issues on his agenda.

Marketing Efforts

Logo and slogan. Because we could not (and would not) use all the logos of the six organizations involved on our communication products, we produced a logo for all communications on behalf of the fire ant plan. We created the slogan, "Together we can lessen the sting of the fire ant problem." This means that not only will the six state organizations work together but that all citizens must become involved to control fire ants. We used "lessen" to stress that the plan would not eradicate fire ants, only control them.

Message. We made the message as simple as possible: "This fire ant management plan is different from past efforts because it is a coordinated effort among state institutions/agencies; management is the goal, not eradication; and it addresses short-term as well as long-term solutions." This message was conveyed in some form on all communication items released to the public.

Marketing items. We helped edit and format the fire ant research and management plan so it would be easier for a lay audience to read and understand; created fact sheets about the economic, health, and environmental impacts of fire ants, the major areas of the plan, and the strides research and education have made in controlling fire ants; created an exhibit that was displayed at various fairs and a state municipal convention; produced an overhead/slide set that agency administrators and FARMAAC

committee members could use during talks; and established a Web site (fireant.tamu.edu) that contained all printed communication items produced and linked to other fire ant information.

Media Efforts

Background Information.The communications group devised a timeline to ensure that all background information was developed for release to media 2-3 weeks before the news conference. This same information was distributed to the fire ant advisory group; administrators, researchers, and extension specialists from all organizations involved; and to each extension county office. The packet included the fact sheets, a list of all the experts who could assist media, and five newspaper graphics, which showed the impact of fire ants in urban areas (the millions of dollars people spent in Texas' five major metro areas on fire ant treatment, medical costs and repairs), the losses Texas cattle producers suffer annually, the spread and history of fire ants, quarantined areas, and the difference between native and imported fire ants. To ensure everyone was telling the same story, we gave all non-media a list of talking points as well as a list of answers to questions that the media might ask.

Editorial board visits. Ramsay, technical specialists, and/or other organization representatives visited the editorial boards of Texas major dailies, as well as newspapers in key legislative districts, about the fire ant plan before the news conference. Even though not all of the papers ran editorials, two of the state's most influential papers--Dallas Morning News and Ft. Worth Star Telegram--did and the papers who did not were at least more informed about the plan and could ensure that their paper ran a correct story about the fire ant plan.

News Conference. We held a news conference at the state capitol on Feb. 12 in Austin. This was a good time because the legislative session had just convened in January, so legislators weren't bogged down in committee meetings and the appropriations committee was about ready to start addressing higher education. Plus, February is sweeps month for broadcast media.We gave the background material to media 2-3 weeks in advance of conference--giving media more time to conduct further research for in-depth articles and TV special reports. A communicator moderated the event, with Ramsay, a researcher, an extension specialist, and a physician specializing in fire ant bites citing the impacts of fire ants in Texas. The conference concluded with a live demonstration of the fire ants' aggressiveness towards a food source, which offered visual opportunities for television media. Media were also provided with a copy of the plan, the background information, a news release, video b-roll, and photos. All of the capitol press corps attended, including all of the metro media, the Texas State Network (radio), the Associated Press, and the Wall Street Journal. Video, radio, and print news releases on the history of fire ants and on funding the plan were distributed to Agricultural Communications' subscriber stations to coincide with the news conference. Many legislators attended the event to show their support, and after the conference, members of the fire ant advisory committee made personal visits to legislators' offices.

Print, video, and radio releases. Overall, four news releases (distributed to all Texas dailies and weeklies and the ag press), six video releases (distributed to 48 outlets reaching 200+ stations in the U.S., Canada, and Asia), and eight radio releases (distributed to 146 outlets reaching 200 English-speaking stations and to 180 Spanish-speaking stations). Topics included the history of fire ants in Texas, an overview of the proposed plan, and the legislature funding the plan.

Phil Gramm's federal fire ant funding campaign. Fire ant specialists and/or Rep. Ramsay spoke at Sen. Gramm's news conferences across the state March through May to explain the impact of fire ants on Texas, promote the state plan, and distinguish it from Gramm's national funding proposal. The effort brought added attention to fire ants in general and to the state plan in particular.

Ongoing requests for information. Agricultural Communications continues to receive requests for fire ant information from media not only from Texas, but from the nation and beyond. For example, Brazilian television traveled to Texas A&M to produce a story on how that country's native fire ant is such a menace here and what's being done about it. Science and Technology Satellite News, which serves Asia and the Pacific Rim, produced a story as well.

RESULTS

Overall, the whole effort was deemed a communications success because:

- The plan was funded at $2.5 million/year for the biennium ($5 million total).
- Most of the media emphasized that the plan would control fire ants, not eradicate them and that money would be used for research, education and regulatory efforts only.
- Texas A&M Agriculture Program administrators want to use this integrated communications model for other prioritylegislative initiatives. This effort showed administrators not to be afraid of the media and strengthened their confidence about how communications can help the organization meet its goals.
- he coordinator of the fire ant plan has requested that a communications representative attend all fire ant administrative and technical meetings.
- More people have called their Extension office about controlling fire ants than ever before.
- The fire ant advisory committee asked to ensure that future communication efforts are funded from the appropriation. Agricultural Communications was funded $25,000/year for staff members' time; communication production funds were placed in other parts of the budget. We will continually use marketing and the media to inform legislators and the general public about the progress and impacts of research and community-wide management programs; develop an educational campaign about getting involved in community-wide management programs; and contribute to southern and national fire ant communication efforts.

The one drawback to such a public campaign was that a number of individuals who have developed control products, which were proven not to be effective, came forward, claiming they should get some of the money appropriated. We addressed this by releasing a news story emphasizing that the plan did not fund these type of products. The Extension Service also received more requests than ever before to test methods to control fire ants.

We also have raised the general public's expectations that they should see fewer fire ants. The problem is that one person may perceive "fewer" as none and another as one or two mounds. Because the fire ant is such an emotional topic with people, many will want to see immediate results. This means we must continually inform the public and legislators through the media of the research progress that is being made and the outcomes of the pilot community-wide control programs.

WHAT MADE THE CAMPAIGN WORK?

In summary, this communications effort worked for several reasons:

- The six state agencies involved did a wonderful job of writing the research and management plan, setting realistic goals, and creating an organizational structure (advisory committee, technical committee, legislative committee, etc.) that would ensure success and is being used as a model by other states and regions as well as nationally.

- There was great coordinated, internal communications among organizations' administration and scientists, the legislator who introduced measure, advisory committee members, communications task force members, and Extension entomology specialists and agents. On the communications side, having one point person has helped ensure coordination of marketing and media efforts.
- We did nothing fancy for communications. We just used all of the vehicles available to us, disseminating them in a coordinated and timely manner.

Row Crop Producers' Perceptions of the Internet as a Preferred and Valid Source of Information for Their Enterprises

A Paper Presented to the Southern Association of Agricultural Scientists
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Little Rock, Arkansas
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Abstract

The North Carolina Cooperative Extension Service has invested both human and material resources and committed itself to electronic communication as a major program delivery strategy. The purpose of this study was to gather information on how North Carolina row crop producers were moving to computers and electronic connections to the internet and in turn to determine how the organization could best disseminate information to these row crop farmers. Cooperative Extension specialists collected information from farmers attending program activities with respect to who currently had computers and who had access to the internet. Focus groups were also conducted to gather the same information and to orientate farmers to the vast amount of information on the internet. Approximately nine hundred farmers were surveyed with 43 percent owning computers but only 18 percent with access to the internet. In both the survey and focus groups, farmers were concerned with the credibility of information on the internet. Producers identified the following factors as important for credibility: reputation of author, adaptability of information to local area, date of publication, potential of additional profit if information is applied, and information is documented and supported by research. Future goals among these row crop farmers for internet usage were: buying and selling, replace travel with internet, information that yields an economic gain, and have technology accessible from the field (truck or tractor).

Introduction

Decreasing budgets, organizational downsizing, varying customer expectations, and little consensus on prioritized needs have fostered the need to revisit Cooperative Extension client groups to

determine how they assess needs, where they prefer to go for objective assistance, what are their preferred methods for receiving information, and their short-term forecasts for areas where they will need help in the future. There is little doubt as to the rapidity of change and the explosion of sources of information that is now available with current information technologies. The issue is not whether information exists on any subject, but how does one decide which source has the mosts reliable and valid information that addresses one's needs. Perhaps, the situation can be described as to who has the right information for the right groups at the right time in the right format.

Purpose of Paper

The purpose of this study was to gather information on how North Carolina row crop producers were moving to computers and electronic connections to the internet and in turn to determine how the North Carolina Cooperative Extension Service could best disseminate information to these row crop farmers. Other purposes included the assessment of information that producers would need in the future, and the determination of the most useful and effective form and format of information delivery. Specific interests were to determine how many farmers owned personal computers, how many were connected to the internet, and and how many sought information about their enterprises on the internet.

Methods

Data were collected from row crop producers by two methods: group administered surveys and focus groups of producers. A survey of growers attending traditional Extension meetings for commodities was conducted during the winter of 1996-97 to obtain data to determine the number of growers owning computers and how they used their computers, especially to determine if they used the computers for internet connections. These growers were asked: if they owned a computer, had access to the internet, used internet connections to obtain information for the operation of their enterprises, used the internet to get pest management information, and accessed the North Carolina Cooperative Extension Service web home page for enterprise information.

Data also were collected from row crop producers by means of "focus groups". Three focus groups were conducted. Three County Extension Directors were asked to invite 8 to 12 farmers to each focus group. At each site, a trained facilitator, using a structured set of questions, led the group's discussion. The questions included: what is the primary use of computers in your home; if the farmer did not own a computer, they were asked if they had made any inquires into cost of systems and whether they had sought details on hardware and services from local providers; how do you currently seek information for various aspects of your arm operation such as marketing, weather, varieties, and solving plant problems; and after seeing a demonstration of internet connections, do you think that you will consider using the internet for finding information on the different aspects of their farming operations.

The second component of the focus groups was a demonstration on accessing and searching the internet with a focus on pest management information. A variety of home pages was demonstrated ranging from those with many pictures to those with plain text nd/or tables. At the end of the demonstrations, growers were asked to evaluate what they saw and experienced during the demonstration. All of the focus groups sessions were recorded on audio tape and then transcribed. The transcripts were analyzed for key issues and points that addressed the purposes of this study.

Results

Based on the feedback from information collected at commodity eetings, computers are being used by 43% of the row crop growers (878 polled) in North Carolina. Of those with computers, 42% (18% of 878) of them are using their computer to access information on the internet, but only 21% of those with computers used them to obtain farm related information. Nine percent of the users obtained pest management information and to access the North Carolina State Extension Service information. This translates to only 4% of the growers using the internet to get information from extension in North Carolina. Most growers with computers indicated that they used them for accounting and some farm record keeping.

It is interesting to note, from information collected at commodity meetings (Table 1), that the highest proportions of producers reporting ownership of computers were those producers attending greenhouse, landscape, peanut, and interiorscape meetings (67, 70, 50, and 67 percent respectively. The highest proportions of computer owners with internet access were those producers attending peanut, cotton, soybean; and landscape meetings (50 and 30 percent respectively).

TABLE 1
ROW CROP FARMERS' USE OF COMPUTERS
AND ACCESS TO THE INTERNET

TYPE	n	Computer Access		Internet Access		For Farm Info		For Pest MRt Info		Access Ext. Info	
		NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
Greenhouse	45	30	67	10	22	5	11	4	9	2	4
Landscape	23	16	70	7	30	1	4	1	4	0	0
Blueberry	70	27	39	10	14	6	9	3	4	1	1
Interiorscape	45	30	67	9	20	8	18	4	9	3	7
Peanut	74	23	31	2	3	1	1	1	1	2	3
Peanut	48	17	35	4	8	2	4	2	4	0	0
Peanut	55	25	45	12	22	0	0	1	2	2	4
Peanut	80	33	41	14	18	7	9	5	6	5	6
Peanut	36	18	50	10	28	7	19	5	14	5	14
Peanut	13	4	31	0	0	0	0	0	0	0	0
Peanut	35	9	26	5	14	3	9	0	0	1	3
Cabbage	35	8	23	5	14	1	3	1	3	0	0
Tomato	32	8	25	6	19	6	19	1	3	4	13
Vegetable	30	13	43	2	7	1	3	0	0	1	3

Vegetable	46	10	22	3	7	2	4	1	2	1	2
Pnut,cot,soy	20	10	50	10	50	6	30	1	5	3	15
Soybean	7	2	29	0	0	0	0	0	0	0	0
Cotton	50	20	40	1	2	1	2	1	2	1	2
Row crop	5	0	0	0	0	0	0	0	0	0	0
Greenhouse	8	3	38	3	38	3	38	2	25	1	13
Row crop	2	2	100	1	50	1	50	0	0	0	0
Cabbage	12	4	33	1	8	1	8	1	8	1	8
Cuc/pepper	14	6	43	3	21	1	7	1	7	1	7
Total	878	378	43	158	18	79	9	38	4	36	4

In the focus group sessions, growers were receptive to and not intimated by the computer nor the internet as potential major sources of information for their farming enterprises. Most growers who owned computers were using their computers for accounting practices for their operations. A number of growers reported that they used their computers for keeping farm records. Again, only a limited number of growers reported that they had access to the internet.

Following the demonstrations of internet connections and home pages, the growers generally expressed a high degree of approval of the home pages and associated information which they saw. They were overwhelmed with the amount of information. There was a general feeling that "surfing" to find information was too cumbersome. Some were particularly concerned about having access to internet in their homes because they considered some information to be objectionable, especially if they had children. Cost to get on line was a significant factor. This cost included that for connection and long distance charges. These growers expressed that the amount of time on the internet could get to be too long and might take away too much from other activities, especially family.

These growers were very concerned about the credibility of information on the internet. They felt that the credibility aspect could be resolved if they knew the reputation of the author, if the information was adaptable to their local area, the date of the publication, the potential for additional profit from application of the information, and documentation and support of the information by research.

The growers in these focus groups were particularly interested in market information. Other areas of interest included weather information and general pest management information. They preferred the presentation of information on the internet to be attractive with color pictures. However, the content was more important than the art work.

After the exposure to the Internet during the demonstrations, the growers expressed the need to get more education on computer and nternet usage. They wanted to remember where information came from which resulted in a lot of discussion about bookmarking.

The growers in this study had few ideas for long term issues concerning how they would use internet, but the vast majority expressed that they would like to have internet access. They generally felt that

internet usage is still in the future for use by many farmers. Their future goals for internet usage were: Buying and selling, replacing travel to obtain information with internet, getting information that yields an economic gain, and having it accessible from the field (truck).

Conclusions

Based on information from both the group administered surveys at commodity group meetings and the focus groups, it is evident that less han half of the producers had personal computers and less than one-in five had access to the internet. Although the growers in this study had few ideas for long term issues concerning how they would use the internet, they did express the aspiration to have access to the internet n the future. Major topics that the growers expressed interest in for use of the internet included: buying and selling, replacing travel with the internet, obtaining information about yields and economic gain, and having access to the internet from the field, I.e., from their trucks or tractors.

To Southern Association of Agricultural Scientists-Agricultural Communications Section Home Page

Development and Use of an Extension Accountability System For Reporting Impacts of Programs and Communicating The Results

A Paper Presented to the Southern Association of Agricultural Scientists
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Abstract

In recognition of the increasing public demands for accountability, the North Carolina Cooperative Extension Service embarked on a mission to develop a new reporting/accountability system to meet current and anticipated future accountability needs. These efforts involved a large number of persons in developing a conceptual design for the new system. Focus was placed on being able to capture planned program measures of progress and impacts as well as contacts, and program successes. A computerized World Wide Web graphics based system was developed for entry and accumulation of the reports. The system is now implemented, and providing a vast resource for communicating program accomplishments to both internal and external audiences. Uses have included success stories specific to congressional districts to multiple information for a Legislative mandated study of Cooperative Extension in North Carolina.

Introduction

The demands for increased levels of accountability seem to be ever-increasing for practically all societal entities. With this expectation so prevalent, it is no surprise that policy makers are increasingly focusing close attention on the relevance of organizations and their value to their constituents, as well as to society as a whole. Such emphasis on accountability led to the passage of the Government Performance and Results Act (GPRA), which is now being implemented. Reports from across the country indicate that states, counties, and essentially everyone else appear to have similar ideas relative to making sure their tax dollars are being expended as intended.

North Carolina has not been isolated in this age of accountability, and therefore, has been focusing considerable efforts to satisfy current and anticipated organizational and

programmatic accountability needs and demands. One major component of this increased focus is the development of a completely new reporting system that essentially captures all of the accomplishment results emanating from programming efforts in all counties. These results include contacts, measures of program progress, impacts, volunteer time, cost-benefits, success stories, and delivery strategies for all planned programs. It also includes civil rights reporting as well as successes from any other program efforts not included in regularly planned programs, such as special educational efforts dealing with disasters.

Initial Process

In assessing the previous accomplishment reporting process, it became clear that a system for reporting all required aspects of accountability functions needed to be included in a single system. With this general concept in mind, state program leadership appointed a special program Reporting and Accountability Task Force to develop the criteria needed to address all future accountability needs of the organization. This task force was charged with identification of all reporting needs; developing goals and objectives for a new reporting system; identifying the parameters of a new system; and ultimately developing a diagrammatic model that could be studied, revised, and used as the design for the new system.

The Reporting and Accountability Task Force held meetings with Extension personnel, and conducted interviews with key County Extension Directors throughout the state. Those interviewed were then asked to canvas their associates by various means to secure as much input as possible as to what was and was not needed for local accountability, preferences of time-lines for required reporting, and special wishes, such as user friendliness of a new system. Throughout the entire process, the committee received direct input from agents in more than 60 of the 100 counties across the state. Altogether, more than one-half of all agents in the North Carolina Cooperative Extension Service (NCCES) had input into conceptualizing and designing the new reporting system. From the initial development of goals and objectives through the final roll-out of a World Wide Web based system, agents across the state were included in review and decision making on a continuous basis.

Development Stages

Building on the open dialogue that had been established throughout the state, the task force developed a goal and a list of objectives for the new reporting system. The goal was : To establish an effective and efficient reporting system that is user friendly, easily accessible, and provides needed organizational accountability requirements. With this goal as the guide, the objectives were developed which included:

- **Provide cumulative program progress;**
- **Provide a mechanism for reporting program success;**
- **Capture SMP programs, other programs and special projects;**
- **Accessible at all organizational levels;**
- **Capture creative use of program delivery;**
- **Meet reporting requirements of Cooperative State Research, Education, and Extension Service (CSREES), the federal partner;**

- **User friendly;**
- **System is continuously updated, accessible, and can be monitored; include data and information necessary for reports at all levels of the organization;**
- **Continuous comprehensive instructions and training to be provided for proficient use of the system to include inputs and outputs;**
- **Continuous allocation of resources to include personnel, hardware, and software;**
- **Reduce information processing.**

Throughout this conceptual process, Extension administration and program leadership were continuously involved to assure that everyone was on the same conceptual plane. After creation of the objectives, a list of parameters was developed. It included such specifics as what was required and when, time-lines, items that were needed for adequate accountability, and things that would be useful to have but not really seen as of vital importance for organizational accountability purposes.

The next step was actual development of a diagrammatic model design. The design had to include all necessary components as well as those thought to be important for future reporting needs. Also, one objective was to design a system that was all-inclusive, i.e., only one reporting system rather than several different ones, all functioning slightly different. As the model was designed, all interested persons were given the opportunity to review and make suggestions. The State Major Plan Task Force spent hours during its monthly meetings intensely analyzing each component and recommending changes. Actual time-lines for required reporting probably created the greatest discussion, and ultimately, the Extension Administrative Council would have the final say in what was or was not included, and when reporting would occur. Similar long discussions were common among the administrative group as well. Often, seemingly tiny adjustments would precipitate lengthy discussion, analysis, and intensity. Ultimately, a final diagrammatic model was accepted as the blueprint for the system.

The next steps included development of input and output specifications to meet the needs of the Extension Technology Services programming group for their guidance in the design of the required computer programs. In tandem with this on-going process, parameters were being established by the State Major Plan chairs to identify specific program measures for each plan objective. These parameters indicating program progress would become the major component of the entire reporting system.

Components

With the key sections and components of each section identified, it was clear that the major part of the system would be the measures of progress (MOPS) and Impacts associated with each of the objectives within each of the twenty State Major Plans (SMP). Since real program outcomes rather than inputs were now the focus, the guidance and training requirements for actually developing realistic MOPS and Impacts was a most daunting task. Altogether, seventy-six objectives were given MOPS and Impacts in which reports would be completed. During this process, many individual SMP task forces recognized the significance of their expected outcomes, and many decided they had been perhaps too creative in developing a large number of measures. Ultimately, due to the press of software development requirements, final decisions

had to be made with the MOPS and Impacts which would be used for reporting 1996 accomplishments. An example of MOPs and Impacts is shown for one objective in one of the twenty state major plans.

(NOTE: CELLS indicates the number of spaces allowed for entering numbers)

State Major Plan
AGING WITH GUSTO!

OBJECTIVE 1. Participants in aging issues programs will increase awareness, gain knowledge, change attitudes, develop skills, and adopt practices and behaviors to help make their later years more financially secure.

Measures of Progress:
***Increased awareness and knowledge of financial management techniques and consumer issues.**
NUMBER_____ (5 CELLS)

***Adoption of financial management and consumer practices.**
NUMBER_____ (5 CELLS)

***Increased knowledge of estate planning.**
NUMBER_____ (5 CELLS)

***Adoption of estate planning practices.**
NUMBER_____ (5 CELLS)

***Increased awareness and knowledge of retirement planning and savings.**
NUMBER_____ (5 CELLS)

***Adoption of retirement and savings practices.**
NUMBER_____ (5 CELLS)

Impacts:

***Improved financial status through adoption of consumer and financial management practices.**
NUMBER ADOPTING_____(4 CELLS)

***Increased savings and/or increased retirement contributions for future financial stability.**
DOLLARS $ _____ (7 CELLS)

***Developed and implemented an estate plan.**
NUMBER_____ (4 CELLS)

***Developed and implemented a plan for possible future incompetency and dependency.**
NUMBER _____ (4 CELLS)

Other Components

Other components of the SMP reports include volunteers, volunteer hours and calculated value, and cost-benefit analyses, plus a narrative description of the program progress and results. While calculation of volunteer value is automatically set at a rate of $10 per hour, the cost-benefit analyses may be most difficult to make in some circumstances and relatively easy in others. Considerable discussion was focused on whether to include a requirement for the cost-benefit information, and the final decision was that this was a needed component, and therefore, was included. A fact sheet was developed to assist agents in understanding cost-benefits. While an assessment of this component may be difficult following initial use by agents, it is clear that a new paradigm is emerging in which agents are making assessments of the value of their time and its most worthy allocation for greatest impact.

Separate sections were included for success stories for planned SMP programs, and those of a non SMP focus. Often, valuable work is performed in a county of an unplanned nature, such as our experiences the past year with two major hurricanes, and the need to provide all types of disaster relief information and assistance on short notice. Successes in such program efforts can be reported in the new system. A training fact sheet has also been developed to guide agents in writing concise success stories of 150 words or less.

The civil rights section includes all components of previously needed information, and has only been adjusted to fit the new system, with time- lines being changed to twice a year rather than reports being required once a year.

The final section is one that allows those reporting to indicate their program delivery strategies. This section is optional, but will be accumulated at the state level so that use trends can be observed. N. C. State University is currently developing a university outreach reporting system, and reporting activities is expected to be a key part of that program. Therefore, while NCCES is more interested in MOPS and Impacts of programs, the types and numbers of program delivery activities remain important to a large number of people, and as a result, this optional component of the NCCES system may later become a required entity as well.

Computer System

Following the design and specifications phases of the system development, emphasis was then placed on developing a computer system that could accommodate all of the intricate components of the reporting system. Initial plans rested with development of a text-based system linked to all county units. Fortunately, an innovative idea for using a graphically-based user interface (GUI) in conjunction with a client-server computing model began to emerge. This idea was rendered possible by a major statewide investment in the NCCES information technology infrastructure. These improvements provided for continuous Internet connectivity to all of the NCCES county centers, and allowed for the development of a modern software solution for the new reporting system. The skills required for developing a graphics based system required development of new skills by members of the Extension Technology Services group. This challenge was met, and a new World Wide Web graphics based system was completed. All components of the new system were developed, tested, and released within an eight month period during 1996.

Testing of each computer program component involved initial release of an Alpha version of the program to six volunteer counties. Comments were received from the testing counties, and these were compiled into a punch list for the program development team to analyze and make adjustments in the system as indicated. Following this step, the second, Beta version was released to the same six counties for testing and review. Only then was the system released to all reporting units. This process is time consuming, but proved to be extremely valuable, in that the systems released were essentially bug-free.

Training for personnel in all 100 counties was conducted to introduce them to the new system, and to actually practice with Section A. Universal comments of user friendliness have been heard. Also, many agents are now finding the task of completing their reports so easy that they are entering their own information rather than giving it to secretaries for entering. Naturally, this is an evolving process, and some will continue to depend on others to make their entries. User friendliness of the system was further indicated when 97 of 102 reporting units met the accomplishment reporting deadline date of January 10, 1997, even though final release of all programs was on December 10, 1996.

Continuing Inputs and Uses

With the vast amount of accomplishment information provided, the State Major Plan(SMP) teams accessed the system and developed statewide accomplishment reports for their respective programs. Their deadline was February 10, 1997, which they handily met. State Program Leaders then reviewed the accomplishment information from the teams and developed program overviews. This information was included with the SMP reports and developed into a printed program accomplishment document to be used for both internal and external program results communication. These accomplishment reports were also posted on the Web on the NCCES Homepage that is accessible to the world.

Other uses of the system have included selecting specific success stories for individual congressional districts and developing a one page handout targeted to the 12 respective congressional districts in North Carolina. This information was hand delivered to the respective congressional offices in Washington, DC by representatives of professional Extension associations. Another example of a very quick use of the information contained in the Web ERS system was in response to a request from the Governor's office as to what Extension was accomplishing in the Welfare Reform movement. Through keyword searches of accomplishments and success stories, a multipage document was prepared for his office within hours of the request.

During 1997, field faculty and selected departments have continued to enter accomplishment data, as expected, with minimum intervals of reporting being every six months. Considerable accomplishment and success information was reported and a mid year summary was compiled by the SMP teams. More than 1,000 success stories were filed for 1996, and an even larger number have been entered in the system for 1997.

All of this information is being used continuously for accountability purposes, both internal to the university and externally. Altogether, as of November, 1997, twenty-four separate reports

had been developed using the information contained in the ERS system. Fortunately or unfortunately, the North Carolina Legislature passed a bill in its 1997 session in which it is choosing to study Cooperative Extension. The ERS system is proving invaluable as a ready resource of information center for putting together specific information for that study.

Conclusion

The resources devoted to development of this new NCCES reporting system have been enormous. Yet, in order to meet the organizational accountability needs that are required and expected now and in the future, we believe the NCCES has developed a system that will accomplish the objectives that were initially developed. Thanks to rapidly emerging computer technologies, a system has been implemented that could have only been a dream just a short time ago.

Based on experience and feedback from one year's experiences, NCCES have embarked on a new system that is providing the needed focus that should be placed on achieving actual program accomplishments. However, it is clear that the knowledge curve is quite broad as to what measures of progress really are, and what really entails program impacts. While obvious refinement will need to be made in the quantity and quality of indicated program results, the steps being taken so far have led far along the path of improved focus on programs and their accomplishments. Continuing training coupled with increased levels of knowledge and awareness of program impacts should provide a solid basis for helping the NCCES to meet all accountability needs both now and in the future. With the knowledge that their information is being used so extensively, field faculty and SMP teams are increasing their focus on obtaining and reporting "quality" program outcomes.

Assessment of Innovative Fax Information Satellite System For Serving Small Farmers Information Needs

A Paper Presented to the Southern Association of Agricultural Scientists
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Introduction

The Cooperative Extension Service is responsible for providing educational information to farmers as well as other designated audiences. Over the years, the core farm population has diminished as a result of the consolidation of farms and other inherent changes such as technological developments. In addition to this reduction in numbers of farmers, economic necessities and other personal preferences have caused many smaller farmers and others to continue to farm on a part-time basis while holding employment in some off-farm capacity. These changing dynamics of the core farm audiences of Extension has necessitated a shifting from the traditional face-to-face means of program delivery to other more innovative means for reaching many members of this audience.

In an effort to address these changing circumstances relating to small and part-time farmers, a special project was conceived in North Carolina three years ago to test a creative way to reach this audience segment. The project sought to test the usefulness of a fax based satellite information request system. This system would allow the farmers to request via fax any information they may need relating to specific subjects. An initial grant was obtained from the USDA small farms program funds to implement this pilot project, and subsequent grants have been successful for continuing to adequately test and expand the project to determine its viability as a realistic means for reaching these special audiences.

Description of Project

The project was implemented in three North Carolina counties. Those counties are located in the coastal, piedmont, and mountain foothill regions of the state. With this wide geographic dispersion, it was felt that any regional variations in preferences or use would be discovered as well. Those counties participating initially were Nash, Graham, and Randolph Counties. The second year included five counties which were Pamlico, Nash, Person, Randolph, and Caldwell.

In each county, at least one cooperating agribusiness was enlisted as a cooperator for locating a fax information request center directly inside the business location. Generally, interest was shown by one or more potential sites, and cooperators were reasonably easy to recruit, with some even installing dedicated telephone lines to assure access at all times to their customers. Grant funds were used to purchase fax machines for each location that did not have a fax machine or for those who did not wish to use their business fax for this purpose. Even some of the Extension offices were provided with machines in those counties who had not previously installed a fax machine.

At each center, the Extension agent developed a special request form that would be located directly adjacent to the fax machine itself. Also, at each location, a special back- drop was supplied that had Cooperative Extension's logo as well as the catchy title "Fax'd Facts Fast". This supporting structure also had bold instructions on how to use the system. Special pockets were provided on the back drop that contained instructions as well as the actual request forms. Results of the initial efforts demonstrated a need for more sturdy back-drops, and three different types were secured for this purpose. However, ultimately, the quality and type of backdrop has appeared to have little if any effect on the use of the system.

Each of the cooperating agribusinesses provided prominent locations in their establishments for the fax center, and agreed to be an information resource for giving customers instructions for making requests, in the event that any were needed. Also, for those counties who chose to develop a two-way communications mode for information posting, the cooperation was especially evident. Enthusiasm was initially high among both the Extension agents and the cooperators relating to this innovative means of making Extension information readily accessible in a satellite location in which farmers frequented. However, in an expanded thrust during 1997, one county completely failed in being able to locate a single location, while another one nearby had the greatest success yet experienced with the project, by reaching hundreds of the intended audience with very timely and critical information during the growing season by sending information to the satellite centers for posting.

Project Results

As indicated, the project has produced variable results. Some were pleasant surprises, while others were variable, or even disappointing.

Perhaps the most disappointing was to total failure of one county to gain any interest among those locations in which the agents felt would be appropriate locations. Also, Graham County, which was in the initial study had continued to work behind the scenes to establish a county government supported location in a remote mountain village community center, and this center is now operating. Perhaps, most importantly, the fax machines were used at all established

locations for requesting information from Extension. However, the number of total requests generally ranged from two to three per day during to he growing season to one or two per week. Also, as reported last year, overall use of the request component was approximately one per day for all locations. However, for the centers that posted "hot topic" information from the Extension center reported as many as two hundred persons per week per location stopping in to review the latest information. This was especially evident in Madison County where Blue Mold threatened the burley crops during the early summer. Yet, for the request locations, nearly all requests involved vegetable garden or lawn care questions.

Among the pleasant aspects of this program was the continuing positive marketing of Extension that the project provided. Both newspapers and radio stations saw this program delivery approach as novel, and continued to provide coverage in a highly positive light. Some of the locations were prominently published with captions such as "Something New: Garden fax" to "Satellite Center Opens: Fast fax extension office answers questions through satellite center".

A similar positive level of interest was described by site managers as being exhibited by their customers as well. Even though many customers did not use the system for making requests, many positive comments were made by them as to the efforts Extension was making to more effectively serve their needs. Also, appreciation was expressed by the customers to the businesses hosting the sites. Thus, as a positive marketing tool, the centers were highly effective for both Extension and the agribusinesses in creating positive public opinion toward Extension and the cooperators. Perhaps the greatest testament to the success of the centers that posted incoming "hot topic" information from Extension was the registering of complaints from the sites and clientele when the flow of such "hot topic" information slowed or was no longer needed.

Conclusion

The fax request system has been successful in that it opened avenues for new ways of requesting and receiving Extension information. There appears to be adequate dimension to the concept of satellite centers whereby local applications can be made that best fits the needs and wishes of those persons involved. It has been shown that more than one center can be successful, even thought rate of usage for making requests may be low. Also, the dimension provided by making the information flow both directions seems to be especially valuable. The simple matter of taking the additional step of arranging for a bulletin board to be used for posting current information along with the commitment of the site managers to post incoming information are the only variables that are different from the original concept of only information being requested via fax from the site only.

One of the most important variables in making this endeavor successful from an information delivery perspective is the dedication of the satellite location personnel to encouraging its use and maintaining the location. Highly public locations, such as public libraries may be valuable alternatives for increasing level of use, but may be ineffective for reaching the originally targeted audience. In addition to the dedication of the satellite personnel, it is also clear that many variables impact the success of such locations, and the dedication and enthusiasm of the Extension employees themselves appears to be a major factor in whether satellite locations can be established; whether they become functional even if established; and whether they are

appropriately serviced to assure the location managers that the location is seen as important. In North Carolina counties, complete failure has been experienced whereas in others major success has occurred. All of the areas tested are primarily rural and would be expected to have similar results. However, this has not happened.

Ultimately, such fax satellite centers appear to be able to provide a niche for innovative program delivery by Extension and can have highly beneficial side effects of positively marketing the Extension programs in the respective counties.

Evaluative Comments

The project leader requested input from each Extension agent who was involved in the project each year following the end of the growing season. The initial four comments that follow were provided in the Fall of 1996.

"I believe this project was beneficial in obtaining new/non-traditional clientele. The fax machine was an added delivery method that enhanced programming efforts in all areas of agriculture."

"The fax system seems to have more impact with the consumer public which is an enormous, hungry market desiring information. These clientele are more aggressive in getting information when they need it than the farmer group. A Fax system allows another mode of delivery which requires little demand on the agent but still delivers information to the busy lifestyle of the consumer."

"Those that used it where very pleased with the quickness of turn around time and the ability to access a wealth of information and not have to drive into the county office".

"The reactions of the users showed a great deal of interest and a lot of questions were asked about the system by the farmers who visited the business. To me, strengths of this system ties the place of business to the Extension office. Research based information is available on a short turn around."

Agent comments for 1997 follow:

"The Garden FAX at the 3 locations in Pamlico County has not had an increase in use over time as had been anticipated. It's use during the spring-summer season was about 1 fax per day with just a few during the rest of the year. One reason the Garden FAX may not be used more is the ready access to Extension information by phone, news releases and drop in office visits with each request given a rapid response. In other words there may not be an unmet need for Extension information for the GardenFAX to satisfy in Pamlico County.

"I still think it is a good idea and that it could be another method for distributing Extension information on a timely basis while saving agents and secretaries time. Topics covered on the Pamlico County Garden FAX sheets are Home Gardens, Home Lawns, Pastures, Wildlife and Water Quality."

"The project is going well at Southern States with 3 to 4 faxes per week. The other site is slow."

"With all of the competitive educational outlets for delivery information to the public, the fax centers has enable us to be more visible with a quicker response. We have advertised the fax centers on the local radio station every Friday on the "Gardeners Corner" (A one hour Extension talk show in which Person County citizens and area listeners call in questions about horticulture.) and the news article in the Courier Times Newspaper ("Extension Notes" column published every Wednesday). The fax centers has been another extension delivery method that targets mainly non-traditional, part-time farmers in our ever-changing modern society. In my opinion, in order for the North Carolina Cooperative Extension Service to be a major player or primary provider of information services to the public; we must use these innovative technologies when supplying "boiler plate", research based information. Today's new information is tomorrow's used/old information; therefore, I have enjoyed being able to lead this project in my county and fulfilling the mission of our organization."

"The Madison County Center participation in the Information Delivery Project during 1997 involved the transfer of information regarding Blue Mold, a potentially devastating disease to the county's most lucrative farm commodity, Burley Tobacco. Burley Tobacco is grown by more than 700 growers more than 50% of which farm part time. Two Faxed Facts Fast sites were established at P&E Grodery, near Mars Hill, and Ted's Farm Supply just outside Marshall. In addition to the two machines furnished by the project, two additional sites were established at Brush Creek Grocery, near the Walnut Community, and Trust General Store, in the Spring Creek Community. At the peak of the tobacco growing season, and high likelihood of Blue Mold infestation from air born spores the Blue Mold Hotline Report was faxed from our office to the distant sites (4) two(2) times a week, for a period of six weeks from mid June to about August first. Some comments from the store keepers indicated that the bulletin boards rapidly became a high interest stop by the farmers who visited the stores. It is estimated that at least 80 different people per site saw the Blue Mold Hot Line Reports within 24 hours of it's being posted on the web. (One lady told me that there was significant interest demonstrated, even by people traveling through the community, with no personal interest in tobacco.)

The later stages of the growing season provided hot dry weather, which is less conducive to blue mold growth, and spread, so the number of transmissions per week decreased, as the threat of disease decreased. Generally, this information was needed, and very well received by farmers. The site keepers are also very supportive, and have expressed interest in wanting to continue this program as a way to deliver information of broad interest in a timely way. At the same time information was being sent out via fax, monthly newsletters helped provide detailed information about crop management. The combination of the newsletters, and faxed facts are believed to be contributing factors to a significant reduction in the number of phone calls from farmers inquiring about blue mold status, treatment, and preventative measures. Extending this information by these methods proved to be very cost efficient, requiring much less time and reducing the time required to answer about twenty phone calls per day individually. Just the time savings alone may have amounted to as much as two hours/ day for calls successfully handled by phone, not including secretarial time to receive the original call. Although Faxed Facts forms were provided at each site to be used for clients to send questions to us, this phase of the project was not as successful. Participation in this phase was nearly zero. Hopefully as we prepare for another crop year this method of delivery will improve some."

"I tried to get the fax machine into a farm supply store. I went to the four main farm supply stores in the County (Valley Ag supply, Fletcher Feed and Seed, Southern States, and Southern Ag. Chemical). All of these places of business informed me they already had Fax Machines and would be glad to let the public use them. However, they're not out in public view neither is there a sign that has any information about the N.C Cooperative Extension Service. Store managers and owners said they couldn't justify putting in another phone line for a fax machine. I asked about Extension being able to fax timely information to be displayed at their store, they said that would be fine, however they were not interested in a display board. Too much space required. After being turned down with these attempts I decided to go to the Library and explore this opportunity. Since the clients would primarily be home owners I invited another agent to go along. We asked the library director, he "politely" told us he already had a fax machine available to the public, however, he would allow us to put out handouts, but not a display board. I feel like I failed at this task, but I can honestly say I did try." I

Implications

Even though this project had variable results, there were enough positive aspects of the program that makes this approach potentially appealing to many audiences. while farmers themselves used the fax request system only sparingly, there was an indication that users were people who did not usually contact Extension on a frequent basis for information. However, when implemented as an information delivery system to include posting of latest recommendations that meet local needs, it seems to be very successful. Therefore, while the designated audience for which the project was funded may not have used the system in one manner, others did, and the designated audience used it in a different way. Also, the publicity generated through the news media resulted in one county library contacting Extension and requesting their own center as well. Such positive marketing is difficult to gain without a demonstration of creativity and program excellence, which these centers demonstrated to the public.

As with all program delivery methods used in Cooperative Extension, knowledge of the user group, their characteristics, needs, and demonstrated preferences and tendencies can provide excellent clues as to the potential successfulness of the method for providing information. Yet, perhaps the best indicator is to have information available in a convenient manner that meets immediate needs of targeted clientele. As newer delivery technologies continue to emerge, familiarity with those technologies and assessment of their utility for specific program delivery purposes will continue to need to be made. However, perhaps the greatest test of any delivery strategy is that it effectively meets the needs of those it is intended to serve.

County Agent Assessment Of News Packets In Oklahoma

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Abstract

This paper examines the effectiveness of the methods used to deliver Extension news in Oklahoma. All Oklahoma Cooperative Extension Service agents were surveyed to determine their use of news releases prepared and distributed by the Oklahoma State University agricultural communications unit. Results indicate most agents perceive contacting the media is their responsibility, but that perception often did not translate into actual media contacts. Analysis is based on a 86 percent response rate. Results of this survey brought about a change in how the Extension news is currently delivered in Oklahoma.

Introduction

The Cooperative Extension Service provides a unique facet of the United Statesí educational system through a three-tiered approach at the federal, state, and county levels. The Cooperative Extension Serviceís role is to serve as a diversified educational organization that works closely with people from many segments of society (Lindsey, 1995). Many organizations have modeled their systems for delivering information and providing training after the Cooperative Extension Service. Numerous public and private organizations now deliver educational programming (Bouare, 1990). The competition for the limited access to media outlets encourages efficient use of all resources.

Cooperative Extension is the lay personís educational arm of the land-grant universities located within each state. As the university develops new technologies, [innovations] or new methods for using old technology, Extension provides the means for disseminating these technologies or methods (Sanders, 1966). The United States Cooperative Extension Service is a large organization requiring the time and effort of many people. Like all organizations, its value lies in its accomplishments and in the desired changes it effects or to which it contributes. Every agent seeks to implement programs that achieve desired results with minimum time and resources (Reeder, 1974). Cutbacks in Extension funding, as well as a growing percentage of Extension clientele working with set hourly schedules, have made it more difficult for agents to

use the more personal communication methods such as meetings, field days, and workshops (Fett, Shinners-Gray, Duffy & Doyle, 1995).

Extension uses a wide range of educational methodology and has made effective use of mass media, including newspapers, magazines, radio broadcasts, and television programs. Beck and Cilley (1994) found that public relations efforts were developed in a drastically different method than before. Warner and Christenson's study (as cited in Fett et al., 1995) reported that in a nationwide survey 99 percent of people who used Extension information received the information from newspapers and other printed materials while only 39 percent had attended an Extension meeting or workshop within the last year. Steele (as cited in Fett et al., 1995) found 80 percent of Wisconsin residents had some contact with Extension during the previous two years, with 98 percent receiving Extension information via mass media. Fett et al. looked at the use of mass media in Brown County, Wisconsin, and found respondents viewed the mass media as the most important source of Extension information.

Prior to April 1994, the Oklahoma State University agricultural communications press unit distributed two packets of different stories each week as Oklahoma Cooperative Extension Service press packets: one packet to field staff and one directly to Oklahoma's media outlets. Due to expansion of writing staff job responsibilities and a need to select one press packet distribution method, the OCES associate director chose to send all press packet materials to the agents for media distribution. Beginning April 11, 1994, press packet materials were sent only to OCES field staff for media use (D. R. Stotts, OCES communications specialist, personal communication, December 2, 1997).

This study deals with an evaluation of the materials and methods of information dissemination used by the Oklahoma Cooperative Extension Service.

Purpose and Objectives

The purpose of this study was to determine the Oklahoma Cooperative Extension agents perception and utilization of the Oklahoma State University Agricultural Communications' weekly press packet.

This study was developed to evaluate the utilization of the OSU press packets and the efforts of agents in regard to public relations efforts with newspapers and radio stations within their assigned counties. Specific objectives for the study were as follows:

1. **To describe demographic characteristics of the agents in the Oklahoma Cooperative Extension Service.**
2. **To determine the proportion of agents who distribute Cooperative Extension news materials from the prepared press packet to their local news media.**
3. **To determine the level of personal interaction between agents and news media personnel.**
4. **To determine what percentage of news materials in the press packet were delivered to news outlets.**
5. **To compare the use of Oklahoma Cooperative Extension press packet materials by OCES**

districts.

Methods and Procedures

Data for this study were collected using a researcher-developed instrument in the Fall of 1995. Content validity of the instrument was determined by a panel of experts made up of agricultural communications staff in the Department of Agricultural Education, Communications, and 4-H Youth Development, Oklahoma Cooperative Extension Service district directors, 10 OCES agents, and five members of the news media as well as agricultural education graduate students. The scope of the study included the Cooperative Extension Service field staff in the state of Oklahoma. A total of 199 extension personnel were included in this study and were identified by the OCES as being employed as of June 1995. The instrument was mailed with a cover letter and instructions to return it through OCES pouch mail. The district directors also addressed the importance of the study at district agents' meetings. Surveys were received from 128 agents (64.3%) after the first mailing. A second mailing was conducted, and 48 additional surveys were returned. A follow-up of non-respondents was not conducted.

The total response rate was 86.4 percent with 176 of the 199 agents responding. The instrument consisted of 16 forced response type questions concerning responsibility and usage, frequency of utilization, delivery time, press packet utilization, and demographic information. The last section included an open-ended question to gather personal comments from the agents. The nature of the instrument made the determination of a reliability coefficient inappropriate. Percentages, frequencies, means and Student-Newman-Kuels test for variability were utilized to analyze the data using SAS.

Results/Findings

The responding OCES agents represented all OCES districts. The Northeast District had the most respondents with 52 (30.20%) followed by the Southwest with 51 (29.70%), the Southeast with 38 (22.10%) and the Northwest with 31 (18%). A nearly equal percentage of the respondents were male (49.41%) and female (50.58%). The agents' length of service within the OCES was seemingly balanced throughout the selected groupings. The largest group was the 0-5 year range which included 27.90 percent while the smallest was the 16-20 year service group. (see Table 1).

Table 1. Length of OCES Agent Service

Length of Service in Years	Frequency	Percentage

0-5	48	27.9
6-10	37	21.5
11-15	37	21.5
16-20	17	9.9
20+	33	19.2
Total	176	100

The second objective of the study was to determine the proportion of Oklahoma Cooperative Extension agents who deliver Cooperative Extension news material from the prepared press packet to their local news media. The overwhelming majority, more than 86 percent, of the agents consider contacting the media their personal responsibility and almost 96 percent are familiar with newspaper deadlines. Personal delivery of the materials to the media outlets was completed by more than 62 percent. Newspapers are considered a priority for delivery of materials by nearly 71 percent of the agents, while only about 30 percent considered delivery to radio stations a priority.

The frequency of utilization of media outlets to provide information to the public is presented in Table 2. Close inspection of Table 2 reveals that about 47 percent of the respondents never utilize radio broadcasts while newsletters are used by 88 percent of the agents. Furthermore, more than 98 percent of the agents indicated they use newsletters to distribute press packet materials, with more than 50 percent using the material within two weeks of when they received the information.

Table 2. Agents' Use of Media Outlets

	Frequency Categories					
Method	1-3 Days	4-7 Days	8-14 Days	15-30 Days	30+ Days	Never
Newspaper	1.7	43.0	18.0	9.3	9.3	18.0

Columns						
Headlined Stories	2.9	17.4	20.3	18	23.8	17.4
Radio Broadcasts	4.1	11.0	7.6	8.1	22.1	47.1
Newsletters	.6	1.7	50.0	40.1	7.7	0.0

To determine what percentage of the news material in the press packet is delivered to the news outlets, agents were asked how many of the stories from each weekly press packet are delivered to the newspapers. Forty-three percent of the respondents indicated 1-30 percent of the material was delivered, while more than 30 percent of respondents stated that 31-60 percent of the material was delivered to media outlets. When asked the same question about radio stations, more than 55 percent indicated that ìnoneî of the material was delivered. Furthermore, nearly 42 percent of the agents attested that ìnoneî of the materials were used as a basis of a regular newspaper column, while more than 65 percent of the agents indicated they used information about youth activities (see Tables 3 and 4).

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Table 3. Use of Press Packet Materials

	Percentage Categories				
Distribution Method	0%	1-30%	31-60%	61-90%	91% or more
Quantity of weekly press packet stories deliver to newspapers	7.6%	43%	30.2%	12.8%	6.4%
Quantity of weekly press packet stories deliver to radio stations	55.2%	29.1%	11.6%	2.9%	1.2%

Press packet stories used as agent's newspaper column	41.9%	15.7%	18.6%	14.5%	9.3%

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Table 4. Use of Press Packet Material Based on Type of Information

TYPE OF MATERIALS	FREQUENCY / % OF UTILIZATION
Family and Consumer Sciences	88 / 51.2%
Agricultural Production	78 / 45.3%
Economic Development	60 / 34.9%
Youth Activities	99 / 65.1%

Objective five was to compare the use of press packet materials by OCES districts. Significant differences (determined with 95 percent reliability) between the four districts were found in several areas. The Northeast and the Southwest districts were found to be significantly different from the Southeast district in that the Northeast and Southwest agents personally deliver more press packet materials.

The Southeast and Southwest agents deliver materials to radio stations and they utilize radio broadcasts significantly more frequently than the agents of the Northwest and the Northeast districts. Furthermore, the Northeast district agents take significantly longer to pass along the press packet materials than do the agents in the Southwest district.

Planning media campaigns was found to be considerably different within the Southeast district than the other three districts. The agents within the Southeast district plan media campaigns significantly more often than those in the other districts.

The Northeast district used a significantly smaller percentage of press packet material for delivery to the radio stations than either of the other three districts. The Southeast, Northwest and Southwest substitute their name for the state specialistís name as a source significantly more often.

Seventy-two of the respondents offered additional comments. The length of the articles was of the most concern while several stated the materials were utilized mainly as the basis for newsletters. Other comments included several suggestions: the OCES revert back to the old system of disseminating information; there are typos and grammatical problems; and more stories are needed for radio broadcasts. Several agents indicated they need more training or that they didn't know about the press packets. Others suggested they need the packets earlier and that more information on horticulture, safety, and health is needed.

Conclusions

Based on the finding in this study:

1. **There are approximately an equal number of male and female agents, and the number of agents is basically level throughout the years of experience except in the 16-20 year range.**
2. **OCES agents consider contacting the media their personal responsibility and are familiar with newspaper deadlines. In addition, the agents personally deliver materials to media outlets.**
3. **The delivery of press packet materials to radio stations was not considered a priority. Agents do not deliver materials to radio stations and do not use radio broadcasts to disseminate press packet information.**
4. **Newsletters are extremely popular with OCES agents. Furthermore, the agents used the press packet materials to develop their monthly newsletters.**
5. **Youth activity materials from the press packets seem to be the most popular items used by the agents in their media efforts. This may be due to the types of stories small town newspapers like to print.**
6. **Of the relatively few news releases delivered to radio station, Southeast and Southwest agents deliver more press packet materials to radio stations as well as use more radio broadcasts that the Northeast and Northwest district agents. In addition, the Southwest district passes along press packet material faster than the other districts.**
7. **Southeast agents plan public relations campaigns considerably more often than the agents in other districts.**

Recommendations

1. **Since a wide variety of findings were identified within and across the districts regarding newspaper and radio media utilization, in-depth training on the use of**

media outlets, press packets, article development, and agent responsibilities needs to be developed and implemented immediately by state and district staff.

2. **The use of radio stations as a means of disseminating information needs to be emphasized. However, the competitiveness of the major market (i.e., Tulsa, Oklahoma City) radio stations makes it difficult for agents to access. Therefore, in-depth training in conducting radio programs should be provided by the Extension communications specialists.**
3. **The agricultural communications staff in the Department of Agricultural Education, Communications, and 4-H Youth Development should develop radio scripts and articles as well as OCES public service announcements for easy use by agents in developing radio programs.**
4. **The agricultural communications staff in the Department of Agricultural Education, Communications, and 4-H Youth Development should shorten, proofread, and format news stories in a way that makes it easy for agents to localize such stories.**
5. **Additional research should be conducted to verify and determine the reasons for what appears to be a negative perception of the use of radio as a medium for OCES information.**

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Follow-up Information

As a direct result of the information compiled from this research and an accompanying survey of Oklahoma media, the method for delivering Extension news in Oklahoma was changed June 26, 1996. Currently, the agricultural communications press unit distributes news releases directly to the media, primarily via electronic mail, electronic bulletin boards, and the Internet. A limited number of news releases must still be sent via the U. S. Postal Service where technology is unavailable. For reference purposes, Extension personnel also receive copies of the releases. According to communications specialists Bob Keating and Donald Stotts in the agricultural communications press section, there has been an increase in the use of these news releases by the media, on a local, regional, national, and international basis, since the department returned to direct media distribution (D. R. Stotts, personal communication, December 2, 1997).

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References

Beck, H. & Cilley, M.L. (1994). Change and the agricultural communicator: Electronic dissemination of Extension information. Journal of Applied Communications, 78(1), 1-9.

Bouare, D., & Brown, B. E. (1990). Communication methods used by agricultural extension agents. Journal of Applied Communications, 64(1), 17.

Fett, J., Shinners-Gray, T., Duffy, K., & Doyle, C. (1995). Evaluation of a county Extension office's use of mass media: A user perspective. Journal of Applied Communications, 79(1), 34-44

Freeh, L.A. (1978) Public relations--what, why, and wow! Journal of Extension, 26(6), 9-14.

Proctor, D. L. (1983). Sources of agricultural information used by wheat and cotton farmers in Jackson County, Oklahoma. Unpublished manuscript, Oklahoma State University.

Kerlinger, F. N. (1986). Foundations of behavioral research. (3rd ed.). Ft. Worth: Holt, Reinehart and Winston, Inc.

Lindsey, R. L. & Rayfield, F. (1995). Assessment of program deliver methods and media concerning chemical regulations in agriculture and lawn and garden uses by selected cooperative extension personnel in Oklahoma. Paper presented at the meeting of the forty-fourth annual Southern Agricultural Education Research Meeting, Wilmington, North Carolina.

Reeder, W.W., LeRay, Jr., N.L., & Nackenzie, S.T. (1974). Planning powerful extension programs. Journal of Extension, 12(2), 3647.

Sanders, H.C. (1966). The cooperative extension service. Englewood Cliffs, NJ: Prentice Hall, Inc.

Internships In Agricultural Communications Service Units

A Paper Presented to the Southern Association of Agricultural Scientists
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Abstract

This paper examines the effectiveness of undergraduate internships in the Oklahoma State University agricultural communications program as a model for implementing departmental internships in other agricultural communications service units. Results indicate such working, educational relationships have been beneficial to both the agricultural communications unit and the students. Results are based on supervisory evaluation forms completed on all interns at the conclusion of each internship.

Introduction/Background

Internships, a form of experiential learning, can be vital links between the undergraduate educational program and the professional world (Alexander, 1995). Tyler (1981) indicates cooperative work experiences are needed more today than ever. Employers of agricultural graduates ranked cooperative or internship programs as the number one experience to strengthen students' educational backgrounds (Bekkum, 1993). "A directed experience such as coop internship or summer internship is highly recommended to complement the academic program." (Bekkum, p. 51)

The Department of Agricultural Education, Communications, and 4-H Youth Development began expanding its undergraduate internship program in 1992. The department had previously hired interns, usually on a "first-come, first-served" basis. In 1992, the faculty member serving as internship coordinator initiated a written report and evaluation system used to assign grades for those students receiving academic credit.

At the beginning of the internship, each student co-signs an internship contract with the internship supervisor and the internship coordinator and submits a list of written objectives. During the internship, all interns are required to submit biweekly written reports indicating the tasks assigned and completed during that evaluation period and their analysis of the learning experience. A final report including samples of work completed is submitted at the end of the internship and evaluated by the internship coordinator.

As the internship program grew, a formal hiring procedure was established within the

department. During the semester prior to the internship, position announcements are made in class, in student organization meetings, and on posted fliers. Students apply by submitting formal letters of application and résumés. Agricultural communications staff members who serve as internship supervisors review the applications and interview students as needed to fill each position.

In 1997, the department has more than a dozen departmental internship opportunities for agricultural communications and agricultural education undergraduates, including positions in television production, broadcast writing, publications editing, newsletter production, photography, and public relations writing as well as public relations-type positions in the 4-H curriculum and staff development areas (see Table 1 for internship descriptions). Departmental budgets are used to determine how many paid positions will be filled at the beginning of each semester; some positions are available for academic credit only. At various times, interns have filled professional roles during staff vacancies. The department also coordinates public relations internships with other academic departments within the OSU College of Agricultural Sciences and Natural Resources.

Table 1. Student Intern Positions, Department of Agricultural Education, Communications, and 4-H Youth Development at Oklahoma State University

Broadcast Writing Intern	Intern will be responsible for producing weekly video packages for SUNUP. As assigned, intern will be required to serve on SUNUP production crew. Intern must be able to designate a scheduled block of work time each week. He or she should possess video writing and editing skills.
4-H Leisure Education Intern	Intern will assist 4-H specialist with planning, conducting, and evaluation of 4-H leisure lab. Intern should possess word processing/computer skills and a willingness to contact professionals to solicit their voluntary services. Knowledge of camping, leisure education, and counselor training, as well as knowledge of Oklahoma 4-H, is preferred.
4-H Environmental Education Curriculum Intern	Intern will work with state 4-H specialists to write 4-H school enrichment curriculum related to environmental issues. He or she also will review resource materials from other sources and assemble annotated resource lists for Extension Agents and classroom teachers. Intern will help develop new interactive exhibit components for the "Caring for Planet Earth" exhibit at the state fairs as well as other duties as assigned. Intern should be a junior, senior or graduate student with background or interest in environmental issues and strong library research skills. He or she should possess organizational, communication and computer skills and a

	willingness to contact professionals to solicit their voluntary services. Knowledge of Oklahoma 4-H and courses in education and/or curriculum development preferred.
4-H Curriculum Development Intern	Intern will assist state 4-H specialists in literature reviews for agricultural literacy lessons. He or she will assist in organizing in-service materials, displays, and other marketing tools used with Ag in the Classroom and with other 4-H school enrichment programs. Intern should possess word processing/computer skills, a willingness to contact professionals to solicit their voluntary services, and the ability to conduct computerized literature searches. Knowledge of Oklahoma agriculture and Oklahoma 4-H preferred.
4-H Volunteer/Staff Development Intern	Intern will work with state 4-H specialist responsible for 4-H volunteer and staff development. He or she will help coordinate educational program development, assist with information for the 4-H Volunteer News, and assist with planning and organizing other 4-H events. Intern should be a sophomore or above and should possess word processing/computer skills, as well as written and oral communications skills. Experience with event organization and development preferred.
Newsletter Editor/Graphic Designer	Intern will serve as editor to departmental intern and alumni publications, being specifically responsible for the layout, editing, printing, and mailing of these publications. He or she also will have the opportunity to work on other publications or art work as assigned. Intern should have completed JB 2393 and should have prior experience with Aldus PageMaker and Microsoft Word. Experience with Photoshop is a plus but not a necessity.
Photography Technician	Intern will assist the department photographer in the darkroom developing black and white film and photographs. Intern may have limited opportunities to work with Photoshop computer software and to shoot photographs for departmental and/or college use.
Press/Public Relations Intern	Intern will generate news releases, assist in preparing photos and cutlines for the news media, and assist in planning promotional information for the Division of Agricultural Sciences and Natural Resources. Intern should have completed JB 2393 (Reporting) prior to participating in this internship.
Publications Editor	Intern will edit Cooperative Extension fact sheets and other publications as assigned and provide edited copy to the agricultural communications graphics section. He or she will work with authors to make necessary

	corrections and secure final approval from the authors. Intern should be able to use word processing software and should have completed JB 2393 (Reporting) and/or JB 2413 (News Editing).
State Fair and 4-H Program Management Intern	Intern will assist with the coordination and organization for state fair(s), including schedules, passes, mailings, etc. He or she will work with specialists to assemble and maintain resource and reference information, including score sheets, judging criteria, etc. Intern will help develop new interactive exhibit components for the "Caring for Planet Earth" exhibit at the state fairs and summarize items for the "Focus on Youth" newsletter as well as other duties as assigned. Intern should be a junior or senior with interest in a career with the Cooperative Extension Service. He or she should possess organizational and computer skills and a willingness to contact professionals to solicit their voluntary assistance. Knowledge of Oklahoma 4-H preferred.
"SUNUP" Production Intern	On a rotation schedule, intern will be trained to operate and will use on-air studio camera, TelePrompTer, character generator, and videotape machine. Intern will input information into character generator.
Video Intern	Intern will assist agricultural communications video section with production of educational videotapes and video conferences. Intern also will be responsible for producing several video packages for SUNUP each month as time permits. Intern may have the opportunity to learn the basics of field shooting. Intern should be able to edit videotapes and to use word processing software.

Purpose and Objectives

The purpose of this study was to determine the professional contributions of the agricultural communications interns employed by the Oklahoma State University Department of Agricultural Education, Communications, and 4-H Youth Development as perceived by their internship supervisors.

Specific objectives of the study were as follows:

- **To determine the level of professionalism exhibited by the department's interns.**
- **To determine types of work assigned to interns.**

Methodology

The internship coordinator provided the intern's supervisor with an evaluation instrument at

the end of the student's internship. The instrument identified nine factors that were used to evaluate the intern's professional performance. The supervisor was asked to rate the student in each performance area, based on a five-point scale (5=outstanding; 4=excellent; 3=good; 2=fair, 1=poor). The performance factors were quality of work, cooperative spirit, contribution to the organization, care/proper use of equipment/material, reaction to constructive criticism, punctuality, initiative, creativity, and ability to meet deadlines. Student's performance was to be compared to agricultural communications professionals doing the same tasks. An open-ended question allowed supervisors the opportunity to provide additional analysis of the student's work.

Additionally, interns submitted biweekly written reports during their respective internships through which they identified tasks they had been assigned and analyzed their learning experience.

Results

Approximately 50 students were placed into one or more departmental internship positions during fiscal 1992 through fiscal 1997. From the supervisors' evaluations submitted (n=46), the highest performance factor of the student interns was "cooperative spirit" (X=4.35) while the lowest was "punctuality" (X=3.8261) , as presented in Table 2. Supervisors indicated that the work completed by students was used in teaching, research, and extension areas within the OSU Division of Agricultural Sciences and Natural Resources.

Table 2. Supervisor Ratings of Student Intern Performance Factors

Performance Factor	Mean (X)	Standard Deviation
Quality of Work	4.261	0.773
Cooperative Spirit	4.35	.87
Contribution to the organization	4.067	.863
Care/proper use of equipment/material	4.2	.59
Reaction to constructive	4.022	.83

criticism		
Punctuality	3.8261	1.0812
Initiative	3.9348	.09522
Creativity	3.8571	.8136
Ability to meet deadlines	3.9348	.9522

In the biweekly reports, which were signed by the interns' respective supervisors, students indicated the tasks assigned included writing news releases; designing newsletters using desktop publishing; shooting photographs; developing black and white film; printing black and white contact sheets and photographs; operating various television equipment to assist in production of live television shows as well as to produce video packages; updating mailing lists; updating organizational notebooks; editing publications including fact sheets and research reports; designing recruitment brochures; creating and distributing video news releases; building displays; converting documents for use on the Internet; and creating/editing lesson plans.

Students analysis of learning identified several dominant learning areas: working with individuals in an office setting; improving computer skills; improving proofreading skills; improving organizational skills; improving interviewing/news gathering skills; improving time-management skills; and learning to operate/ improving skills on TelePrompTer, character generator, video camera, and flyer.

Conclusions

1. **The findings indicate internship supervisors in the Department of Agricultural Education, Communications, and 4-H Youth Development believe the professional performance of the student interns is "excellent" in nine performance categories: quality of work, cooperative spirit, contribution to the organization, care/proper use of equipment/material, reaction to constructive criticism, punctuality, initiative, creativity, and ability to meet deadlines.**
2. **Undergraduate student interns contributed in a meaningful way to the work undertaken by the agricultural communications unit, producing items and programs used to advance the mission of the College of Agricultural Sciences and Natural Resources, the Oklahoma Cooperative Extension Service, and the OSU Experiment Station.**
3. **Undergraduate students developed and/or improved technical and personal skills while**

participating in the departmental internship program.

Recommendations

1. **Evaluation of students participating in on-campus internships should be based on the same criteria as used to evaluate professionals and students participating in off-campus internships.**
2. **Agricultural communications units in other land grant institutions should consider implementing an internship program if one does not exist.**
3. **Additional research should be completed to determine the agricultural communications staff's satisfaction with the internship program.**

References

Alexander, J.P. (1993). Internships in communications. Ames, Iowa: Iowa State University Press.

Bekkum, V. (1993). "Experience needs of college of agriculture graduates as perceived by business and industry." NACTA Journal. Vol. 37, No. 2, pp. 49-51.

Tyler, R.W. (1981). The values of cooperative education from a pedagogical perspective. Journal of Cooperative Education. Vol. 17, No. 3, pp. 48-56.

Public Radio Complements Other Ag Electronic Media

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Abstract

Farmweek, the popular, weekly television program produced by the Mississippi State University Extension Service, celebrated its 20th anniversary on Mississippi Educational Television in October, 1997. A spin-off of the television program, Farmweek on PRM (Public Radio in Mississippi) celebrated its first anniversary on the air in September, 1997.

The purpose of this paper is to examine how a state extension service is successfully using the medium of public radio on a weekly basis to achieve two goals: to tap into a new audience with the story of Mississippi's number one industry, agriculture, and with the role Extension and research plays in it; and secondly, to cross-promote the already successful Farmweek telecast on Mississippi ETV each Thursday evening.

Situation

Public Radio in Mississippi (PRM) consists of a network of 8 FM radio transmitters strategically located to provide state-wide coverage. In its local features that are broadcast during National Public Radio's Morning Edition, PRM tries to address issues of local interest. Although agriculture is the number one industry in Mississippi, and the backbone of the state's economy, PRM did not have any local features dedicated to this topic. For this reason, and to increase its local presence during the broadcast of NPR's Morning Edition, PRM was interested in adding a new weekly feature, a feature that came to be known as Farmweek on PRM.

Ag Communications Enters the Picture

Programming officials at Public Radio in Mississippi (PRM) approached the Office of Agricultural Communications (OAC) in the summer of 1996 with the opportunity to produce a weekly feature focusing on the state's number one industry - agriculture. OAC immediately recognized two golden opportunities that the PRM affiliation would provide: first, another excellent vehicle for Mississippi State University specialists and scientists to use in presenting useful information and advice, as well as another excellent vehicle to tell what private citizens have accomplished in agriculture; second, an excellent means to cross-promote the already-successful Farmweek telecast on Mississippi ETV

each Thursday evening, and to put this highly informative broadcast before a new audience, one that may not ordinarily choose to tune-in to the television program.

Farmweek on PRM Becomes Reality

On September 5, 1996, Public Radio in Mississippi (PRM) began airing a 4 minute version of Farmweek each Thursday morning at 7:06 a.m. and 8:06 a.m. during local availabilities in Morning Edition. Each week's radio segment on PRM is devoted to the feature story that will be airing statewide that night at 7:00 p.m. on the television version of Farmweek. The feature-type material easily lends itself to presentation through the medium of radio in an interesting fashion. At the time, private citizens are explaining what they have accomplished, and Mississippi State specialists are able to present helpful advice and information directly to a state-wide audience. The announcer tag at the end of each week's radio segment alerts the PRM audience to the fact they can tune-in to Farmweek on ETV that same day at 7:00 p.m. to actually see the subject matter and find out even more.

Impact - the PRM Perspective

After one year of broadcasting Farmweek on PRM during Morning Edition, PRM executives remain positive about their decision to add the weekly feature segment. PRM's Kevin Farrell says, "The good thing about Farmweek is that it is not just a listing of prices and statistics. The segment takes agricultural related issues and presents them in a way that is of interest to a broader audience." Farrell says PRM listeners seem to appreciate the stories and the way they are well-produced. "Personally I appreciate the way Leighton Spann and Artis Ford (Farmweek co-anchors and Farmweek on PRM producers) take time to make sure that the story "works" on radio," says Farrell. "It's not just a TV story without the pictures." Since the Farmweek / PRM affiliation is so recent, no conclusive, random sample survey has been conducted yet to determine the impact and effectiveness of the state-wide radio features. The fall 1996 Arbitron ratings for the Jackson, Mississippi, metro area (representing the area covered by only one of the 8 FM transmitters making-up the PRM network) indicated that the average listeners per quarter hour were 3100. This represents the 8:00 - 8:15 a.m. quarter hour (when a Farmweek on PRM feature is broadcast). This represents listeners 12 years old and up. Public Radio in Mississippi says that during an average week, more than 100,000 listeners tune to PRM across the state of Mississippi.

Impact - the OAC Perspective

Informal research by the Office of Agricultural Communications indicates the radio feature segment on PRM is definitely hitting an audience that does not normally watch Farmweek on television, and therefore does not normally hear about agriculture and the work underway in the Division of Agriculture, Forestry and Veterinary Medicine at Mississippi State University. For OAC, it appears that both opportunities outlined above are being realized, and that the PRM affiliation is an excellent cross-promotion opportunity for the television broadcast Mississippi State University. While the radio production may not result appreciable, long-term gains in the television program's estimated regular viewership of 198,681 adults, it should definitely increase awareness and understandingof agriculture in Mississippi and the work of the University.

For OAC, Farmweek on PRM is indeed a new idea that'sworking, without the addition of new personnel or equipment.The basis of the radio production is the audio track from the Farmweek field Betacam SP videotapes. The only cost involved is additional man-hours for the actual radio production, and the cost of transporting the tape each week from Mississippi State University to PRM studios in Jackson. The actual run-time on the Farmweek on PRM feature is generally 3 minutes 15 seconds to 3 minutes 20 seconds. The intro and tag for each week's feature, which are read by PRM announcers, take-up the remainder of the 4 minutes of air time. The radio feature is produced on Betacam SP videotape, with the audio mixed-down to channel 1, and the videotape is then shipped to Jackson. PRM personnel transfer the audio from the videotape to Digital Audio Tape (DAT).

Conclusion

In Mississippi, Farmweek is easily recognized as the name of a television program providing accurate and timely information about the state's number one industry, agriculture. That's because Farmweek has aired weekly in prime time on the Mississippi Educational Television Network since 1977.

After only one year, Farmweek on PRM is becoming recognized as the name of a radio program that takes one area of agriculture in Mississippi each week and presents a story that is of interest to a broad general audience. By almost any standard it would be safe to call this production by the Office of Agricultural Communications at Mississippi State University a success story. For the producer of the radio feature segment, the Mississippi State University Extension Service, Farmweek on PRM is a new vehicle for specialists, county agents and research scientists to use in presenting practical information through the actual experiences of private citizens. In addition, the radio feature is turning out to be an excellent cross-promotion of Extension's popular Farmweek television program.

For Public Radio in Mississippi, which airs Farmweek on PRM, the weekly feature segment has successfully accomplished 2 goals in its short time on the air. Farmweek on PRM has increased the network's local presence during Morning Edition while providing quality coverage of Mississippi's top industry, agriculture. In addition, the segment has been the source of many positive comments for the programming aired by Public Radio in Mississippi.

The affiliation between Public Radio in Mississippi and the Office of Agricultural Communications is a partnership that is working, not only to the benefit of each party but to the benefit of the Extension Service and agriculture in Mississippi. This model is one other states may want to consider implementing, particularly where there is a regular television program already in place to provide the basis for radio feature material.

Facing the Digital Pre-press Challenge

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Background

When Gutenberg cranked up the first printing press back in the 1450s, he founded an industry that remained pretty much unchanged for the next 500 years or so. It wasn't until the middle of this century that the first major change occurred in the way a printed page was created. That's when we shifted from mechanical to electronic typesetting, and from letterpress to offset printing. Many of us are old enough to remember just how dramatic that change was.

In the last 2 to3 years or so, the industry has undergone another change of almost the same magnitude. That is, of course, the shift to digital pre-press production. Paste-ups, camera-ready hard copies, cameras and stripping have largely become relics from the past. Almost overnight, it seemed, printers were asking us if we could send our jobs to them on disk for direct output to film.

In Texas, the group within Agricultural Communications that produces Extension's educational publications is known as Educational Media Ed Med for short. Among us there are three editors, two typesetters, three artists, and one person who manages electronic publishing. As the digital revolution unfolded, we found ourselves groping along by trial and error. And there were a lot of errors!

- **Images were sent in the wrong file formats. Some printers wanted only tifs or jpegs. Others could also handle gifs and eps files.**
- **It was difficult to know that all the necessary elements were contained in a file, so often fonts or images were left out and had to be sent to the printer later on.**
- **Images were accidently set up in RGB instead of CMYK.**
- **ProMatch colors weren't set up correctly, and printed out as a fifth color instead. Naturally we were charged for the extra film.**
- **Sometimes two-color jobs were inadvertently set up as four-color, and, on film, separated into CMYK.**
- **Layouts for crops, folds and bleeds weren't accurate. It's hard to tell if they're correct on screen unless you zoom in very tight. And, of course, you have to know to check them in the first place.**
- **Image resolution was often too high or too low.**

- **Our attempts at color correction were often hit or miss because we didn't understand how to measure color percentages and set them up within the tolerances required on a press.**

These kinds of errors cost us money and time. What we didn't realize in the beginning, but learned over time, was that our printers often didn't know much more than we did. Their people were also learning the new technologies, and were as much victims of the digital revolution as we were. I'm assuming that many of you have had similar experiences. If so, our list of errors may sound familiar to you, and I'm hoping that you'll benefit from what we've learned.

Getting the Right Training

Like most publishing operations, we use a variety of software programs. One of our typesetters uses PageMaker, the other QuarkXpress. Both are self-taught. and very good at what they do. They also scan and place graphics and design simple page layouts. The artists use Quark, PhotoShop, Illustrator and FreeHand, primarily. One also uses PageMaker. A challenge we faced was learning how best to integrate various programs in a single digital file. We often have typesetting done in Quark, photos scanned in PhotoShop, and other images created in Illustrator.

We knew we needed training, but weren't sure of the best way to get it. Last year we sent one of the artists to a commercial PhotoShop seminar in hopes that he would learn more about pre-press production and be able to share it with the rest of the group. However, he was disappointed in the quality of the class, which concentrated more on the various bells and whistles in the program than on using the program for production work.

Providence smiled on us when we learned of a man in our area who offers training in pre-press production. We checked out his credentials very carefully, and were quite impressed. Not only has he trained the production staffs of a number of publishing houses, including Texas Monthly (a magazine similar in size and format to Southern Living), but he's also trained the staffs of a number of the printers we work with. They all said he had helped them tremendously, so we contracted with him for two full days of training in our department. His understanding of both what printers need and what production people can achieve set us on the right path at last. The following highlights from our training follow the production process from beginning to end.

Integrating Type and Design

We learned that printers prefer Quark to PageMaker because it is a more sophisticated and flexible type handling program with features that make for better digital files, as we'll see later on. To improve the printing of Quark files you should take "Background Printing" off in Chooser. Don't use True Type. It gives imagesetters trouble, doesn't RIP well, and some preflighting software can't handle it. It also adds overhead to the RIP process. Adobe Type Manager is a better way to manage type than just having all your fonts loose in a folder. If you rotate text boxes in Quark, always rotate in whole numbers rather than fractions; also, do not rotate images in Quark do that in PhotoShop. Both these recommendations will save time when the file is RIPped at the printer, and saving time saves money. A printer may charge for more

than 15 minutes RIP time per page.

If you're using a Pantone color, set it up in either your graphic program or in Quark, but not both. The same Pantone color created, for example, in Illustrator and in Quark will be different and will produce different pieces of film. It is usually best to do color separations in Quark.

Trapping is often a problem for printers and designers. A glance through any color magazine will yield examples of poor trapping. Trapping, of course, is the built-in overlap of colors so that there is no gap between them when they are printed. This is usually accomplished by sliding the lighter color under the darker. Trapping is necessary because it's easy for colors not to meet if the press alignment is off a bit or the paper stretches. The designer should look for possible problem areas and do whatever trapping seems necessary. However, we learned that the final responsibility for correct trapping always lies with the person making the film, and in our case that person is at the printer. Film should be output to the specific requirements of the press that will be used to print the job, and trapping is part of that process because the required tolerances could change from one press to another. We've had printers say that trapping is our responsibility. Now that we know different, we'll be including a line in all our printing estimates that says: "Printer to be responsible for all necessary trapping."

Scanning and Color Correction

There are three steps in scanning: capture, color evaluation, and color correction.

Capture an image at 150 line screen (lpi), which equals 300 dots per inch (dpi) or pixels per inch (ppi). For line art all you need is 400 dpi. This will give you high quality. Make sure the pixels are twice the line screen. Pictures should be scanned with 25 percent leeway as to their final size. If in the final layout a picture is not within the 75 to 125 percent range, it should be rescanned or resized in PhotoShop.

Of course, your scanner must be properly calibrated in order to have a starting point for producing colors. Also, the RGB color of a scanned image as you see it on your monitor must be transformed to CMYK (cyan, magenta, yellow, black) color that will actually print. Doing the transform function in Quark makes the black too heavy. PhotoShop is where the transform should take place, and that means that color tables in PhotoShop need to be set up to specify CMYK properly.

Once you have captured an image you evaluate the color. Never rely on what your eye sees on the monitor. The only way to evaluate color accurately is by using the PhotoShop densitometer. Place the eyedropper tool in a neutral area of the image and check to see what the percentages of CMYK are in that area. They should be in balance. If there are skin tones in the photograph, use a mid-level skin tone as an area to evaluate. Flesh tones should be an almost equal balance of magenta and yellow, with slightly more yellow. This is the cast that looks most appealing when the photograph is printed.

To correct color, we learned, you should not use the "brightness" and "contrast" scales in PhotoShop. These are useless if you are striving for high quality work. Instead, you use the densitometer to change CMYK percentages and balance. The PhotoShop InfoBox shows you the

percentages of each color. Besides correcting skin tones, you should evaluate highlights, midtones and shadows. Add color to highlights, if necessary, so that they have at least 5 percent end dots, keeping them a neutral gray made up of equal percentages of cyan, magenta and yellow. Likewise, make sure the value of shadows is no more than 90 to 95 percent. Shadows that are too dark and highlights that are too light give the pressman no flexibility with which to adjust color on the press should that be necessary.

Another thing to remember is that the angles of the dots must be changed so that the inks don't print at the same angle. When the angles of color dots conflict you get a moire or patterning effect. Even with two inks, as in a duotone, the dot angles of the inks should not be same.

File Preparation and Preflighting

Our trainer suggested a way of organizing our work so that we can systematically build the files needed for each job, and then make sure that they will output correctly to film. We've now implemented this process. The editor puts the edited manuscript on our publishing server in a folder created for that job. The artist makes a copy of that file and designs the publication with the initial specifications. When he's through he puts that file in the job folder on the server. Then the typesetter accesses that file and sets the type while the artist is scanning images or creating illustrations. When the type is set the artist adds all the artwork. At this point, using Adobe Acrobat, we're going to create a pdf (portable document file) to use as a proof to go out to the author. We already use Acrobat for our Web publishing, but we hadn't thought of using it to create proofs as well. If the author makes changes the editor will incorporate them into the file that contains the original manuscript and the typesetter will add them to add to the composite file.

When the publication is complete, it's time to preflight the file a process that ensures it will output correctly. Preflighting is also done at the printer, but the object is to catch problems before you send the job to the printer. This has been a tricky process for us in the past. The key is to collect all the various files and fonts needed for the job. Keeping all the files we build in a working folder as we go along will help. We learned that QuarkXpress has two excellent features to help with preflighting and we've begun using both of them. The first is a plug-in called Font Corral, which gathers all the fonts specified in your publication into the folder with your publication and image files. The second feature is called Quark Report. It acts as an elementary parser that checks your file and prints a report about it. The report lists all the elements found in your file. With it you can check that all the fonts, image files and other elements you need are actually there.

One of the most interesting things we learned was how to use Acrobat Distiller as a RIP. First you write a PostScript file from your Quark document. Then, in Distiller, you use the Prologue and Epilogue program to write a high-end pdf. This is a very effective preflighting technique, because if Distiller can write the pdf successfully your file has been prepared correctly and no parts are missing.

To really feel secure about the integrity of your files, however, it is best to use a regular preflight software program. The one we have invested in is FlightCheck Pro, which not only tells you

what is wrong with your file, but also how to fix it.

What to Send the Printer

We had been guilty of sending the printer too little information to work with just the digital file (which might or might not contain all the fonts and images) and perhaps a print-out straight from Quark. So one of the most important lessons learned from our training was to always give the printer every piece of information he might possibly need.

At the end of the production process we have an assortment of files in our working folder for the publication. On a Zip disk we put the publication file, all the font files, all the image files, and the Quark Report (the Report's list of file contents is helpful to the printer also). In addition, we send along a composite proof, a separated proof, and a color proof. At least one of those proofs should be full size; the rest can be shrunk to fit a convenient page size. The proofs printed at less than 100 percent should be marked as to their percentage reduction.

(At the same time that the job goes to the printer, we create the final pdf for posting on the Web.)

Proofing

With this new technology, we were sometimes confused about what kinds of proofs to ask for from the printer. And since printers use different kinds of imaging systems, they sometimes have different names for proofs. Now we understand that what is commonly called a "Rainbo" proof is a digital proof made from the file you send the printer. It's the proof you get when an Adobe RIP is used to make a color composite. The color is close to what you'll see from the film, but not exact, so you can't proof for precise color quality from a Rainbo. If you need to see exactly what the film will produce, ask for a laminate proof, which is a proof made from the film itself. It gives a very good representation of what you will see in print. Some printers may have the new high-end Polaroid proofing system, which can even produce a proof on the actual paper that will be used to print the job.

If you don't have access to a good color laser printer with which to do your own digital proof before the job goes to the printer, then you may want to request a digital proof such as a Rainbo. If you can produce your own digital proof, there is no need to ask for the printer for one.

Although it is essential to have a high quality color proofing monitor with a light shield attached to your scanner, it is only when you see a good quality proof that you can tell if your color quality and balances are what you want. Color is extremely subjective. We learned that your perception of color can change if you have eaten certain foods or if you have hay fever! Color proofs must be viewed under light calibrated to 5000 degrees Kelvin the standard for judging color. Most printers have such a light booth, but of course we don't. It's good to remember this if you have a picky client who sees a proof and wants to make color corrections. You should tell him that the only way he can be sure of an exact color is to go to the printing company where he can view the proofs in a light booth and, if he wants any changes, be prepared to pay about $200 per page.

Other Tips

Perhaps the overall lesson from our training was the importance of working closely with printers and doing all we can to foster a sense of teamwork so that we get the quality of production that we want. While we've always had very good relationships with our printers, I'm sure they have been frustrated with us from time to time, as we have with them. We can make things easier for ourselves and for them by providing more information at every step in the process, and by being consistent in the way we manage pre-press production. Beginning with writing the specifications for the printing bid or estimate, it's a good idea to include phrases such as "Printer to be responsible for trapping." That eliminates surprises and finger-pointing later on. It's also a good idea, if possible, to send a print-out (color, preferably) along with the bid request. Also on the bid request, spell out exactly what materials you will provide: digital file, separations, composite proofs, etc. Specify the kind of proof you want the printer to give you digital or laminate. If your job calls for printing colors in very fine detail, you should probably ask for stochastic screening, a process that creates dots rather than the normal rosette pattern.

Most important of all, we should ask printers to tell us about any problems they encounter with our jobs. That kind of feedback will be enormously helpful as we continue to master digital pre-press production. And we must master it, because the next wave of the digital revolution is on the way. It may not be too long before most printers will have direct-to-plate output for our digital files. When that happens, all responsibility for file creation and proofing will rest with us, and the printer will simply output what we provide. Wouldn't Gutenberg be amazed!