

Remarketing the Drought to Georgians

A Paper Presented to the Southern Association of Agricultural Scientists
Agricultural Communications Section
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Background

In late April, 1999, University of Georgia College of Agricultural and Environmental Sciences' administration recognized the need to get information about the ongoing drought to Georgians. In short order, and with assistance from the Education, Communication and Technology unit's marketing strategists, they decided that a Web site would be an effective tool to disseminate, sort and store information to help Georgians understand and get through this ever-worsening drought.

At the time, ECT news editors had already been producing news articles about the drought and scientists had prepared information on coping with the drought, so content was ready to go into a site. In three days, a site structure was developed and the site premiered on May 4, 1999. Time for design and well-considered structure were simply not available; the site had to be ready for a pre-planned drought press conference. The result was a site that provided information mostly for county extension agents and personnel in other state agencies, who then used their media and personal contacts for distribution, and Georgia scientists and their peers, who used the empirical data.

The CAES drought information Web site <http://www.griffin.peachnet.edu/caes/drought> had become a clearinghouse of scientific and practical information about the drought and its effects on production agriculture, the rural economy in Georgia and even homeowners' landscapes. But users were fairly scarce; county extension agents and scientists' peers were our primary visitors. Consumers and homeowners apparently didn't want to hear/see how the drought was affecting the state's economy, rather they needed information to help them cope with the drought's effects in their lives. In addition, the vast majority simply didn't know about the depth of information available from the CAES on the Web. This was a huge potential audience who were more clearly and more deeply seeing the drought's effect in their lives.

On June 5, 2000, the Georgia Environmental Protection Division announced a mandatory outdoor watering/water-use ban in 15 metro Atlanta counties. By June 19, statewide outdoor water use bans and restrictions were announced. These restrictions, mandatory for the households in more than 2,500 municipal water systems in Georgia and voluntary for the thousands of private well owners/users in the state, affected more than 2.5 million households.

Method

Through 1999 and into April 2000, the site's structure and design gradually changed as drought conditions in the state waned and then deepened. New information was added on an "as available" basis, rather than a regular schedule. Information from the state climatologist was written as conditions changed and ECT editors wrote articles that were seasonably desirable for media outlets.

By May 2000, a designer had been working on the site with the primary editor to unify the content as well as

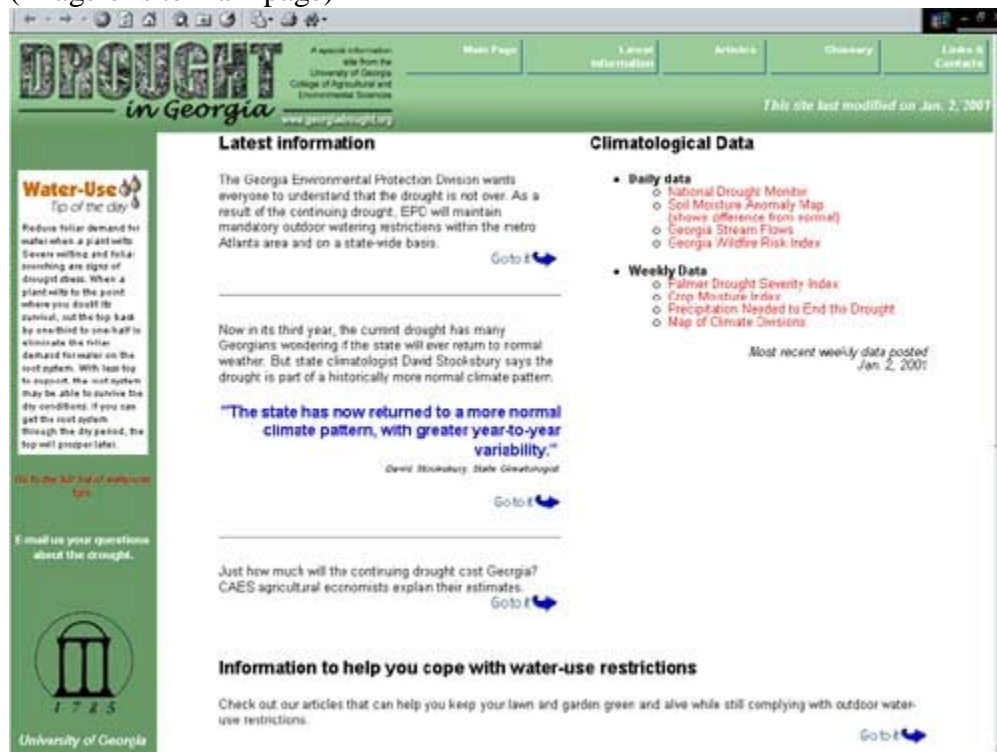
create a more pleasing look. We determined that the single factor that would make the site more marketable was a simpler URL.

In a meeting with the program leader for CAES Agriculture and Natural Resources, the Crop and Soil Sciences department head and an ECT marketing strategist, we laid out a marketing plan in late May 2000. The plan included strategy and tactics to reach homeowners, particularly urban homeowners with information about the drought and its effects on the entire state.

Plans included:

Redesigning the site: Restructuring the content to make navigation simpler for less sophisticated users and creating a new site title (Drought in Georgia) and logo that was more reflective of the entire drought situation and included the new (primary) URL. The old title (Drought '99 and '00) didn't accurately reflect the ongoing drought's intensity and length. The title design was more hard agriculture rather than reflecting the drought's impact on all facets of life for the entire population.

(Image of site main page)



Marketing the site to county extension agents in urban and suburban areas at regularly scheduled meetings. Marketing pieces included flyers and brief presentations about the site and its content.

More direct marketing to media outlets. Direct calls to editors and the inclusion of the new URL in news pieces made it easy for them to see the wealth of information available that they could give to their audiences.

Purchasing a new set of URLs to reflect the breadth of the site and to make it easier to market to users. We chose www.georgiadrought.com, [.org](http://www.georgiadrought.org) and [.net](http://www.georgiadrought.net). The [.org](http://www.georgiadrought.org) and [.net](http://www.georgiadrought.net) extensions more accurately reflect our institutional/education status, but too many users automatically use the [.com](http://www.georgiadrought.com) extension to forego purchasing it as well. All three URL's redirect to the "true" URL on our Griffin server.

Compiling data into fewer graphics to make the information more easily accessible for media, scientists and

other consumers.

By the June 5 metro Atlanta and June 19 statewide water use ban and restriction announcements from the Environmental Protection Division, the URLs were purchased from Network Solutions at a total cost of \$144 and had been redirected to the old URL. The site had been redesigned to its current look, navigation had been streamlined to include constant links at the top of the page to the main page, the latest information, the glossary, the articles and links and contacts. The addition of a JavaScript-based "Water-use Tip of the Day" keeps the site fresh daily as well as provides useful information that users can see at a glance. Currently the tips are being updated for winter conditions and plants and household tips are also being added.

At the press conferences to announce these restrictions and at others with similar topics, the state climatologist a joint employee of the UGA College of Agriculture and Environmental Sciences and the EPD gave the new URL as a source for current and breaking information as well as a resource for historical data and archived articles to help Georgians deal with the ongoing drought.

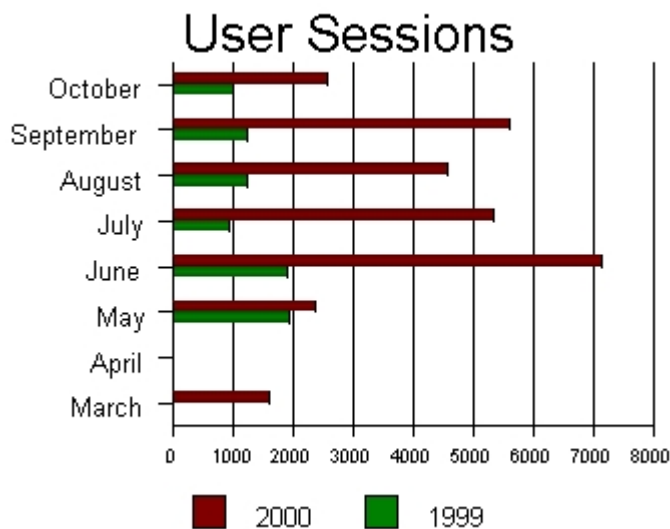
Results

The new site title "Drought in Georgia" and the new URL(s), <http://www.georgiadrought.com>, [.org](http://www.georgiadrought.org) and [net](http://www.georgiadrought.net) were not only easier to market, but also reflected the ever-increasing amount of information the site contained from sources other than the CAES. We are cross linked and included information from the Georgia Department of Agriculture, the Environmental Protection Division, Georgia Farm Bureau Federation and National Oceanic and Atmospheric Administration.

In June 2000, with coordination from the state climatologist, the Georgia Department of Natural Resources began sending their press materials to our site for release, as well as releasing it on their own site. In July, 2000, Drought in Georgia had active links from the CAES News Center, Access Atlanta (The Atlanta Journal Constitution on-line version), UGA Today, the Georgia EPD, Georgia Department of Agriculture, USDA, NOAA and many others. Many stories from ECT editors about the drought and/ or its effects that were published in newspapers and magazines referred readers to the site for additional information.

As county agents and media began to spread the new, shorter URL, we saw user sessions on our main page increase dramatically. In the abstract proposed for this paper, preliminary numbers indicated an estimated increase of user sessions of more than 900%. Later, more accurate data showed an actual increase of 275% from June 1999 to June 2000 and 479% from July 1999 to July 2000.

(Table 1)



We also know anecdotally, that many of our users have pages within the site bookmarked and go straight to the specific information they want and bypass our main page.

In addition, we know that visitors that come to the site are staying there for the content. WebTrends software tells us how long users stay at our pages. For instance, we know 5,348 people came to our main page and stayed there an average of 1 min. 35 sec. Interestingly enough, the users spent most time at our page of FAQ about the watering bans and restrictions.

(Table 2)

Most Requested Pages on the Griffin Server <http://www.griffin.peachnet.edu> July, 2000

Rank on server	Page title/URL	Visitor Sessions	Avg. Time Viewed
1	Drought 2000 -- Special Info from the UGA CAES http://www.griffin.peachnet.edu/caes/drought/	5,348	00:01:35
6	General Info -- Drought '99 UGA CAES http://www.griffin.peachnet.edu/caes/drought/General.htm	1,297	00:01:36
16	Links Outside "Drought in Georgia" http://www.griffin.peachnet.edu/caes/drought/links/ndmlink.htm	562	00:00:17
18	Drought in Georgia Links http://www.griffin.peachnet.edu/caes/drought/links/ndm.htm	543	00:01:19
21	Links Outside "Drought in Georgia" http://www.griffin.peachnet.edu/caes/drought/links/sfmlink.htm	521	00:00:33
23	Links Outside "Drought in Georgia" http://www.griffin.peachnet.edu/caes/drought/links/smaplink.htm	493	00:00:25
24	Drought in Georgia Links http://www.griffin.peachnet.edu/caes/drought/links/sfm.htm	486	00:01:24
25	Drought in Georgia Links http://www.griffin.peachnet.edu/caes/drought/links/smap.htm	479	00:00:55
33	UGA CAES Drought Information http://www.griffin.peachnet.edu/caes/drought/articles.htm	366	00:01:09
36	Links to More Information -- Drought UGA CAES http://www.griffin.peachnet.edu/caes/drought/contacts.htm	331	00:03:24
39	Palmer Drought Index Map -- Drought '99 UGA CAES http://www.griffin.peachnet.edu/caes/drought/palmermap.htm	322	00:03:08
40	Links Outside "Drought in Georgia" http://www.griffin.peachnet.edu/caes/drought/links/gwfrlink.htm	317	00:00:27
41	UGA CAES Drought Information http://www.griffin.peachnet.edu/caes/drought/articles/FAQ.htm	286	00:03:35

46	Drought in Georgia Links http://www.griffin.peachnet.edu/caes/drought/links/gwfr.htm	276	00:00:51
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This data is continuously updated by WebTrends software in place on the server housing the Drought in Georgia site. As would be expected, our user numbers are down during the winter months. However, we still get an astonishing number of questions to our e-mail address drought@uga.edu, primarily asking about exceptions to the EPD watering restrictions or reporting on households defying the bans and restrictions. We also respond to many questions about historical drought data.

Conclusions

The "Drought in Georgia" Web site has been a success in making drought information and data available to homeowners, commercial agriculturists, scientists and media. Our efforts to adjust our target and market the site to a homeowner audience has been successful as demonstrated by the marked increase in user sessions after the premiere of the new URL and the initial efforts to market it through press conferences and media placements.

As drought conditions continue across the state, we plan to continue the maintenance of the site, updating data and releases as they become available. As new conditions warrant, media alerts and news items will contain basic information and the URL for additional information.

As with any project, we can look back and identify problems and parts that we would have done differently. For this site, we certainly would have allowed initial planning time at the beginning of the project, if it had been possible, rather than redesigning and remarketing it in mid-stream.

In addition, the Drought in Georgia site will be part of a site containing information to help our population prepare for and recover from any type of natural disaster.

It's Now a Laughing Matter: the Texas Agricultural Extension Service Makes Serious Business Out of Humorous Campaigns

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Background

What Would You Do Without It?

Frowning kids sit glumly on an inflated dolphin at the bottom of an empty swimming pool. A man appears desperate in front of a row of "out of order" restroom stalls. A young man looks overwhelmed by piles and piles of dirty dishes. The photographs reinforce a poignant question: What would you do without it?

In this case, the "it" is water. In Texas – which faces a serious water crises – we needed to get a message out. At this time, we aren't going to run out of water, but we are facing serious shortages in some areas. Water also is becoming very expensive. Texas' surface water resources are limited and its groundwater resources are being depleted. In the year 2050, the state's projected water demand is expected to reach nearly 21 million acre-feet, but supplies are expected to be only 15 million acre-feet. The Texas Agricultural Extension Service needed to mount a water conservation campaign, and the 2000 What Would You Do Without It? campaign was born.

Farmers and ranchers in Texas are well aware of the water shortage; however, urban residents had not gotten the message yet. Urban dwellers, at that time, had been a secondary audience.

We felt there were too many tired, "Thou shalt not" messages out there, and people weren't paying attention to them. A fresh approach was needed, especially since this was an urban audience. We couldn't use the same methods we had used with the rural audience.

Also, we were aiming to make people think about the issue without lecturing them on what to do. We figured humor was the way to go. The material had to be designed with a more contemporary look to compete with the thousands of messages already out there and to catch the attention of a more sophisticated audience than the Extension service had reached previously.

See No Weevil

Eradicating boll weevils from cotton fields is an expensive and lengthy process-one that has met much opposition among many groups in many different parts of the state. Last summer, the program had been going on in parts of the state long enough to actually see a difference. The Southern Rolling Plains of our state was just an official declaration away from being labeled "weevil-free". Scientists, specialists and farmers all know that being declared weevil-free is not enough, they must remain that way. We were asked by the Texas Boll Weevil Eradication Foundation to create a plan of action to make both ginners and producers aware of the

importance of keeping equipment and fields clean and to alert them to the dangers of contamination between zones. There was our problem and opportunity: how to come up with a campaign that can get the attention of both ginners and producers and get the point across.

Method

What Would You Do Without It?

We developed 2,000 sets of posters, 500,000 bill stuffers, and 60,000 educational and marketing brochures. A Web site at <http://savetexaswater.tamu.edu> pointed browsers to further information; there were 567 requests for pages during April 2000. We had started with a budget of less than \$10,000; administrators were able to move more money into the effort for printing, and we spent approximately \$25,000 for the entire campaign. Five news releases were written and released prior and during the month-long campaign (from mid-April to mid-May), with continuing coverage of water shortages and research and the drought of 2000.

Additionally, a new water logo was designed, and plans are to use it in every Ag Program-based water campaign in the state.

The primary targets were the top 13 populated counties in the state. County Extension directors were the primary contacts, but materials also were offered for use in every county in the state. County agents told us how many copies they would need, and we sent the copies directly to them.

We took a more serious approach in what we called the Texas A&M Agricultural Program's Water Efforts and Impacts publication. More than 5,000 were printed and were sent to all counties. They were utilized heavily in the month-long campaign. Extra copies were printed for in the legislative session which began in January; it was distributed to members of the state's natural resources committee.

We thought our biggest obstacle would be getting the preliminary work past the administrators who had asked us to develop the materials in the first place. After all, this was a sharp deviation from the business-as-usual Extension campaigns. However, we faced more criticism from county directors than administrators. One district director was critical of the fact we used the Ag Program water logo and did not use the Extension logo. However, one of the biggest praises came from the county director here in Fort Worth, who quoted a Gen-X'er in the office as saying Extension had finally come to the new millennium.

Our success hinged on our ability to find arresting photographs that would leap out and grab people's attention. We found stock photos, but their high cost limited us to choosing only two. As it turned out, photos for two of the posters were shot by an on-campus photographer.

We also had a extremely short turnaround time -- only a month -- to produce and distribute the huge quantity of materials to participating counties and cities. The internal hoops and paperwork also posed another major obstacle.

See No Weevil

First of all, we needed to know what kind of information was already coming across the table to both groups. What are we up against? Are we going to have to break through a lot of clutter and glossy, high-dollar campaigns? The answer was yes. By visiting area gin offices and co-ops we found that their bulletin boards and walls were plastered with information--and not just posters of rules and regs and new laws, but also flashy posters from chemical and implement companies. We also know that farmers are very well read. We know

that they are up on the latest trends, and we saw the clever ads that companies like Novartis and Cargill were lining the pages of trade mags and journals with.

So.... what could we do to grab the attention of our audience and get our message across? We decided to use a humorous approach coupled with the use of monochromatic color schemes and old photographs. We thought the bland colors would actually stand out against the bright, flashy ads and posters that line the bulletin boards of the FHA office and the local gin. We also wanted an off-size poster. The ginner that I talked to told me that they are bombarded with so much information and 'junk' that a smaller poster would have a better chance of actually making the cut to get on the board. So, we went with it, making our posters 18" by 20", smaller than the average poster size, but big enough to see across the room.

Why did we do it this way?

Originally we wanted to have a picture that looked it could have come out of any farmer's family photo album. We wanted to accomplish two things. First of all, we want the audience (producer and ginner) to relate to the picture. Secondly, we want them to wonder what that has to do with boll weevils.

The original idea came from the catch line- "keep it clean boys' with a photo of boys wrestling or fighting in a duty field circa 1920s. But once I spotted the dust bowl picture, I knew which way the campaign should go. Not only would farmers-especially in the plains where we kicked off this campaign- relate to this photo, but the dust cloud was a great visual for 'infestation'. We used the catch line, "If only it were this easy to see boll weevils coming" and the slogan for the campaign became "See no weevil". We used the same copy on all the posters, only the photographs and catch lines changed.

Our second poster uses a photograph of two carpetbaggers and the catch line "Anyone can be a carrier of boll weevils". It may sound a little suggestive, but after moving in closer and reading our copy on the poster the audience will get a clearer picture.

"We got rid of them, now we've got to keep them out. That means never move farm equipment or raw cotton products from an infested zone to a clean zone without knowing they're weevil-free." We wanted the audience to think "what does this have to do with boll weevils or my field?" and judging the feedback we've received, the posters accomplished that.

The third poster in the series uses a picture of a couple playing cards and the catch line "We're still dealing with boll weevils". This poster was especially well received by ginner and producers in south Texas, where growing cotton is always a gamble.

The posters were complimented with informational brochures. One brochure was designed for ginner and the other for producers.

The most important question to ask about the materials is do they convey the intended message to the audience? We shouldn't ask them if they like the design of the posters, or even if they find the posters funny, what we want to know is does it get the point across. And the point we are trying to make here is that, just because a field or zone is declared weevil-free does not mean the producer and ginner can rest easy.

Results

What Would You Do Without It?

We did not do pre- and post-tests because of our extremely short turnaround time. Money also was a limiting factor. Additionally, because the materials were used in many different ways and at different times over several months, it would have been difficult to determine results as well as identifying end users.

Posters and marketing brochures were used in shopping malls.

We did get requests for materials from water departments in El Paso, Midland, Fort Worth and Dallas. That's a high compliment when they also produce their own materials. Also, the bill stuffers were used in the paychecks of faculty and staff of most Texas A&M System schools and agencies.

Ann Cole, now-retired Extension communications specialist, Penny Banks, Experiment Station communications specialist, Jeanna Pool, graphic artist, and Edith Chenault, Extension communications specialist came up with the basic premise behind the campaign, the list of materials needed and the budget. Pool designed the posters and marketing brochure and publication, and Cole, Banks and Diane Bowen, Extension communications Specialist, wrote the posters' copy. Banks wrote the individual success stories in the marketing publication, while Chenault and news team wrote the news releases.

See No Weevil

Because we are not actually spearheading this campaign- we just provided the campaign materials, our results are limited at this time. This campaign rolled out at the declaration of the Southern Rolling Plains as an eradicated zone in July. As other zones reach this status the materials will be used more widely. The materials are actually being distributed by the Texas Bowl Weevil Eradication Foundation. The materials were very well received by the Foundation as well as producers who have seen them and Texas Agriculture Commissioner, Susan Combs, who was pleased by the timeliness and quality of our work.

EXTENSION EDUCATORS' ASSESSMENT OF TECHNOLOGY PROGRAMS, USES, AND TRAINING IN OKLAHOMA

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Background

ABSTRACT

This paper examines the use of computer technology and programs used in the Oklahoma Cooperative Extension Service. One Extension educator was surveyed from each county to determine what kinds of technology and computer programs were available. The study also assessed the use of on-line communications resources, training, and computer use. Analysis is based on a 91 percent response rate. The study was performed using e-mail, fax, and the Internet. Results indicate that most county educators' primary use of the computer is for word processing, they are comfortable using technology and consider it important to their jobs, and that there is a lack of training. There were an overwhelming number of additional comments about the importance of technology, lack of training, and the importance of print vs. on-line publications. Results of this survey will bring about changes in computer literacy and technology. It raises awareness about the frustrations that some Extension educators feel toward technology and the importance of on-line communication resources.

BACKGROUND

The Cooperative Extension Service

The Cooperative Extension Service evolved from a threefold arrangement of cost-sharing by local, state, and federal governments (Gerling, 1982). "The term 'cooperative' has its origin in the passage of the Smith-Lever Act of 1914, which specifies that the work shall be done 'in cooperation with the United States Department of Agriculture and shall be based on a mutually agreed upon plan of work'" (Morales Osegueda, 1997). The Smith-Lever Act produced the "county agent system" which is known as the Cooperative Extension Service (Fite, 1988). The Cooperative Extension System helps people improve their lives through research-based information delivered in an educational process (Rasmussen, 1989).

New technologies evolve and so do new methods for using old technology. These new technologies and methods are delivered to the public through the Extension Service (Sanders, 1966). With new electronic forms of communications technology available for disseminating information, demands are placed on Extension personnel to improve their communication effectiveness by increasing the use of new technology (Adekoya, 1984).

There are two ways that have been identified as opportunities for Extension personnel to gain practical technology skills. They are (1) in-service training programs; and (2) electronic communications workshops designed to teach technology skills (Adekoya, 1984).

According to an ECOP subcommittee on personnel training, staff members need in-service training and experiences to assist them with:

(1) developing technical competencies to keep them ahead of changes; (2) exploring educational and technological content to extend personal competencies; and (3) taking a broader view of their functions and responsibilities and utilizing up-to-date approaches in carrying out responsibilities (1977). Training extension personnel in the use of electronic communications technology is beneficial when incorporating the technology in the micro-training framework (Hargie and Sounders, 1981).

Baird and Mason (1982) stated that:

Most of the attitudes hindering full acceptance of a new communication technology centers around a common, albeit difficult-to-acknowledge human reaction to change: Fear of the unknown, fear of failure, of inadequacy, fear of loss of power. In addition, there may be risks in giving up old comfortable habits both psychological and social (p. 282).

In 1984, Adekoya performed a study of Oklahoma County Extension educators. Only 16 county offices had microcomputers at that time. County educators predicted they would use electronic communications (microcomputers) often in the future. One of the problems predicted for using electronic communications was that of standardization between counties, availability of the equipment, and lack of training. Microcomputers were the least likely form of electronic communications anticipated to be used for conducting leadership training activities, educational meetings, and club meetings. Computers were anticipated to be used mainly while Extension educators conducted client visits at the office. Educators indicated that the use of electronic communications equipment helped disseminate education and meet extension objectives. Adekoya recommended that: (1) the Cooperative Extension Administration commit time and energy for staff training and development in the use of electronic communications equipment, (2) workshops on the new forms and use of electronic communications equipment in extension activities should be conducted; and (3) operating funds should be made available to extension field staff to encourage continuous use of electronic communications equipment for extension activities (1984). "Extension employees must be allowed time and financial support to become computer literate" (Smith and Kotrilk, 1990, p.1).

PURPOSE AND OBJECTIVES

The purpose of this study was to determine what kinds of technology and programs were used by Oklahoma Cooperative Extension educators in the year 2000. This study was developed to evaluate the use of computers, programs, and available communications equipment. It also identified areas where training is needed and evaluated the use of on-line communications. Specific objectives for the study were:

1. To describe some general demographic characteristics of the Extension educators in the Oklahoma Cooperative Extension Service.
2. To determine the types of communication equipment available in each county.
3. To determine which computer programs are used most by county educators.
4. To determine the primary use of computers.
5. To determine attitudes toward technology, training, and on-line communication resources.

Method

METHODS AND PROCEDURES

The scope of the study included the Cooperative Extension Service field staff in the state of Oklahoma. A total of 76 educators were surveyed. One educator from each county was randomly selected to prevent duplication of responses in some of the questions asked. A stratified random sample population was derived from the OCES Personnel Directory listing FCS, 4-H, and Ag educators. Over 10% of Extension educators

were sampled, so results can be related back to the general population.

There are 77 counties in Oklahoma, but only 76 of them have operating Extension offices, therefore only 76 were surveyed. This was a technology survey, and technology was used to distribute the instrument and collect data. The survey took place over a two week time period. The period was not longer because of statewide events that would take county educators out of their office for travel and vacation time. Dillman agreed that using an e-mail questionnaire is appropriate when gathering information in a short amount of time. The time required for survey implementation is reduced from weeks to days. The newness of using the Internet (e-mail and web) has not been researched indepth (2000).

"Electronic surveys can be used to reveal the behavior of people who use computers as a communication mode. Sproull found that an e-mail survey produced higher response rates at a lower cost . . . findings support . . . that electronic surveys did not adversely effect the return rate or responses" (Kawasaki & Raven, 1995, pp. 1, 5).

The survey instrument was researcher designed. A panel of communication specialists familiar with technology reviewed the content and validity of the instrument. There was a need to keep the questions and the use of computer language simple in the questionnaire to reduce confusion among respondents. The four-part questionnaire consisted of checking and fill-in-the-blank questions to gather demographic information, including the types and number of computers available in each office. There was a Likert-type scale used to rate computer programs on their level of use, and the third section used a four-point Likert scale to discover educators' attitudes toward technology, training, and on-line communications. The Oklahoma State University e-mail directory was used to correspond with participants. An e-mail message was sent to each individual, personalized with their name and PIN number. (Messages were not sent through the listserv, but rather as an individual e-mail.) "Personalize all e-mail contacts so that none are part of a mass mailing that reveals either multiple recipient addresses or a listserv origin" (Dillman, 2000, p. 367). This respects individuals' confidentiality and improves their response rate.

This message read much like a traditional cover letter, and respondents were asked to click on the web address to take them to the survey form. The introductory web page that appeared gave further instructions on PDF forms, submitting their responses, and a number to call with questions. Surveys were distributed in person to those who attended the FCS/4-H statewide in-service. Dillman stated that when survey participants appear at a location of interest, and it is possible to sample them, it is then appropriate. Participants are given questionnaires and a request to complete them (2000). Thirty-nine percent were returned while in-service was taking place; others decided to fill the survey out electronically. "Utilize a multiple contact strategy much like that used for regular surveys" (Dillman, 2000, p. 367).

Multiple contacts are important for responses in traditional survey methods: "they are essential for e-mail surveys" (Dillman, 2000, p. 367). The time between contacts should be shortened when using e-mail surveys from one week to two or three days, "to increase likelihood that the recipient will connect the memory of the first contact and the second" (Dillman, 200, p. 368). Four contacts were made in a two-week period. Three days after the initial e-mail, reminder e-mails followed. This reminder was again personalized and sent to each individual with the web address included. Three days after the reminder, a follow-up e-mail was sent, and three days later there was a follow-up phone call with nonrespondents.

Since technology is unpredictable and the researcher did not know what everyone's computer capabilities were, the option was given to fax back responses. "Inform respondents of alternative ways to respond, such as printing and sending back their responses" (Dillman, 200, p. 369). Many people find it easier to examine and respond to long messages if they are printed on paper. Offering this mode of return also increases confidentiality (Dillman, 2000). Twenty-six percent of respondents chose to fax back their responses, and 35% returned theirs by using e-mail. A 91% response rate was achieved in the two-week period. Data was coded into a program called PC File, then run through the SAS statistics program to run descriptive statistics.

Results

FINDINGS

Findings for objective 1: To describe some general demographic characteristics of the Extension educators in the Oklahoma Cooperative Extension Service.

Half (50.8%) of the respondents were Family and Consumer Science educators. Agricultural educators (43.3%) and 4-H educators (6%) also responded. Fifty-three percent of those responding were female. Over 58% of respondents fell between the ages of 25 to 45 years old. Nearly one-third of respondents (32.8%) was between the ages of 45 to 55 years old. There was one participant under the age of 25 and one over the age of 60.

Over two-fifths (46.4%) of participants had worked ten years or less as an Extension educator. Over one-third (34.4%) had worked 11 to 20 years in Extension, and less than one-fifth (18%) of participants had worked 21 to 30 years. One respondent had worked 31 years as an Extension educator and was retiring in January of 2001.

One question asked participants who the most computer literate person in the office was. Over half (54%) of respondents named their secretaries as the most computer literate person in the office. Agricultural agents (19.1%) and Family and Consumer Science educators (17.5%) were also considered computer literate in the office.

Findings for objective 2: To determine the types of communication equipment available in each county.

Several questions asked participants to identify the available communications equipment in their offices by placing a check mark next to the technology they had available. Over one-fourth (27%) of the counties do not have laptop computers. Nearly half of the counties (48%) have two laptops. Nearly three-fourths (73.5%) of those laptops are less than three years old, and 98% are Windows-based computers. Fifty percent of educators' desktop computers were less than three years old, and 20% of educators had desktop computers over five years old. All of these were Windows based.

Other electronic communications equipment counties had included CD-ROM drives (97%), color printers (94%), scanners (93%), digital cameras (88%), and Zip drives (36%). One office had several scanners, but reported, "We don't know how to use them." The same held true for digital cameras.

Findings for objective 3: To determine which computer programs are used most by county educators.

A four-point Likert-type scale was used to determine the frequency different computer programs were used. The scale ranged from "always use" (4) to "never use" (1). Over three-fourths (79.1%) of participants use Microsoft Word "always," and 17.9% use it "often." Over half (56.7%) of Extension educators use Microsoft Excel "seldom" or "never." Two-fifths (43.3%) of respondents use Microsoft PowerPoint "often," while 34.3% of educators use it "seldom." Over half (57%) of the respondents "always" use Internet Explorer, while 38.8% "always" use Netscape Navigator as their Internet browsers. Seventy-one percent of Extension educators use Adobe Acrobat Reader "always" or "often." Adobe Pagemaker and Adobe Photoshop were "seldom" used. Microsoft Publisher was "seldom" or "never" used by 63.6% of respondents. Microsoft Word was rated the most commonly used program (77.6%). There was also a blank called "other" where educators could write in what other programs they use. Those written in included Print Shop, Access, Quicken, and WordPerfect.

Findings for objective 4: To determine the primary use of computers.

One question asked respondents to decide their primary use of the computer. Over two-thirds (66.7%) said their computer was mainly used for word processing. Two-fifths (20%) of county educators use their computer primarily to answer e-mail.

Findings for objective 5: To determine attitudes toward technology, training, and on-line communication resources.

The last part of the survey asked participants to circle their level of agreement with statements on a four-point Likert scale. The scale ranged from "strongly agree" (4) to "strongly disagree" (1). Over 91% of educators "strongly agree" or "agree" with the statement "I am comfortable using the computer." Nearly two-thirds (65.6%) of educators thought their current computer's capabilities (i.e. speed of computer) meet their needs, but 68.6% of respondents "strongly agree" or "agree" with the statement "I need updated computer equipment in my office." This discrepancy is explained by the additional comments that suggest that up-to-date computer software and other technology needs to be "consistent and compatible" between counties. Over half (68.6%) of Extension educators "disagree" or "strongly disagree" with the statement "I have received adequate computer training in the programs I need to use." All respondents "agree" (32.8%) or "strongly agree" (67.7%) with the statement that said "Being familiar with computer programs is important to my job."

As technology becomes more available and printing costs increase, there is a constant push towards placing more Extension fact sheets and publications on-line. Over 92% of Extension educators "agree" or "strongly agree" with the statement "The Internet is a good way to access Extension publications." Some Oklahoma Cooperative Extension fact sheets are placed on the web only and not printed. This offers a "print on demand" quality. This idea needs to be approached carefully because almost half of Extension educators (45.3%) "disagree" or "strongly disagree" with the statement "Web only fact sheets are useful." One respondent voiced his concern that technology is unreliable and having something only available on the Internet when a computer does not work is very inconvenient.

Over four-fifths (88.9%) of Extension educators find "Pete's Electronic Archives Resource Library" (PEARL), an Oklahoma Cooperative Extension fact sheet archive, a useful resource for on-line communication resources; however, only 82.1% of respondents had visited the web site. This can be explained by the additional comments that stated the educator had not visited the site, but their secretaries found it very useful. Also, 91% of respondents "agree" (31.3%) or "strongly agree" (59.7%) with the statement "I would like to print fact sheets on demand from my computer when needed." Nearly two-thirds (64.6%) of educators would like to receive fact sheets on a CD, which would allow them to print on demand.

Many respondents took time to fill in the additional comment section. Some of the more interesting comments about technology are included. One educator said "We need to have the same current, up-to-date computer systems in each agent's office. Also need district area agents who are very computer literate! We need in-service training on computer programs, how to use computers, networking, etc. We know basically how to type, save, and print." Several identified the need for training: "We need current and frequent computer training. With viruses and other needs, Extension could greatly benefit from a computer specialist in each district." Another educator addressed the monetary resources issue; "County staff does not have the same resources to get equipment and software that they do on campus. Usually we have to beg, borrow, or scrounge money to buy what we now have." There is also an apparent interest in the future technology qualifications of personnel: "I am definitely interested in becoming more computer literate. What I know I have learned on my own. Those of us that have been in the system awhile are behind those coming out of college now. Any staff hired to help us needs to be down to earth and able to communicate with staff and not just have computer knowledge."

Many have ideas on how to make the situation work: "We need training on what is available, how to access and use it. All counties are at so many different places on the technology scheme. Yet there has been little or no effort to train us on just plain old everyday use." And another said, "I couldn't get my computer to access the survey. I feel Extension has done a terrible job in helping us acquire technology equipment and when we do find the money to buy it in the county, we get very little technical help. We need a much better plan in place on how to purchase equipment as well as a formal plan of instruction." The 91% response rate may be related to the need of Extension educators to ask for help. One thought this survey was a way of asking for help: "I need two new desktop computers and a laptop, but our budget can't stomach it. Can you help?"

Chi-Square analysis was performed on several questions to see if there were valid relationships between demographic responses and their responses to two agreement statements. There was no significant relationship found between a respondent's age and the statement "I am comfortable using the computer." Analysis also showed there was no relationship between a respondent's gender and the level of agreement with the statement "I am comfortable using the computer." Further analysis proved there was no significance between an educator's years of Extension service and the statement "Being familiar with computer programs is important to my job." This leads the researcher to believe that age and gender do not play a role in a person's being comfortable around technology; the population surveyed is comfortable using technology. Technology knowledge is important to the population's role as Extension educators and is not influenced by the number of years they have served in that role.

Conclusions

CONCLUSIONS

Based on the findings of this study:

1. Most county educators in Oklahoma are between the ages of 25 to 45 years of age.
2. Almost half of those surveyed have worked for ten years or less for the Extension service.
3. Secretaries are considered the most computer literate people in most county Extension offices.
4. Laptops, scanners, CD-ROM drives, and color printers are forms of electronic communications technology that are present in most county Extension offices.
5. Microsoft Word is the most common computer program used. The primary use of computers is word processing activities.
6. Extension educators use Adobe Acrobat.
7. County educators are comfortable using computer technology and consider it important to their jobs.
8. Computer training is a need for Extension educators.
9. County educators would like updated computer equipment and programs.
10. The Internet is a good resource for accessing on-line Extension publications. County educators find PEARL a useful on-line resource.
11. Printing publications on demand is an option most county educators need. There is not a consensus about the usefulness of web only fact sheets (those that are not printed but only available on the web.)
12. Being familiar with technology is important for an Extension educator.

RECOMMENDATIONS

The following recommendations are based on the findings of this study and the conclusions that were reached. Many of these recommendations have been adapted from Adekoya's study performed in 1984.

1. The Oklahoma Cooperative Extension Service needs to commit time and energy for training county staff in the use of computers, scanners, digital cameras, and other forms of electronic communications equipment.
2. Workshops and in-services focusing on electronic communications need to be held for all county Extension educators.

3. Training needs to be held at each county Extension office, so educators are trained on the equipment they work with daily.
4. Monetary resources need to be invested in technology located in the county offices.
5. A plan of action must be formulated and implemented that will move Extension towards consistency and standardization when purchasing technology in county offices.
6. Extension needs to invest in hardware and software that is consistent among counties.
7. The findings of this study should be communicated throughout the Division of Agricultural Sciences and Natural Resources so the results may serve as a guide for designing a plan of action for the future of on-line communications resources such as web only fact sheets.
8. Further research should be conducted to further examine the attitudes of county Extension personnel toward technology, since this study only sampled a few individuals.
9. Further research should be conducted to further examine the use of on-line publications and fact sheets.

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The Cooperative e-Xtension: New Media, New Strategies

A Paper Presented to the Southern Association of Agricultural Scientists
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Background Since 1998 the Agricultural Communication Services unit, part of the Division of Agricultural Sciences and Natural Resources at Oklahoma State University, has maintained a web site of electronic Cooperative Extension documents called Pete's Electronic Archive and Resource Library (PEARL). The PEARL web site, <http://agweb.okstate.edu/pearl>, contains dozens of reports, fact sheets, and other print resources that have been converted to electronic format for Internet use.

From December 1999 through November 2000, the PEARL web site averaged 516 page requests per day from all sources, including countries as far away as Japan and New Zealand. While the vast majority of traffic on the PEARL web site comes from local users, at least 5 percent of last year's traffic originated overseas, while an additional 3 percent was generated by military and government users (Jones).

A recent survey of Oklahoma Cooperative Extension Services (OCES) employees revealed that while 98 percent of those surveyed viewed the PEARL web site as a useful resource, nearly 75 percent would use PEARL more often if they knew more about what it has to offer. Additionally, 25 percent either disagreed or strongly disagreed with the statement, "It is easy to find information on PEARL" (Haigh).

Clearly, there is room for improvement. There is also a need for improvement. The World Wide Web is a big place, full of competition for our audience's attention.

As of June 2000, some 13.3 million web sites were being run from the United States alone ("Facts and Stats"). Web sites range from unashamedly commercial mega-stores like Amazon.com to the "I just bought a computer and here's my web site" variety. Somewhere in between these two extremes lie thousands of truly useful, informative sites, created solely for the purpose of sharing knowledge.

Where is the Internet headed? Will it grow into a large commercial enterprise, a kind of virtual mall? Will it be an entertainment medium that eventually replaces television, or will it continue to be a vast, free-spirited marketplace of information and ideas? Perhaps it will be all of these things and more. But at its heart, the Internet was founded with the concept of a free and fast exchange of information and ideas. That same spirit of service and cooperation embodies the Cooperative Extension Service, making e-Xtension a natural pairing of will and means.

However, the failure of many of the so-called dot-coms over the past year or so has made it plain that there is more to web presence than an expensive, interactive web site. Fortunately, Extension programs do not share the same need to turn a profit that has proven to be such a stumbling block for commercial ventures. However, in order for extension -- and, more specifically, the PEARL web site -- to be successful, some lessons on the transfer of electronic information and Internet marketing are in order.

Method

Offering Extension publications in electronic format involves re-thinking the entire publication and

distribution process. Once Extension leaders determine a need to offer electronic documents, the next decision that must be made is the format or formats in which to offer information to Extension audiences. Format choices for text materials include HTML, PDF, and e-book.

On the simple end of the format spectrum sits the Hypertext Markup Language (HTML) standard. HTML was the first language of the World Wide Web. Documents in HTML format are simply text documents with special codes that tell a web browser how the page is supposed to look. These codes also contain link information, so when a user clicks on a certain spot, a different document or portion of a document is retrieved and displayed on the screen. HTML has the advantage of wide support among a variety of software and computer platforms. Additionally, there are many free and low-cost tools available for the creation of HTML documents (DaveCentral, ZDNet). Many do not require the author or editor to learn HTML code in order to create or edit documents. Even so, HTML is easy to learn, and those who choose to learn quickly pick up the basics.

In addition to special-purpose HTML tools, nearly all commercial word processing packages offer some type of export-to-HTML option, but beware: some are better than others. Corel's WordPerfect is good, producing lean, efficient code. Microsoft Word is also OK, its documents rendering well in spite of the bloated and inefficient code Word produces. But Adobe Pagemaker is absolutely horrid. (If you must convert a PageMaker file, try Adobe GoClick instead.) At any rate, it is likely that most if not all of the computers in your organization already have the ability to create some type of HTML document.

The disadvantages of HTML stem mostly from its original design as a markup language, rather than a layout and formatting language. Consequently, documents can and do look different depending on what hardware and software is used to render the HTML code for the end user. These limitations become most apparent when trying to adapt printed material for online use. The HTML format lacks the ability, for instance, to indent the first line of a paragraph of text. It also lacks the ability to control how large or small a typeface appears on the end user's screen. There is, therefore, no guarantee an HTML document will render the same way each time it is viewed. These weaknesses and more are being addressed by newer standards that work with HTML, such as Cascading Style Sheets (CSS), Extensible Markup Language (XML), and Dynamic HTML (DHTML). But as a rule, the newer the standard, the less support it has among both browsers and page-creation tools, and the more technically knowledgeable the editor needs to be.

At present, there is no better format for accurate electronic rendering of printed materials than Adobe's Portable Document Format (PDF). Using the inexpensive Acrobat software package from Adobe Systems, Inc., an author or editor can convert a document to PDF format as easily as sending it to a laser printer. The resulting electronic file looks nearly identical to the offset-printed version. In order to view a PDF file, the end user must have Adobe's Acrobat Reader software installed on the viewing machine. Although the Reader is offered as a free download, installing it requires a certain amount of effort from the end user. Extension leaders must consider their audience -- are the people who will be viewing your documents able and willing to visit a web site, download software, and install it? That may seem a simple task, but it can be a barrier to some.

Recently, there has been explosive growth in the world of e-books. Several different formats are currently vying for preeminence in this new medium. E-book readers are hand-held electronic devices with large screens designed to simulate the size, weight, and look of a printed book. Dominant formats in this field include Rocket e-book, Microsoft Reader, and Adobe PDF. While it may be too early to commit to producing documents in either Rocket or Microsoft Reader format, consideration of e-books should figure into planning for any program of electronic document distribution.

But perhaps the term "distribution" is a misnomer when applied to electronic documents. As Purdue University's David King and Michael Boehlje put it, "We're moving from a distribution to an access paradigm"

(So You Want a Job 3). They argue that technology now allows us to shift from a "provider mentality" that focuses on what we want to distribute to a "user mentality" that tries to anticipate the users' needs and provide them with access to our knowledge base.

Such a fundamental change in the way we look at our role certainly qualifies as a paradigm shift. It changes everything. Fortunately, our audiences are not clamoring for us to abandon print publications and go totally electronic by next Thursday. This change is a process, but one that must be started now if Extension is to survive the era of extension

King and Boehlje propose that extension, or e-CES as they have labeled it, must not be bound by incrementalism and therefore must be approached as a new Internet start-up, with huge investments in talent and technology to get the ball rolling (On the Brink 3). Their ambitious approach is exciting, but it is also resource intensive and hardly practical for every Extension program. Most Cooperative Extension Service programs will choose an incremental approach to providing access to online content, and in the end, that will be enough.

But why change at all -- isn't technology merely a tool? Just because we can do something, does that mean we should?

Certainly, technology allows us to change the way we do things, but technology's impact extends beyond merely giving us the means for change. In some ways, it demands that change. The rise of the Internet has also given rise to a new breed of customer -- the information consumer. This is the computer-savvy person for whom answers lie just a mouse-click away. Increasingly, the information consumer seeks knowledge from the comfort of his or her own home. No longer are libraries and Extension offices seen as the primary sources of research in this new economy. Web sites and electronic databases are the repositories of knowledge and advice. Therefore, as the numbers of this new breed of consumers grow, so will the demand for access to electronic information. Without the requisite paradigm shift, Extension resources risk being supplanted by something faster and easier, much like the pony express was.

"Ultimately, customers will link with whoever has the most versatile combination of quality content and user-friendly technology" (So You Want a Job 4). Extension has no shortage of quality content, but once that content is in electronic form, the challenge becomes how to provide access to it in a way that is both useful and user-friendly.

First, site navigation must be clear, and it must be easy for the end user to find the information he or she is looking for. A search engine on your site can help, but is not a panacea. Site navigation and design are beyond the scope of this discussion, so for the sake of brevity we will assume that your extension publications site is well-planned and easy to navigate.

Now it's time to let your audience know where to find you. Marketing extension need not be costly, but it must be effective, and it will probably take on forms you had not expected.

Most importantly, extension products must all share a set of identifiable characteristics, or what is called in marketing parlance, "brand identity" (So You Want a Job 15). In other words, everything from the web site to the press releases to the instructional videos to the documents themselves must be immediately recognizable as extension products.

Next, make sure your audience knows where to find you on the Web by placing your site's web address, also called a Uniform Resource Locator (URL), on all printed, audio, and video publications your Extension office produces. Make sure your web address appears on your business cards, letterhead, and anything else that goes out the door. Make sure that the people who answer your phones know your URL, and that they bring it to

people's attention as a way to get additional information (Pilkington 3). These presentations of your site URL need not be ostentatious. In fact, it is better if they are not. Your web address is analogous to your office phone number. It should be readily available and easily found, but not overwhelming. Education is the goal. It is not self-promotion you're after with this type of marketing, but self-disclosure (Crane).

The browsers of most Web surfers have a Favorites or Bookmarks folder stuffed with links that never get visited. Perhaps the best way to keep online resources in the forefront of your audience's minds is also one of the least expensive: produce a regular opt-in e-mail newsletter. By providing your audience with regular updates on the progress of your site, industry news, and other useful information, you not only provide a service to your customers, you also give them reasons to keep coming back to your site.

No one likes unsolicited e-mail; at least, not anyone who is willing to admit it. Do NOT, under any circumstances, distribute an e-mail newsletter to a mailing list you have either purchased from an outside source or culled from an Extension database. If you try to distribute a weekly or monthly e-mail publication to a list of unsuspecting customers, you risk offending and alienating the very audience you are trying to attract. Fortunately, there is a better way.

Through your university's Computer Information Services department, you most likely have access to a program called LISTSERV. LISTSERV automates the maintenance of e-mail lists. It works via specific text commands sent from a user's e-mail program. A list manager creates a new mailing list using an online form or by mailing a list-creation command to LISTSERV (Site Manager's Manual). In most cases, LISTSERV will send a reply to the initial command, asking for confirmation. Once the list manager replies to that message, a new mailing list is created with the name given in the original command.

For example, as the hypothetical list manager for the Oklahoma Cooperative Extension Service (OCES), I want to set up a list called OCES-NEWS. To create the list, I send an e-mail message to LISTSERV@LISTSERV.SCHOOLNAME.EDU with the command CREATE OCES-NEWS in the body of the message, along with any other necessary commands such as my username and password, and what type of list this is to be. (Your LISTSERV web site should have a listing of all the commands you need to get started.) A few seconds or a few minutes later, I receive an e-mail from LISTSERV asking for confirmation. After replying to that message, I receive another message from LISTSERV informing me that my list has been created. In order to populate my mailing list, I begin to promote it in printed materials and on the Web, with instructions and/or a link for customers to subscribe to the list.

When it is time to publish an issue of the new OCES e-mail newsletter, I simply e-mail it to the list address, which in this hypothetical example is OCES-NEWS@LISTSERV.SCHOOLNAME.EDU, and everyone who has subscribed to the list receives an individually addressed copy.

What goes into an e-mail newsletter is at least as important as the nuts-and-bolts of getting it to its intended audience. E-mail news letters (or e-zines as they are sometimes called) vary in format, but some elements have become standard inclusions. Instead of dictating a specific format, here is a sample outline that covers the basics and can be adapted to virtually any situation:

E-zine Title
Issue# Date Year
Slogan

Subscription Information:

(NOTE: The following three lines are extremely important. This information also appears near the end of the newsletter.)

Subscribe info
unsubscribe info
contact list owner

Sponsor Advertising: (Usually only on for-profit newsletters.)

Message to Subscribers:

Contents:

- Article
- Resources
- In the News
- Poll
- Housekeeping items
- Last Month's Poll Results

Feature Article

Resources

In the News

Poll

Poll Results

Subscription Information:

Subscribe info
unsubscribe info

contact list owner

Closing Comments,
Your Name

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Results The study of the PEARL web logs and the survey of OCES employees were conducted as a baseline measurement. Results will be evaluated a year from now.

Conclusions

The PEARL web site is generating more traffic -- in both volume and diversity -- than I would have guessed prior to analyzing the log files. But that is just the beginning. The design and usability of the PEARL web site will be improved over the next several months, and OSU Ag Communications will launch its own opt-in e-mail newsletter to support PEARL and other web site activities. By applying the methods discussed here, I am confident the 2001 log files will show a dramatic increase in use of the PEARL web site. The same principles and methods applied to other Extension web sites should have similar results.

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Building and Supporting Online Learning Environments Through Web Course Tools: It Is Whippy, But Does It Work?

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Background

The authors contend that Web Course Tools, like all educational technologies, can do one of three things. It can contribute to learning the stated objectives of the course, it can be neutral, or it can distract from learning. That technology can contribute is widely supported and easily understood. In many cases technologically supported instruction facilitates more rapid or deeper understanding of the course objectives. Technology can also distract from learning. I know of no way to determine those technologies that contribute from those that distract a priori. The educational effect of technology must be empirically measured, never assumed.

The authors were interested in the effectiveness of this particular delivery strategy. Delivery strategies are perhaps best described as the application of two disparate fields of study, namely teaching methods and technologically mediated communication systems. They are, simply put, a systematic attempt to optimize the delivery of an instructional message to a particular audience. Delivery strategies are teaching methods, placed in context. They are communications technologies, applied to learning and teaching. We discover delivery strategies by optimizing teaching methods in the context of technological delivery systems. For the longest time, teaching methods assumed the collocation of the learner and instructor--both in geographical and temporal space. Whenever either of these assumptions is violated, the delivery strategy can be considered distance education. Distance education can be thought of as one subset of all possible delivery strategies. Examples of more modern delivery strategies would include the "instructor-led lecture" method delivered live via steaming media on the World Wide Web (WWW), or the "student presentation" method delivered via an interactive videoconferencing system, or the "class discussion" method delivered via asynchronous threaded discussion boards. In every case, the teaching method is mediated through--affected by--the technology used. Decisions about the appropriateness of the teaching methods and the technologies employed are a balance among the desired educational outcomes, the learners, the learning environment, and the kinds of curriculum materials that are available or can be developed.

There is a continued need to examine delivery strategies and compare them against more traditional strategies, searching for optimal methods to deliver instruction programs. Many faculty will resist the adoption of technologically mediated delivery strategies, including distance education strategies, until they are perceived as compatible with existing delivery strategies (Rogers, 1995). WWW supported instruction is commonplace in agriculture and life science courses. Donaldson and Thomson (1999) found that online learning environments, supported by web course tools, between and among students supports learning centered approaches to instruction. They caution, however, that web course tools may not be useful when they merely act as a conduit through which instruction and information is delivered.

One such technology that holds promise for improving instruction effectiveness and efficiency is WebCT. WebCT is a tool that facilitates the creation of World Wide Web instructional environments at a distance (Dabbagh & Schmitt, 1998).

Method

The purpose of this study was to describe and explore student perceptions regarding the use of WebCT (a whippy technology) in building and supporting online learning communities (a practical application).

Specific objectives of the study were to:

Describe and explore how WebCT has or has not contributed to success in *AGED 440: Principles of Technological Change*.

Describe and explore whether students in *AGED 440: Principles of Technological Change* used online access to course materials.

Describe and explore whether students in *AGED 440: Principles of Technological Change* accessed and tracked their grades and progress online.

Describe and explore whether students in *AGED 440: Principles of Technological Change* created an online learning environment between and among themselves and other students in the course.

Describe and explore students' overall perceptions of the use of WebCT in *AGED 440: Principles of Technological Change*.

Methods and Data Sources

The population of this study consisted of all students ($N=111$) enrolled in *AGED 440: Principles of Technological Change* at Texas A&M University. A census of the population was conducted and results of this study are not generalizable beyond the population. This course is an upper undergraduate level course that focuses on processes by which professional change agents influence the introduction, adoption, and diffusion of technological changes. The research design for this study was a descriptive and exploratory survey methods were employed (Fraenkel & Wallen, 1999).

From a review of the literature, the researchers developed an instrument to collect data. The survey instrument consisted of five open-ended research question: 1) Has WebCT contributed to your success in this course? Please describe; 2) did you purchase a course packet? If so, why since all the class materials are available online? Please describe everything that influenced your decision; 3) did you access and track your grades and progress in the course online? If yes, what did you think of this process? If no, why not? 4) Did you use WebCT to create an online learning environment between and among yourself and other students through email, threaded discussion, online testing, study guides, etc. to increase your success in this course. Why or why not? 5) Please provide any additional comments regarding the use of WebCT in this course? Responses to the open-ended questions were categorized and coded by trained scorers.

Questionnaire reliability for the instrument was estimated by calculating a scorer agreement correlation coefficient. Reliability for the overall instrument was .94. Content and face validity were established by a panel of experts consisting of faculty members and graduate students at Texas A&M University. The survey was delivered to the population using WebCT online testing tools. Participants were given two weeks to respond to the survey. Once the survey was accessed through the password protected online testing instrument, participants had one opportunity, with unlimited time, to respond to each question. Responses to the questions were then submitted online to the researchers.

Eighty-nine participants (80%) responded to the questionnaire. Nonresponse error was controlled by comparing respondents with nonrespondents on known characteristics (Miller & Smith, 1983): gender, progress in class, and enrollment status.

Results

Results are presented below organized by objective.

Objective one Seventy-two percent of participants indicated that the use of WebCT in *AGED 440: Principles of Technological Change* has contributed to their success in the course (see Table 1). One participant noted “WebCT has allowed me to look up homework and view other class material on the we. I like WebCT because you can send messages to teachers and they can send any important notes to anyone. Also, WebCT allows me to pull notes and reviews for quizzes or exams.” Twenty-one percent of the participants did not feel WebCT contributed to their success in the course. One participant noted WebCT did not contribute to their success in the course “because it was hard to get onto and some people have a hard time accessing computers. . . plus the regular web site was working fine.” Seven percent of respondents had neutral perceptions of WebCT. One student stated, “The only thing this has done is make sure I get my grades faster. I think if we had the other things such as quizzes and things like that, it would be more useful.”

Figure 1 shows students WebCT home page for *AGED 440: Principles of Technological Change*. Once students login to their WebCT account they can access: course schedules and materials; study tools; online quizzes; mail; and grades.

Table 1
Course Success and WebCT

Question	Student Response							
	Positive		Neutral		Negative		Total	
	f	%	f	%	f	%	f	%
Has WebCT contributed to your success in this course?	67	72	6	7	19	21	89	100

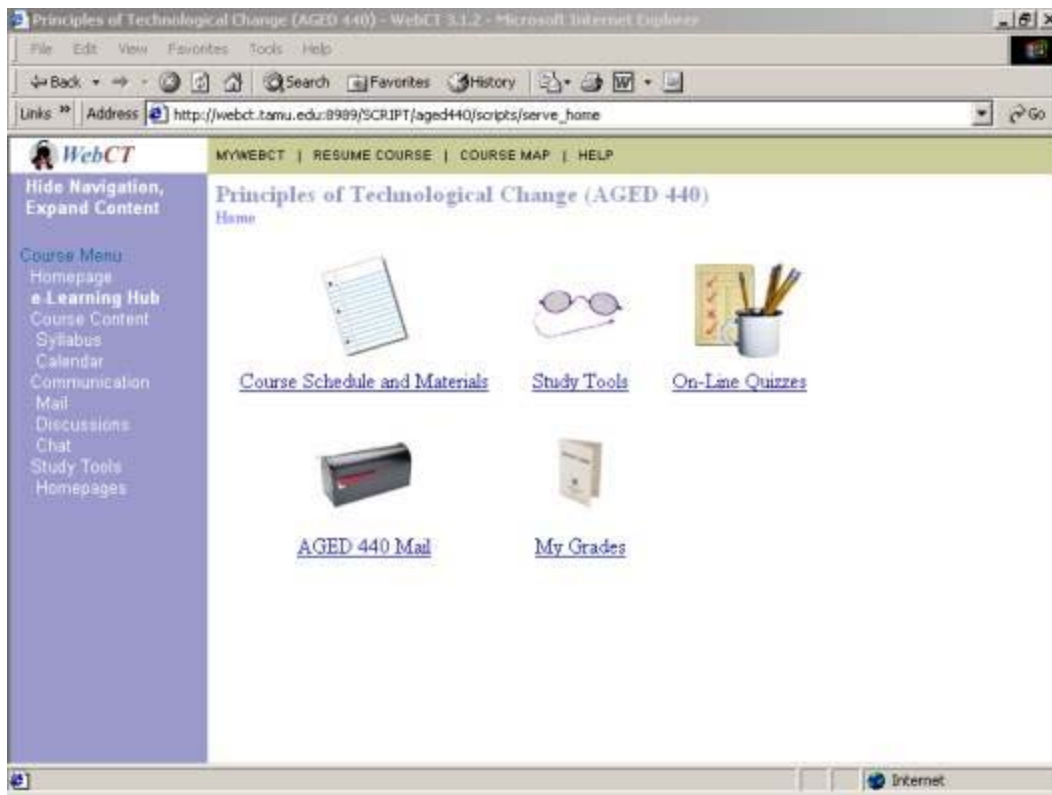


Figure 1
 MYWEBCT: AGED 440: Principles of Technological Change

Objective two: Table 2 shows that seventy-six percent of the participants indicated that they purchased the course pack even though the materials were available for free through WebCT. A typical response to this question was “The reason I purchased a packet was because the packet had everything I needed in it and I did not have to worry about going to the computer lab every week and reading the material on-line.” Twenty-four percent of participants did not purchase the course pack and relied solely on the online materials. One student noted “No, I did not purchase the packet. I printed all the notes off of my personal computer at home. It is easier to print at my home.” Another student, however, stated “No, I didn’t buy a course packet, but now I wish I would have, because it won’t always print out everything. It has a lot of errors and then I don’t have the stuff for class.”

As shown in Figure 2, once student access course schedule and materials they can bring up and print course material (Topic) for each class. The course material is presented in Adobe® portable document format (PDF) and saved as PowerPoint® handouts with three slides per page. Additional course readings were also made available as in PDF format.

Table 2
 Accessing Course Material Through WebCT

Question	Student Response							
	Positive		Neutral		Negative		Total	
	f	%	f	%	f	%	f	%
Did you purchase a course packet? If so, why since all the materials are available online?	68	76	0	0	21	24	89	100

Course Links: Fall 2000

Tentative Lecture Schedule:

Date	Session	Topic	Readings
Aug. 28	1	Course Introduction Terminology	Course Syllabus Basic Terminology The Keirsev Temperament Sorter
Aug. 30	2	Terminology - Continued Paradigms	Terminology - Continued Paradigms
Sept. 4	3	Paradigm Principles	Perfect Computers?, IBM Microdrive, Q-Bit Computing, Napster

Figure 2
WebCT Course Schedule and Materials

Objective three Most students (92%) accessed and tracked their grades online using WebCT (see Table 3.) Eight percent did not access and track grades online. Students (83%) had a positive response to accessing and tracking their grades online. One participant noted “Yes I do track my grades on WebCT and I really like this aspect of WebCT. I feel this in the future can lead to less work for the professors, and a quicker response on grade distribution.” Twelve percent had neutral responses, and five percent had negative responses. In general students who did not access and track grades and progress online indicated doing so was a poor use of time because grades were available in lab and they had limited access to a computer. As shown in Figure 3, students can access grades and progress.

Table 3
Accessing and Tracking Grades with WebCT

Question	Student Response							
	Positive		Neutral		Negative		Total	
	f	%	f	%	f	%	f	%
Did you access and track your grades and progress in the course online?	82	92	0	0	7	8	89	100
What did you think of the process?	74	83	11	12	4	5	89	100

Group Pres. Out of 100	Reflection Paper Out of 25	LQ-Group-change strat. Out of 5	Cultural Act. Out of 25	LQ-Island-Snow Out of 8	LQ-Voice Dial Out of 5	Individ. InnPap. Out of 50	Inn. Pres. Out of 50	CQ1 Out of 6	CQ2 Out of 6	CQ3 Out of 12	CQ4 Out of 6	CQ5 Out of 6	CQ6 Out of 6	CQ7 Out of 6	LQ1Kiersey Out of 5
95	24	4	25	6	5	50	48	3	5	9	6	5	6	6	2

Figure 3

Accessing and Tracking Grades

Objective four Eighty-two percent of the participants did not use WebCT to create an online learning environment between and among themselves and other students through email, threaded discussion, online testing, etc to increase their success in the course. One respondent noted “No, there are not enough users yet to develop a substantial network, however, I believe it will be utilized in this manner in the near future.” Seventeen percent of the respondents used the features mentioned above to create an online learning environment. One student noted that “it helped me meet people as well as learn about people. E-mails have helped out too.” One student provided a neutral response.

Table 4

Creating Online Learning Environments and WebCT

Question	Student Response							
	Positive		Neutral		Negative		Total	
	f	%	f	%	f	%	f	%
Did you use WebCT to create an online learning environment between and among yourself and other students through email, threaded discussion, online testing, study guides, etc. to increase your success in the course?	15	17	1	1	73	82	89	100

Principles of Technological Change (AGED 440) - WebCT 3.1.2 - Microsoft Internet Explorer

MYWEBCT | RESUME COURSE | COURSE MAP | HELP | COURSE RESOURCES

AGED 440 Mail View

Principles of Technological Change (AGED 440)

Home | AGED 440 Mail | All

Mail Messages: All / Manage Folders

Return to Mail

Figure 4*Creating Online Learning Environments*

Objective five Overall, most students (89%) had positive perceptions regarding the use of WebCT in *AGED 440: Principles of Technological Change*. One student noted, “I feel WebCT has been helpful and feel every course should use it.” Eleven percent of participants had either negative or neutral perceptions regarding its use. Students who had negative or neutral overall perceptions towards WebCT indicated that difficulties logging in and using it led to frustration and ineffectiveness. Access to computers and printers, and slow data transfer rates contributed to students’ negative and neutral perceptions. Several students stated that books don’t crash in the middle of the night or right before a quiz.

Table 5***Student Perception and Use of WebCT***

Question	Student Response							
	Positive		Neutral		Negative		Total	
	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>	<u>f</u>	<u>%</u>
What are your overall perceptions regarding WebCT and its use in this course.	79	89	3	3	7	8	89	100

Conclusions

The following section presents conclusions and discussions of this study, based on the findings, by objective.

WebCT contributes to student success. This success, however, is hampered when students do not have easy access to reliable computers with high-speed access to the Internet. Further, teachers can enhance student success by encouraging students to take advantage of multiple WebCT functions.

Although course materials were available online, students tended to rely on traditional print material over WebCT delivered course materials. Students want to have a hard copy of course materials and very few will rely on solely on computer-based files. The cost to purchase course materials from a “copy” store is comparable to printing costs at computer labs and is less labor intensive. Teachers should not assume students are willing, able, or wish to only receive course materials online and should be willing to make materials available through a variety of means.

WebCT’s function for accessing tracking grades and progress online was used more by students than any other function. Students were able to access grades anytime. Further, grades were posted immediately after scoring to WebCT. Students did not have to come wait until the next class meeting or have to campus to read grades posted on a bulletin board.

Students did not or were not able to take advantage of WebCT's function to enhance their learning by creating student centered online learning environments. To effectively and efficiently incorporate distance education technology into courses and to take advantage of the self-directed nature of students, WebCT's chat rooms, discussion boards, emails, students home pages, and so on should be exploited.

Students' overall perceptions of WebCT were positive. Students' positive response to WebCT is good news for teachers who are incorporating or wish to incorporate technology into their teaching as a means for improving teaching. Teachers, however, need to recognize and make alternative options for students not willing or unable to use WebCT. It is hoped that as WebCT and other online course tools become more commonplace, and as students become more familiar with the technology, student learning, teacher effectiveness, and course efficiencies will improve.

Educational Importance

The educational importance of this study is focused on three areas: distance education and delivery strategies, course evaluation, and student perceptions. The results of this study will help teachers understand student perceptions regarding the adoption and diffusion of WebCT in a web supported instructional environment. The methodology employed in this study demonstrates a valid and reliable method for evaluating the adoption and diffusion of informational technologies by students using the technology as a means. The results contribute to the growing body of literature related to distance education and delivery strategies.

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Level of Use of Extension Agricultural Programming in the Broadcast Media by Adults in Mississippi

**A Paper Presented to the Southern Association of Agricultural Scientists
Agricultural Communications Section
Fort Worth, TX
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Background

A simple random sample of Mississippi adults with telephones were surveyed to determine if they listened to the Mississippi State University Extension Service's daily radio program, Better Farming, and watched Extension's weekly television program, Farmweek. Until this study, no definitive research had ever been conducted on Better Farming. A very similar study was conducted on Farmweek viewership five years ago, and provides a basis for analyzing audience trends.

Farmweek is a half-hour television program that focuses on agricultural news. It is broadcast each Thursday at 7:00 p.m. on Mississippi Educational Television, a statewide network of 8 television transmitters. The program is replayed each Friday at 6:00 a.m. Farmweek celebrated its 23rd anniversary on October 3, 2000. Fifty original programs are produced each year.

Each edition of Farmweek begins with a news segment, followed by a horticultural segment, a market segment, a calendar of upcoming events, and a feature segment. Farmweek is prerecorded the same day it is broadcast, with the exception of programs that air on holidays. Approximately 4 times each year the program is produced "live", either as a remote broadcast or as a viewer call-in.

Better Farming is a weekday 5-minute radio program that focuses on agricultural news. It is distributed to 27 commercial radio stations, as well as the campus radio station at Mississippi State University. The program is also available on the Internet through the University's website and through the website [RadioSource-dot-net](#), a regional web-based "radio network" that delivers programming from 5 land-grant institutions. Two hundred sixty original programs are produced each year.

The format of each Better Farming broadcast is the same, an interview with a faculty or staff member of the Division of Agriculture, Forestry and Veterinary Medicine at Mississippi State University. The Monday and Tuesday programs deal with a variety of ag-related topics. The Wednesday programs deal with soybean-related topics. Thursday programs deal with animal agriculture topics. And the Friday programs deal with forestry-related topics. Each program is prerecorded approximately one week ahead of its actual air date. The programs are recorded in a studio on the university campus.

Method

The producers of the Farmweek television broadcast were interested in doing a follow-up study based on an evaluation conducted in November, 1995. The 1995 study was the first definitive research ever conducted regarding Farmweek viewership.

Like the original research, the new survey was directed to provide information regarding how many people watch the program on a regular basis, who the current viewers are, and their general impressions of the broadcast. In addition, it was decided to diversify the evaluation in order to include several critical questions regarding Better Farming, the daily radio program produced by the Extension Service. No definitive research had ever been conducted regarding Better Farming listenership.

The evaluation was planned by Michael Newman, Leighton Spann, Tom Knecht (Head, Office of Agricultural Communications), and Artis Ford (Managing Editor of Farmweek), with further input from Tyson Gair (Senior Editor - Broadcast). A draft questionnaire was given to Wolfgang Frese, Coordinator of the Survey Research Program, Social Science Research Center, Mississippi State University. Frese formatted the questionnaire for use by interviewers.

The Center conducted a survey in August, 2000, under the terms of a contract with the Mississippi State University Extension Service. Data were collected via telephone interviews with a simple random sample of Mississippi adults living in households with telephones.

Households were selected using random digit dialing procedures (this includes households with unlisted numbers). Within a household, an adult (over 17 years old) was randomly selected and interviewed using the Hagen-Collier technique. Using this approach, the interviewers randomly ask for the oldest male over 17, the oldest female over 17, the youngest male over 17, or the youngest female over 17 in the household and interview that person. (If there was no such person in the household, the interview was done with the person who answered the telephone.)

Of the households contacted via random digit dialing procedures, 1,163 completed the survey and 166 refused to participate.

Results

Farmweek Findings

Of the adults interviewed concerning television, 143 (12.3 percent of the sample) said they watch Farmweek on Mississippi Educational Television. The sampling error is "+ or -" 1.9 percent for this question. Thus, somewhere between 10.4 and 14.2 percent of the adults in Mississippi watch Farmweek. Based on an estimated adult population in 2000 of 2,015,635 adults, the best estimate of the number of viewers is 247,923 (with an error of "+ or -" 2.9 percent). That is essentially the same as in 1995, when the previous study was conducted. That survey indicated that 13.0 percent watched the program.

Approximately 55 percent of Farmweek viewers watch the program 2 or more times a month. In 1995, 80 percent of the viewers were "regular", defined in that survey as watching 2 or more times a month.

Over 13 percent of the viewers say they have used information from the program to make a business decision. In 1995, nearly 24 percent said they made such a decision using information from a Farmweek broadcast.

The mean age of viewers in the 2000 survey is 50. The mean age in 1995 was 47 years. Almost 52 percent of viewers are married and 80 percent are white, according to the new survey. 5 years ago, 61 percent were married, and 80 percent of viewers were white.

12.6 percent of viewers in 2000 work on a farm, with 9.5 percent of viewers saying their spouse works on a farm. In the 1995 survey, 20.6 percent of the viewers worked on a farm, but 15.4 percent said their spouse worked on a farm.

51 percent of Farmweek viewers are male. In 1995, 55.1 percent of the viewers were female.

Viewer perception of who produces Farmweek is unchanged in the new survey. As in 1995, only 38 percent of the viewers knew the program is produced by the Mississippi State University Extension Service.

Better Farming Findings

Of the respondents, 56 (4.8 percent) listen to the program. Based on an estimated 2000 adult population of 2,015,635, the best estimate of the number of listeners statewide in Mississippi is 96,750 ("± or -" 2.9 percent).

46 percent of those who listen to Better Farming indicate that they listen one to two times per week or more. Just under 18 percent of the listeners have made a business decision based on information from the program.

Almost 45 percent of the listeners know that Better Farming is produced by the Mississippi State University Extension Service. Over 44 percent of the listeners or their spouses worked on a farm.

Conclusions

Viewership of Farmweek on Mississippi Educational Television has held up well despite the fact that viewers in most areas have many more choices of channels and programs than in 1995 when the previous survey was conducted. Viewership is essentially the same as in 1995, 248,000. Perhaps the major finding of this study is that the number who watch the broadcast every week, or at least 2 or 3 times a month, has dropped from 80 percent in the 1995 survey to about 55 percent in the current study. This certainly may reflect the greater number of options available in today's media marketplace.

Since it is broadcast by the Mississippi Educational Network, Farmweek is accessible at present only by an off-the-air television signal or through a cable television service. Both of these media are facing growing competition for audience from direct broadcast satellite services and personal computers with Internet connections.

Cable television's audience share will top that of broadcast television in 2001, with broadcast's share falling below 50 percent, according to the 13th annual Communications Industry Forecast, released by media industry merchant bank Veronis, Suhler and Associates. Meanwhile, cable's share of multichannel subscribers continues to decline, according to a Federal Communications Commission report issued in early January, 2001. Cable systems served 80 percent of all multichannel subscribers as of June, 2000, down from 82 percent in June, 1999. The growth of direct broadcast satellite services continues to eat into cable's share, with its hold climbing from 12.5 percent to 15.4 percent. During the 12-month period, DBS services grew 29 percent to 13 million.

More people are definitely spending more time with their computers, and studies are conflicted on whether this leads to less, more, or the same broadcast consumption. On average, Nielsen says that Internet users logged nearly 5 and a half hours online each week; some of that time was undoubtedly taken out of hours users would have spent watching television.

Listenership for Better Farming was basically an unknown quantity prior to this study. Until now, the Office of Agricultural Communications has had no way of determining interest in the program other than the fact that 27 radio stations regularly carry it. This study indicates that nearly 5 percent of the respondents knew of and have listened to Better Farming, with the best estimate of the number of listeners statewide in Mississippi being 96,750. 46 percent of those who have listened indicated that they listen one to two times per week or more. This impact came as a surprise to some in Extension.

The data seem to reinforce the importance, at least in Mississippi, of maintaining a presence on commercial radio stations with a weekday, daily program for the purpose of information delivery. However, like television, radio as a medium is facing more competition for audience. And there are indications it may not fair as well as television.

Betsy Frank, executive vice president of research and planning for MTV Networks, suggests that while television and the Internet show indications of cohabiting nicely, radio may be threatened. More Americans, she says, especially younger people, are listening to and downloading music online. And while both television viewing and personal computer usage increased in MTV's leisure-time study, the number of people who reported playing the radio stayed flat at 22 percent. In addition, 13 percent of the respondents reported listening to music on the Internet, which was an increase of 4 percent from the year before, 1999.

The fact that Better Farming is already available on the Internet through the university's website and through [RadioSource-dot-net](#) helps buffer this communications product from what may be a trend away from over-the-air radio listening.

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Start Spreading the News -- A Case Study on Marketing 'Millie' and Cloning Research

A Paper Presented to the Southern Association of Agricultural Scientists
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Background

Agricultural communicators at the University of Tennessee's Institute of Agriculture began preparing for a special event last summer: the birth of a calf that had been cloned using a technique that differs radically from then-current cloning techniques.

While there was no certainty that the pregnancy would come to term or that the calf would even survive birth much less be healthy, it was clear that plans for an information campaign were needed. The breakthrough in biotechnology presented distinct challenges as well as an opportunity for partnership between the communicators and scientists brought together by the research development.

Scientists normally communicate news of research breakthroughs through publication in refereed journals. The University of Utah's experience in 1989 with cold fusion taught everyone a lasting lesson about the value of the respected if slow path of scientific peer-reviewed communication. However to the communications staff at the University of Tennessee as they considered their circumstances in August 2000, the university's animal cloning research appeared to have dynamics that warranted special consideration. The University of Tennessee animal scientists were apparently neck-and-neck with their counterparts in a neighboring state to achieve a successful birth using the new cloning technique, which had been developed independently and roughly at the same time at each institution. Whoever achieved a live birth first and communicated about it would get the prestige and rewards of success. Whoever got there second Well, media and others could scarcely be expected to care about that.

And, more than ever, reputation mattered. The University of Tennessee is engaged in an aggressive campaign to attract greater research funding and create a climate, within a budget-strapped state, that elevates its status to a nationally ranked top tier research institution. Positive and widespread attention about research accomplishments by talented faculty serves that goal and also aids in encouraging talented faculty to remain at the university despite continued budget woes. Thus the university's new administration was eager to see the achievement in animal cloning widely touted.

Another motivation for quick communication had to do with the science itself: The researchers' technique held tremendous promise as a method genetics researchers everywhere could use. The new technique offered

scientists a less complicated and potentially unpatentable alternative to the standard method used in existing animal cloning work. That patented process requires researchers using it to pay royalties to a research consortium in Great Britain, which was involved with the creation of Dolly, the cloned sheep.

Taken as a whole these dynamics suggested the need for a publicity campaign focused on immediacy and targeted to multiple audiences: members of the research community for awareness of the cloning technique's methods and success; university alumni, scientific organizations, legislators, and others tied to the university's funding levels; and more generally to media outlets, trade publications, and the public to convey news of a positive and important achievement by university scientists.

And it all depended on the birth and survival of a healthy calf. On August 23, 2000, the calf arrived successfully and in good condition. Everyone was elated. The communications staff soon learned three facts: (1) the calf's greatest periods of risk of death were immediately following birth and around her sixth day of life; (2) the university president wanted to debut the calf at a statewide research gathering, which was scheduled on the calf's sixth day of life, and to have media at the event; and (3) word was spreading fast of the calf's birth despite efforts to keep a blanket of silence over the project. Staff members communications campaign hit high gear.

Method

Preparation for the marketing campaign actually began months before the calf's birth when a communications specialist learned of promising work being done in animal cloning by a team of animal scientists at the institute. The staff member met and interviewed the researchers, as well as associated research deans and other animal science specialists with the institute. She began collecting background material about the work, its context in animal science and related, broader, issues in biotechnology. The relationship she cultivated with the researchers served everyone well, as she was kept apprised of research achievements and setbacks as the two scientists worked toward their goal of achieving a successful live birth.

By early summer, 2000, developments looked promising and, increasingly, it looked like a successful live birth might be achieved. The staff member began routinely sharing status reports on the pregnant cows with others in the communications unit, ensuring people were informed and starting to consider the work that might lie ahead.

As the projected date of the calf's birth approached, a team of print and electronic media specialists took actions in several directions. In meetings they discussed strategies and potential pitfalls of a media campaign announcing the calf's birth. Questions were expected from the media about why the university was engaged in cloning research and whether public money should be used for such work. Concerns were expressed about the abilities of the researchers to work effectively with media: each of the lead scientists is young and had never worked with media on simple stories, much less on potentially explosive ones. Worry was also voiced about the repercussions if a calf was born with deformities. If media were to discover a calf with evident physical abnormalities and if such an animal were photographed, all sorts of negative publicity could erupt.

It became clear that not only was a publicity campaign needed, an educational one was also in order: one that informed the public of the merits and foreseen benefits of animal cloning work and also communicated to important agricultural stakeholders how they and their operations could be expected to benefit. Secondly, it was understood that great care would need to be exercised in precisely what was communicated, when it was communicated, and to whom.

A four-prong campaign emerged in the days leading up to the calf's birth. Print specialists met repeatedly with the scientists to collect information that was organized into backgrounder releases, question-and-answer FAQs, and media alerts. These materials were developed in close collaboration with scientists and shared for review and clearance with top research and academic leaders at the institution. Fact checking also was

undertaken. The researchers believed that the calf to be born was to be the first-ever Jersey calf cloned from an adult somatic cell. However they hadn't vigorously researched the issue because the cloning technique was their focus, more so than the breed of cattle in which it occurred. With cold fusion clear in their minds, the print staff worked closely with library scientists to ensure that all relevant data banks were consulted. In the end a vague and difficult-to-confirm reference published in a Japanese-language journal prompted the team to modify the claim and assert that the calf would be the first Jersey successfully cloned in the US from an adult somatic cell.

How to convey the significance of the birth proved to be something of a marketing and public relations challenge. Other calves had been born through adult somatic cell cloning, although none were Jerseys. Other Jerseys had been cloned, but not through the adult somatic cell process. The Tennessee calf, who was named Millennium, "Millie" for short, was the first Jersey to be born through adult somatic cell cloning. That became our marketing message, and it was one that required careful wording in written communication and in interactions with the media.

As the print and marketing specialists wrestled with these issues, electronic specialists began compiling B roll video footage of cows used in the cloning work and other visuals that television organizations could build a segment around. Duplicate tapes containing the footage were prepared to hand to media, and a video release was prepared for Ag Day and other non-local media. Despite the fact that the researchers were now working around the clock to monitor the pregnant cow's condition and guard her health, time was made to allow the media specialists to conduct some quick on-camera media training. Print and electronic media specialists quizzed the researchers on camera, asking questions that were expected to be asked by the media. Some of this footage also became part of the B roll and video news release package.

Viewing the Web as a valuable auxiliary resource, print and web specialists developed a Web site of information that drew upon the written material that had been amassed and linked to relevant departments, biographies, and research information. Visuals and other data, such as the dairy production record of the cow that provided the somatic cell for the calf, were also woven into the site, which was purposefully kept off the Web, including local servers, until the morning of the calf's public debut. (URL: <http://web.utk.edu/~taescomm/utclone.html>)

The fourth prong of the effort focused on coordinating the event at which the calf would be unveiled. This consisted of working with the university president's event planning staff and the team coordinating a statewide research meeting. It also involved laying out plans to invite the media to the research meeting/news conference event, whose focus on Millie couldn't be announced until morning of the event, a Monday. This was out of concern that the calf might die or that media would storm the university over the weekend in an attempt to gain access to the calf or to the research team, which at that time was intent on monitoring the health of the calf and its birth mother.

The plan that emerged was to use the news conference in a two-step strategy of media relations: first, to invite local affiliates of large media organizations to the event, and second, to work with them to ensure that local stations communicated news of the calf and cloning success up to their parent organizations. Top priority targets for this were the local bureau of the Associated Press, the local Scripps-Howard newspaper, and television news departments with ties to CNN, ABC, NBC and CBS. Secondary targets consisted of print and electronic reporters who had served the Institute well in the past when asked to provide coverage. The campaign formally began with a simple media alert that announced the Institute was having a news conference to debut a Jersey calf clone; and many outlets used the announcement as a news itself.

While achieving a successful debut for the calf at the news conference -- and, God willing, having the calf healthy and happy in front of the gathering -- was the immediate focus, preparation was also underway to directly communicate news of the cloning success to agricultural organizations, cloning research organizations, and important national agricultural media immediately on the heels of the news conference.

Lists were compiled of Web site URLs, telephone and fax numbers of these organizations. A news release directed readers to the Web site for additional data and downloadable print-quality images.

Results

While the media and communications campaign was a by-the-seat-of-the-pants effort that synthesized the ideas and experience of a diverse set of communications specialists, the team was surprised to learn after the fact that they had executed a perfect textbook example of a publicity campaign. In the book, *Targeting the Message: A Receiver-centered Process for Public Relations Writing* (Longman, 1996), William Thompson advocates a 10-step communications process called a "persuasion platform." His model is useful in organizing and presenting the results of the University of Tennessee's cloning campaign:

Step One: Isolate the Institutional Problem

To the communications team, the idea foremost in their work was to communicate news of the cloning achievement and to do it in a way that avoided pitfalls and focused on positives. From the start, however, the greater institutional goals were prominent in the plan, i.e., to position the university and agricultural institute as a leader in research and also to communicate a cloning breakthrough that had significance for reducing the cost of cloning and advancing cloning research programs. These aims were evident from the start, and they directed the campaign's goals and methods.

Step Two: Determine a Campaign Objective

Ours was to achieve widespread publicity quickly so that the University of Tennessee received scientific credit for the cloning technique and increased financial support from funders.

Step Three: Describe the Target Audience

Derived from the institutional problem, the target audiences were the scientific community and key university stakeholders, including grant-making agencies. Secondary targets were the mass media and the general public (in Tennessee, especially the beef and dairy producers).

Step Four: Predict the Persuasion Sequence

Thompson uses a persuasion model that says people make decisions or react to information based on the importance they attach to their decision (high or low consequence) and whether the decision satisfies an emotional or rational need. Understanding how audiences might react to the news of the cloning research helped us shape our messages. For scientists and grant-making agencies involved in cloning research, the news was of high consequence, requiring facts to appeal to the audience's rational needs. However, pieces for the mass media and general public (audiences for whom the cloning had much lower consequence) emphasized the calf's warm-and-fuzzy appeal, followed by facts to back the scientific claims.

Step Five: Define the Persuaders

What were the most persuasive messages? For scientists and funders, it was that UT had the expertise to create a new cloning technique that would benefit the agricultural community and general public. A secondary persuader was to de-commercialize cloning research, breaking the patent lock-hold on the process, thus making this type of research more affordable and open to the research community. For the mass media and public, a primary persuader was that cloning could produce a viable offspring (that happened to be cute). Within Tennessee, the team wanted to inform dairy operators, of course, but also persuade beef operators of the potential cross-over benefit of this research to them in a state with a dwindling number of dairies but a strong and widely dispersed beef industry.

Step Six: Develop the Creative Strategy

The team relied strongly on a model described as tossing a stone into a pond, with rippling communications effects. By working in partnership with local affiliates, the team was able to multiply the impact of the local campaign. The resulting waves brought quick coverage by USA Today, ABC News (including Paul Harvey),

CNN, the BBC, and a host of other national and international media. The Web content, which was available to a worldwide audience 24/7, greatly aided in information dissemination and seemingly in intensifying interest in the development. The URL was shared in news stories, and email messages received from site visitors indicated a wide range of individuals, including many members of the general public, were using the site to access information.

Communication products included a schematic of the cloning process, to make the concept clearer and to communicate with specificity to researchers how the breakthrough was achieved. Recognizing the agricultural community's interest, the team also furnished dairy records of the donor cow (the calf's genetic twin and a record milk-producer) at the Web site.

Step Seven: Select the Media

For maximum effect, the team used a variety of media (from low-wattage radio stations to large media organizations and the Web) to distribute the story. Picture postcards, with "Cow Tales" (TM) candy attached, were also created. Risks associated with communicating a scientific breakthrough in a channel other than a scientific journal were recognized and actions were taken to substantiate claims of uniqueness of the clone to help minimize risks.

Step Eight: Determine the Timetable

Work began on the project approximately six months before Millie was born, which allowed team members to learn about the cloning process and counsel the researchers in how to work with the media. Once Millie was born and her health seemed secure, the team decided to push for immediate publicity to best serve institutional goals. The publicity and marketing efforts continued intensely for three months beyond the calf's birth, with staff members helping local and international media create their own features on the research. Marketing efforts continue, at a lower level, today: the Millie Web site is regularly updated, and the calf herself will put in an appearance at a two-day series of dairy events for the public in April 2001.

Step Nine: Calculate the Budget

As usually happens with in-house projects, the team did not take the time to calculate costs, since it had a general operating budget and did not anticipate major expenses. Costs were fairly low scale in comparison to the excellent international visibility achieved through the campaign. The only costs in addition to routine supplies and staff hours were for photography, promotional postcards, and candy. In comparison the gains in recruitment, morale, and reputation would seem quite large. Putting dollar figures on such gains, as always, is elusive. A better measure resides in how much additional research funding has been pulled in by the efforts. Funding is said to be forthcoming. However figures have not yet been released.

Step Ten: Determine the Evaluation Process

Funding and reputation are the main measures. As noted above, funding impacts appear to be developing but are not yet measurable. Reputation, without a doubt, has been enhanced by the research and cloning communication campaign with impacts occurring across all target audiences.

Known media placements include three international news syndicates; 17 national news and research outlets; 22 regional and local news and feature outlets; and 21 farm media outlets. While the numbers may appear small, many of these outlets either directly reached target audiences (such as BioResearch Online and the National Dairy Cattle Database) and/or also reached widespread audiences, such as users of the Canadian and British Jersey Cow Associations' Web sites. News carried by highly distributed media, among them the Associated Press, MSNBC, CNN, and USA Today went to multiple markets, meaning expected usage and placements of the story far exceeded the team's record keeping and documentation abilities.

Further, prominent images of the calf and stories of its arrival continued in the months following its birth, with the calf gracing the cover of the university's alumni magazine, the national dairy publication, Jersey Journal, and Tennessee Farmer magazine. Word of mouth reports were also useful. Rural farmers attending Institute of

Agriculture field days told of taping newspaper images of Millie on their refrigerators and spoke of their pride in the development. University trustees and potential funding agencies have commented upon the research success and its importance. In many ways, these remarks were more valuable than some of the newspaper clippings because they provided evidence that the team's communication messages had indeed reached their targets.

Conclusions

While overall the communications team is delighted with the outcome of the Millie cloning campaign, staff members learned some lessons the hard way. Because the experiences may be useful as cautionary points to other communicators, they are summarized here:

1) Investigate and substantiate assertions or ask to see the evidence.

In the weeks leading up to the calf's expected birth, the communications team discovered to their horror that the researchers were operating under the assumption that the calf was to be a "world's first" without having conducted a vigorous investigation to substantiate the claim. The communications staff researched the issue and discovered information that modified the claim to "nation's first." More time would have allowed the one reference that was discovered to be more fully investigated and could, possibly, have allowed the claim "world's first" to be used. Communicators in similar situations are strongly advised to ask to see evidence of similar claims or to investigate and substantiate them on their own. Failing to do so invites high-profile disaster.

2) Remember that media Web sites are immediate and operate with 24/7 news cycles.

The team member who delivered the cloning media kit to the local newspaper (a seasoned former writer at the paper) naïvely thought the paper's print and Web operations were separate. They were not. News of the cloning was splashed across the paper's Web site hours ahead of the official release of the information, which violated the embargo and scooped the Associated Press, which had been working within the rules. The mistake created hurt feelings and strained relations that were difficult to overcome.

3) Capitalize on all markets.

The University of Tennessee has several internal vehicles for disseminating news. Because the producers and editors of these vehicles are valued colleagues, team members clued them in early about the upcoming event and provided them with news packets. The result is that the cloning research was prominently featured on the university's main Web page and communicated in electronic distributions sent to researchers and to influential supporters of the university: two primary targets of the campaign.

Two events followed quickly on the heels of the calf's news conference: the Institute of Agriculture's annual gathering of alumni, and the university's homecoming football event. The postcard the team created, with a piece of Cow Tale (TM) candy attached, was distributed to the hundreds of visitors to Ag Day. And the Institute's vice president personally handed out the postcards and candy to VIPs gathered in the football stadium's sky boxes on the game day.

4) If a Web site is created, figure out who is going to maintain it.

The team enthusiastically created a Web site with the unstated assumption that the researchers and their assistants would take it over once it was created. The Web site content promised frequent updates. With few exceptions those updates have not occurred, and information on Millie's development and other useful content has not been readily communicated. Clearer channels of communication and plans for long-life communications tools needs to be considered at the outset of such campaigns.

5) Have access to detailed Web server statistics.

The team Web site resided on a shared server that offered only scant server statistics about site traffic and usage. To overcome those limitations, the Web specialists added a discreet commercial service called Site

Meter (TM) (<http://www.sitemeter.com>) to the Web pages. It proved invaluable in conveying numbers of hits and the geographic dispersion of site visitors. It also enabled the team to see, and document, that target research universities, grant-making agencies, and research and investment organizations were accessing the information.

6) Anticipate auxiliary campaigns because everybody likes a success.

Millie the clone Jersey calf proved to have broad appeal. Media continued to call for more information for weeks following the news event. Similarly the promotional postcards that were printed to celebrate Millie's birth were in high demand for student recruitment efforts, for handouts at field days, and for other uses. A second run had to be ordered, which increased costs. In retrospect, it would have been better and more cost-effective to anticipate future publicity opportunities and to order a more generous number of the cards from the start.

7) Make clear who retains control of what creative properties.

Upon Millie's arrival, the team contracted with the university's Photographic Services department to take color photographs of the calf. These were intended for print and Web use and also for sharing with the media. Millie's success prompted the department to decide the materials needed to be preserved for archival and university-wide sharing purposes. This made it difficult for the staff to obtain negatives and get scans done with the immediacy that the media demanded. A commercial photographer was hired to create additional images to aid such work.

8) As always, be prepared for surprises.

Being in the Bible Belt, we worried that news of cloning animals might be negatively received by religious fundamentalists. As it happened Jerry Falwell, former leader of the Moral Majority, was in town the week of Millie's debut. Television news teams sensed an opportunity. However Falwell's remarks were surprisingly supportive. Along the same lines, PETA, People for the Ethical Treatment of Animals, was in the news concerning a separate research program conducted at the Institute. Reporters pursuing that story were present at the news conference, and there was concern the story they were pursuing could disrupt the event or its goals. However the concerns proved largely unfounded, although they made for some tense moments.

9) Celebrate success.

The team has carefully documented all known media placements and maintains a master (not-to leave-the-office) notebook along with four loaner copies. Millie postcards are in hand, at the ready for use by the communications team as well as for impromptu needs by researchers and administrators for recruitment and dissemination. The unit continues to enjoy positive comments and visibility from its success in communicating the story.

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Peanuts and Pandas: Marketing Georgia Agriculture to Urban Audiences

**A Paper Presented to the Southern Association of Agricultural Scientists
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Fort Worth, TX
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Background

Introduction

Why focus on urban Georgia?

Georgia is changing, and fast. Each decade we see a larger shift in the Georgia population from rural to metropolitan areas. The shift is not necessarily because residents are moving to metro counties, but because metro areas are moving out and encompassing counties that were once considered rural.

Demographics

American Demographics Magazine says to find the fastest growing counties in the U.S. all you have to do is follow the sun. Counties in Arizona, California, Colorado, Florida and Georgia are expected to lead in population and employment growth between now and 2025. (America's Hottest Counties, 1997-2005, Sept. 1998, Forecast, American Demographics.)

Four Georgia counties appeared in the US Census report of the Top 10 fastest growing counties in the nation between 1997 and 1998. Forsyth County was the fastest growing in the nation with a population of at least 10,000, increasing by 13 percent in one year; Henry County was fourth with a 7.2 percent increase; Paulding County was sixth with 6.9 percent growth and Dawson County was seventh with 6.5 percent.

Few would you have guessed 10 years ago that these sleepy little rural counties would be exploding with outlet malls, fast food chains and newcomers. They aren't through growing yet.

Demographics USA estimates Georgia's 10 fastest growing counties between 1998 and 2003 to be:

1. Forsyth County, +26.8%
2. Henry County, +21.9%
3. Dawson County, +21.7%
4. Paulding County, +21.4%
5. Coweta County, +19.4%
6. Gilmer County, +19.1%
7. Cherokee County, 19.0%
8. Bryan County, 18.8%
9. Long County, 18.4%
10. White County, 18.3%

If you look at the Sunbelt on the national metropolitan area map, you will see that more and more of the South's rural areas are vanishing. Almost all of Florida and a good portion of South Carolina are metropolitan areas now. There is even a growing metro corridor from Augusta to Athens to Atlanta and Columbus, connecting Columbia, S.C. and Birmingham, Ala. It won't be long before Georgia is much the same as her sister Southern states.

In 1995, Georgia's population was 7.2 million -- ranking 10th in population in the US. By 2000 the population was expected to rise to 7.9 million. Early Census numbers showed Georgia's population had bloomed to 8.2 million -- a 26.4 percent increase in one decade.

By 2025 Georgia is expected to climb to the 9th most populous state with 9.9 million people -- the 4th largest gain in the country.

International migration is expected to bring more than 300,000 into the state by 2025. National migration is expected to bring in almost 1 million new Georgians.

By 2025, non-Hispanic whites could comprise 60.6 percent of Georgia's population, down from 68.4 percent in 1995. Non-Hispanic African Americans could comprise 33.3 percent of the state population in 2025, up from 27.8 percent in 1995. Hispanics are projected to increase from 2.1 percent of the state population in 1995 to 3.5 percent in 2025.

Between 1995 and 2025, the number of non-Hispanic whites residing in Georgia is projected to increase by 1.1 million, compared to a gain of 1.3 million for non-Hispanic African Americans, a gain of 195,000 for those of Hispanic origin and a gain of more than 136,000 for other minority populations.

Between 1995 and 2025 Georgia is expected to see the largest gain in the nation in African American population, and the fifth largest increase in white population. Right now, 51 percent of Georgia's black population lives in seven metropolitan counties: Fulton, DeKalb, Chatham, Richmond, Muscogee, Bibb and Cobb.

About the Audience

Georgia's metropolitan areas are exploding. With the population explosion comes a population of new voters, and an emerging audience that we must serve. The UGA College of Agricultural and Environmental Sciences has built a program on a reputation of service and tradition of fast, reliable information for the people and industry of the state. Keeping up with educating this emerging population on who we are and what our relevancy is in their daily lives and the health of this state will be our challenge for the next 25 years.

In 1998, more than 5.2 million of Georgia's 7.6 million residents lived in metro areas.

In 1990, the Albany Metropolitan Statistical Area's population was 112,561. According to the Governor's Office of Planning and Budget, by 2010 that should swell to 131,735. Athens is expected to grow from 126,262 in 1990 to 168,215 in 2010. Atlanta's population is expected to shoot past 4 million by 2010.

Georgia's MSA (Albany, Athens, Atlanta, Augusta, the Georgia counties of Chattanooga, Columbus, Macon, Savannah) population will top 6 million. That will be about three-fourths of the state's total population.

This new urban centered population has proven early to be a voting group. According to the Georgia County Guide, Oconee County and Fayette County were the two leading counties for number of voting age population that actually voted in the last election.

Along with this migration toward metropolitan areas and their increasing voter base we may see new legislative districts, and a new base of legislative power. We must be prepared to show this new population of voters what the University of Georgia College of Agricultural and Environmental Sciences is doing for them.

Method

Urban Campaign Proposed Marketing Strategies

Executive Summary

A careful assessment of the college's urban agricultural programs showed that while the college has many good urban-related initiatives, they lack cohesiveness and focus.

The Georgia Center for Urban Agriculture caters to commercial Green Industry growers. This was an intentional decision by the organizing committee, because the Urban Center was an outgrowth of industry request. There are many relevant research programs being conducted by CAES faculty, and the Extension Service is addressing many urban concerns, ranging from industry needs to consumer needs.

Since these programs are not currently conducted in a coordinated effort, CAES is missing many opportunities to reach one important, emerging audience -- urban voters. The Urban Agriculture Campaign Committee recommended establishing a college-wide Urban Initiative Program Team (UIPT) to coordinate and market the college's urban Ag programs and to help assess the needs of our urban audiences.

The Committee feels it is paramount to the college's success that the scope of the urban effort be broadened to get maximum impact and audience response. It divided the campaign into three phases:

Phase I is to raise the public's awareness of urban agricultural and environmental issues through work with the mass media, and to lay the foundation for the UIPT to build upon;

Phase II is to raise awareness of urban agricultural and environmental issues among target audiences with specific programming;

Phase III is to work with the UIPT to develop a cohesive, long-range program plan to address the needs and concerns of our urban audiences.

Goals of Urban Agriculture Campaign

Goal 1: Prepare a document that defines college messages of interest to urban Georgians.

Goal 2: Promote the College's outreach capabilities.

Goal 3: Promote agricultural and environmental sciences by providing context for urban residents and showcasing CAES's best science -- primarily through news releases.

Goal 4: Successful careers built on CAES degrees.

Goal 5: Host two press conferences.

Goal 6: Coordinate a Speakers Bureau.

Goal 7: Conduct five media campaigns.

Goal 8: Liaison with urban and statewide media, meet with editorial boards, exhibit at media annual conferences, develop and sponsor CAES awards on excellence in agricultural and environmental coverage.

Goal 9: Conduct in-service training sessions on "Working With The Media."

Goal 10: Create and disseminate impact statements, fact sheets, a-v materials on topics related to urban campaign.

Kick off Plan

To get the Urban Agriculture Marketing Plan off to a good start, the committee developed a plan to hold a special event at a popular urban venue in the state -- Zoo Atlanta. The original plan follows:

Preliminary Proposal for Urban Ag Exhibit at Zoo Atlanta Kick-off Event

Purpose:

To help create a greater understanding of agriculture in an urban setting.

Objectives:

To introduce Georgia agriculture to an urban audience.

To introduce the College, Extension and 4-H to an urban audience.

To introduce more 4-H'ers to Zoo Atlanta.

Plan:

To create a month-long exhibition of agriculture, the College, Extension and 4-H to be displayed at Zoo Atlanta during National Agriculture Month 2000. The exhibit would include interactive kiosks, modeled after the college's Activity Center, that connect urban children to agriculture, the college, 4-H and agricultural and environmental careers. We would also have program exhibit areas staffed with specialists, county Extension agents, a student recruiter and 4-H'ers.

To help bring 4-H'ers to the Zoo, a different district could host each weekend during Ag Month. We would work with the Zoo to offer discount tickets that would be sold through county offices.

Possible funding:

The project offers funding opportunities for ag-related groups including commodity commissions, agribusinesses, environmental education groups and other related groups with an urban focus.

Results

Event Summary

Conflicts with Zoo and 4-H events caused us to alter the plan. The final product, however, was highly successful. Following is a summary of the event:

A to Z: Agriculture at the Zoo

The first ever Ag at the Zoo weekend took place March 25-26, 2000 at Zoo Atlanta as part of the urban agriculture marketing campaign strategy envisioned by Education, Communication and Technology.

STATISTICS

The event attracted 8,284 visitors on Saturday and 7,533 on Sunday for a total of 15,817 visitors (the Zoo staff anticipate a weekend crowd in March at around 12,000 visitors).

The 82 x 200-foot tent held 25 exhibitors from the college and related groups, three Saturday performances by 4-H Clovers & Company, the Ag Quiz Bowl, a guest appearance by Walter Reeves on Sunday and 30 demonstrations by selected 4-H'ers throughout the weekend.

County extension agents sold 243 tickets to Cyclorama and 1,027 tickets to Zoo Atlanta.

Two donors -- the Gold Kist Foundation and Georgia Farm Bureau -- each contributed \$2,500 to support the weekend. Kubota Tractors set up a popular tractor exhibit and the Georgia Beef Board donated the use of T-bone, an animatronic steer.

The Zoo Atlanta Web site calendar, which promoted the event, received 544,000 hits in March.

The Zoo Atlanta ad appearing in the Atlanta Journal-Constitution Friday, March 24, reached a potential audience of 1,161,500 readers.

Promotional articles prepared by ECT were distributed to media and county agents throughout the state.

REACHING OUR GOALS

The purpose of the event was to:

- help create a greater understanding of agriculture in an urban setting,
- reinforce the connection between nature and agricultural conservation,
- bring 4-H'ers to the Zoo,
- create awareness of careers in agricultural and environmental fields,
- recruit students for the college and
- increase awareness of the knowledge base available through the college.

How did we do?

Based on visitor surveys conducted by the college's Ag Ambassadors, almost 80 percent of the visitors were Georgians from 34 counties. Fully half of those were from urban counties. Out-of-state visitors came from eight states, including Virginia, Michigan, Texas, Indiana and New York. Half of those surveyed were aged 26-45.

How did they rate their knowledge of Georgia agriculture? Nearly half knew "almost nothing" to "a little bit" while only 22 percent rated themselves "very knowledgeable." Half of them knew about Ag at the Zoo before they visited the Zoo. Many heard about it from radio, TV, the Zoo and the University but the majority of those who responded had heard about it from their local 4-H agent.

What exhibits did they like? Anything that moved, talked, walked or somehow got them involved. The exhibits that generated the most positive comments included an animatronic steer, the Extension wildlife specialist's "Zoodoo" exhibit in which visitors matched droppings with the animals that generated them, a digital diagnostics exhibit with its microscope, the agent association's Ag Quiz Bowl, the edible aquifer and IPM in the schools. By far, the exhibits that attracted the most attention were the bugs: hissing cockroaches, termites and fire ants.

What was their overall impression of the event? They used descriptive words like cool, educational,

entertaining, fun, informative and well organized. On a scale of 1-5 with 1 being "hated it" to 5 being "loved it," 80 percent rated it between 4 and 5. Eighty-five percent said they would attend again.

When asked if their opinion of the importance of Georgia agriculture and environmental stewardship had changed as a result of their visit, 51 percent said yes while many of the others said they already had a positive impression. Here's just a sampling of the comments:

City people don't learn much about agriculture.
I'm more careful about water.
I gained more knowledge about IPM.
I learned something I didn't know.
I'm seeing how everything works.
Everything has changed.
It was more interesting than I thought.
4-H has always been important. It's making great advances.

When asked how effective the event was in informing them about the college's activities and services, 66 percent said it was effective to very effective. Another 18 percent said it was somewhat effective.

THE EXHIBITORS' COMMENTS

Eight exhibitors responded to a survey with thoughtful comments about the event. Their own observations show they saw visitors in every age group from under 6 to seniors. They all felt they reached new audiences. They agreed the most effective presentation was an interactive approach with attractive visuals.

All exhibitors who responded said Ag at the Zoo was worth their time and would participate again next year. As one put it, "Absolutely, anytime you can promote Georgia agriculture and, more specifically, our College is well worth everyone's time."

Conclusions

LOOKING AHEAD

Was it worth it? Despite the little headaches and minor adjustments necessary for next year, it's important to focus on the bigger picture. Here's how the exhibitors said they benefited from participating in Ag at the Zoo:

We benefited from the education and awareness of children on groundwater protection. People became aware of the efforts of the University of Georgia to educate the public and the value of research.

It was good to get our name out to an urban audience for a change.

It makes the college visible in an area of the public that isn't very familiar with it. Ag at the Zoo helped show some of the breadth of our college to people who might otherwise think we're just about poultry and peanuts. Our college benefits from a marketing standpoint. Showcasing our efforts and impact builds support in many ways. I hope we also better educated persons about various aspects of agriculture.

We created a game based on a research tool that SANREM uses to identify what landscape features a community values. Playing the game with visitors opened a dialog with them about environmental issues in their communities and gave us a chance to explain a little about the kind of research our group conducts.

I think it opened eyes to what is going on in our college.

CAES and Zoo Atlanta will host the second annual A to Z: Agriculture at the Zoo event, March 24, 2001. Long-term, we are considering adding a second day (Friday) to attract school groups and field trips after laying the groundwork with teachers throughout the state.

Future Plans

The Ag at the Zoo Committee has begun work on the 2001 event, including contacting potential exhibitors, working with Zoo Atlanta on publicity and funding. An exclusive sponsor, Southern United Dairy Industry Association, has already signed on for \$4,000. A silent underwriter has also pledged \$2,500 to support expenses for the 4-H performing troupe, Clovers & Co., and pins/patches as incentives for 4-H'ers, Girl Scouts and Boy Scouts to complete an educational scavenger hunt. Commercial, non-educational exhibitors will be offered the opportunity to exhibit for a small fee, generating funding for other incidental expenses.

Measuring and Evaluating Levels of Public Awareness

A Paper Presented to the Southern Association of Agricultural Scientists Agricultural Communications Section Fort Worth, TX January 2001

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Background

From June to October, 2000 a public awareness evaluation of University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) Ft. Lauderdale research and education center was conducted. The evaluation was based on the belief that the Ft. Lauderdale Research and Education Center has a low public awareness among its external publics.

The study left little doubt that few formal or planned/external relations activities at the center resulted in a situation where the further one moved on a continuum from the central core of faculty and staff on one end, to the general public on the other, the lower the awareness of the center, its mission and its public benefit.

The evaluation also documented and compared faculty and staff perception of the center and the perception of its various publics.

Finally the observations of the evaluation were used to develop recommendations concerning the name of the center, how the center should be positioned within the community and levels of public awareness/external relations needs including programs and personnel.

Method

The public awareness/external relations evaluation was conducted through a 360 degree assessment of various center publics including faculty, staff, students, former students, clientele, extension faculty, and the general public. Personal interviews were conducted among center faculty and staff and faculty from the Broward County extension which is co-located on the same site as the center. A written survey was administered to samples of students and former students, clientele, and the general public.

Information sought in personal interviews and written questionnaires included the following: first impressions of the Fort Lauderdale Research and Education Center, perception of the mission of the center, level of awareness of the center among the various publics, benefits of the center, descriptions of the center's clientele, and the center's relationship to the Broward County UF/IFAS Extension office.

Results

Questions and Responses

When you think of the Ft. Lauderdale research and education center, what comes to mind?

The initial or quick answer to this question differed among the various groups. The first response of center faculty and staff described the center as "a place to work". Clientele and extension faculty view this center in a functional/disciplinary way indicating that it provided valuable research and information for the various disciplines it serves. Former students view the center as a source for horticultural information; existing students, as research and information source for South Florida horticulture. In the minds of the general public the center is a public information source. Other answers included describing the center as having an urban

research function; excellence in education; center for teaching, research and extension; small classes and a peaceful feeling and a long drive from Naples.

Describe in your own words the mission of the center.

As was with the case in the previous question, the mission description of the center varied depending on the group. Among faculty and staff the center's mission was research and education (teaching and extension) in the various disciplinary areas to serve the people of South Florida. However, the faculty defined people "people" as the various industries which serve the population in general. The staff tended to believe the center's mission was to serve the communities at large. As one would suspect the faculty view is also shared by clientele. A majority of the current students viewed the primary mission of the center as one of providing an educational opportunity for place-bound students and professional workers in South Florida. While former students had a similar view, they frequently mentioned the research function also as part of the mission. A majority of the general public could not articulate the mission of the center as they indicated they "did not know what the mission was". The extension response viewed the center's mission as that of providing information for the extension workers. A significant theme among second and third most prevalent answers throughout all of the groups projected that the center with an urban focus for dealing directly with the problems of the people/home owners in urban areas.

Who benefits from research and education programs?

Among all respondents, the primary clientele of the research and education center programs are those industry groups in the disciplinary areas. The general public/home owners ran a close second to industry groups among faculty and staff, clientele, current students, and the general public. As primary clientele, students rank last among faculty and staff and the general public, third among clientele and current students, and second among former students. The extension service as a primary beneficiary of research and education center programs ranked second among extension faculty, third among the faculty and staff and the general public, and fourth among the clientele, students, and former students.

The faculty and are adamant that they should not deal directly with homeowners or members of the general public in answering questions, solving problems related to individual needs and most specifically, home horticulture needs. The faculty view homeowner/general public involvement as the role of extension agents. While extension agents may generally prefer that view point, in some cases they refer individuals directly to the research center. When that happens, more often than not, the individual is ping-ponged back to the extension office.

What benefits do you receive from the Research and education center programs?

As is the case in other issues concerning the public awareness evaluation, the answers to benefits received varies from group to group. The general public said they didn't know what the mission of the center was. They also indicated that they received no benefits from the centers programs. Students and former students on the other hand were vocal in indicating education, knowledge, degrees, and certifications as the major benefits that they received from programs. Clientele groups and the extension agents indicated that their primary benefit was the information received in appropriate disciplinary areas and the ability interact with researchers. Occupation of respondents

The occupation of the respondents followed discipline lines for clientele, students and former students. Industry professionals and managers of varying degrees within the discipline areas are also served. In addition, some of the respondents are state and federal agencies employees in such areas as agriculture, environmental protection, and natural resource management. Respondents in the general public group include a wide range vocations and trades from health care professionals to airline pilots, teachers, homemakers,

lawyers, corporate managers, and, of course, retirees.

Levels of awareness

Except in the case of center faculty and staff and Broward County extension faculty, respondents were asked to indicate individual levels of awareness of the research and education center ranging from "don't know" to "low" to "average" and to "high". Values were assigned to each of the four levels of awareness: Don't Know = 0, low = 1, Average = 3, High = 5. The mean level of awareness of an individual group of respondents was then determined by adding total number of points and then divided by the total number of respondents in that group. The process was repeated in all of the groups. Center faculty and staff and extension faculty were asked to assign a level of awareness of the center and its programs to the general public. Additionally, center faculty staff and extension faculty were also asked to evaluate the level of awareness of the center and its programs among clientele.

The levels of awareness ranged from average to low among members of the general public. However, those levels were higher than was predicted by the faculty and staff of the Center. The extension faculty predicted a much higher level of awareness of the center among clientele and the public than was actually measured.

In comparing the general levels of awareness of the students/former students, clientele and the general public, predictably, the further one moves on a continuum away from the faculty core, the lower the level of awareness.

Needs of the Center

The discussions with faculty and staff, and survey results from the other groups involved revealed a list of needs of the center that are closely related to public awareness. The needs are as follows: a broadened focus to include the community at large; a greater urban emphasis; improved collaboration between researchers and extension faculty; and enhanced/improved facilities, including a site clean-up.

Conclusions

The study results provide a roadmap for accomplishing several tasks at the center including the following:

Conduct an internal educational effort regarding mission/vision of center.

Increase/enhance center-extension interaction.

Upgrade physical facilities; mount major clean-up effort.

Develop and implement public awareness effort for all audiences.

-Change name to reflect greater urban emphasis.

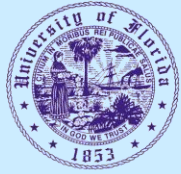
-Increase/enhance community and public interaction and communication.

-Develop system for increasing faculty interaction with nearby educational institutions.

-Develop well-paced cadre of volunteer advocates.

-Analyze most efficient/effective resource utilization for implementing and managing public awareness efforts.

The conclusions of this study were recommended to the UF/IFAS central administration and have been accepted for implementation as rapidly as possible. Specific graphic representations of this study are shown in the accompanying power point presentation.



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PUBLIC AWARENESS EVALUATION

UF/IFAS FT. Lauderdale REC

June – October, 2000

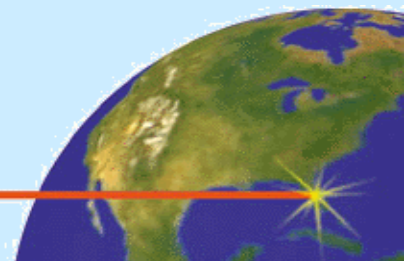
Donald W. Poucher

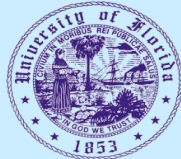
Assistant Vice President

UF/IFAS External Relations and Communications

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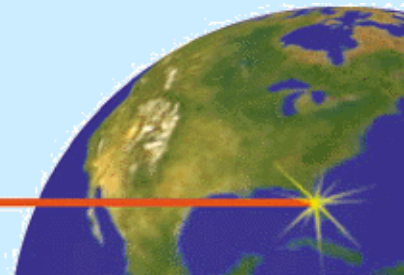
Institute of Food and Agricultural Sciences

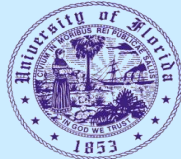
Comparison of Faculty & Staff Perceptions with those of Various Publics

- Broward Extension Faculty
- Students and Former Students
- Clientele
- Public

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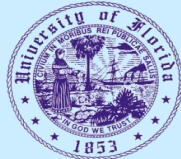
PUBLIC AWARENESS EVALUATION OUTCOMES

- Recommendations.....
 - Name of Center.
 - Center Positioning in Community and South Florida.
 - Public Awareness/External Relations Needs (facilities, personnel & programs).

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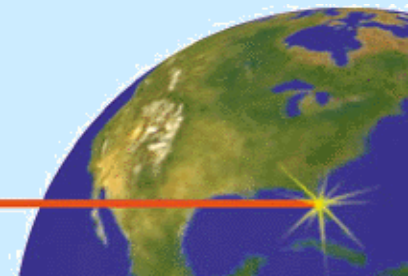
Institute of Food and Agricultural Sciences

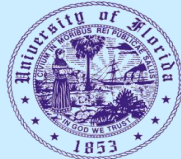
PERSONAL INTERVIEWS & MAIL QUESTIONNAIRE

- **First Impression.**
- **Perception of Mission.**
- **Level of Awareness.**
- **Benefits.**

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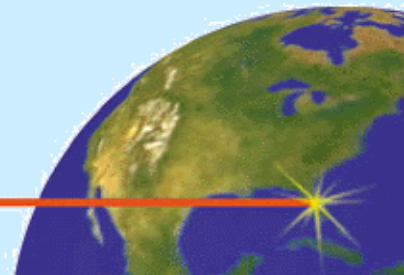


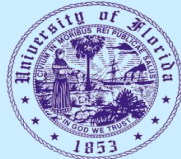
When You Think of the Ft. Lauderdale REC, What Comes to Mind?

- Faculty/Staff: Physical Location; Place to Work.
- Extension/Cientele: Research Information in Various Disciplines.
- Students: S. Florida Horticulture Info.
- Public: Gardening/Horticulture Info.

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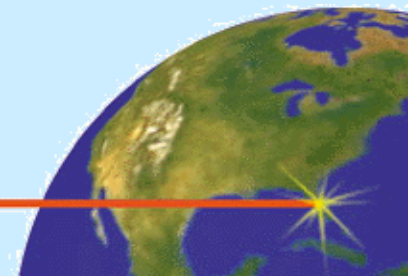
Institute of Food and Agricultural Sciences

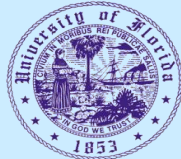
Common Themes: When You Think of the Ft. Lauderdale REC, What Comes to Mind?

- **Source of Information.**
- **Focus on Urban Problems.**

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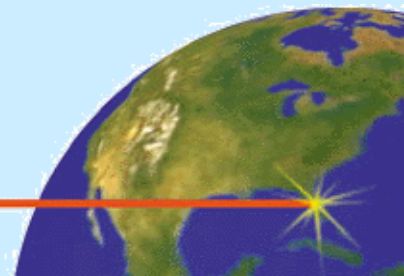
Institute of Food and Agricultural Sciences

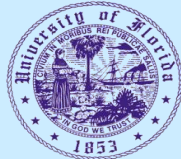
WHAT IS THE MISSION OF THE CENTER?

Recurring theme among all groups
with an answer to this question: *urban*
focus and deal with problems of people
in urban areas.

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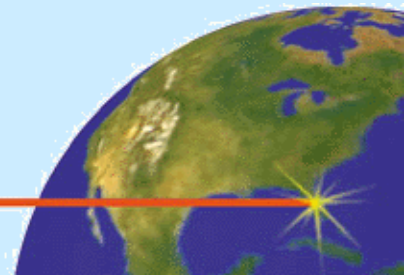
Institute of Food and Agricultural Sciences

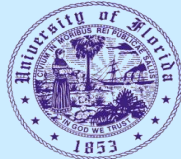
WHAT IS THE MISSION OF THE CENTER?

- Faculty/Staff & Clientele: Research and Education for People of South Florida.
 - Faculty/Clientele: *people* = industry.
 - Staff: *people* = *communities* at large.

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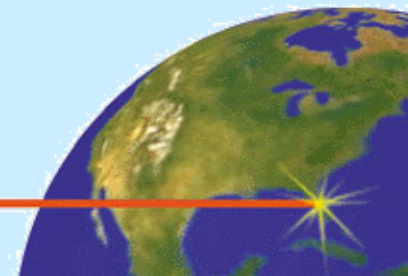
WHAT IS THE MISSION OF THE CENTER?

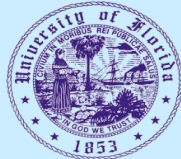
- Students /*Former Students: an educational opportunity for placebound students and professional workers in South Florida.
- Extension: Source of Information for Extension.

*Also mentioned research as part of the mission.

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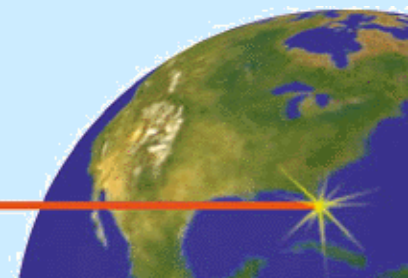
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WHAT IS THE MISSION OF THE CENTER?

The majority of the general public
could not articulate the mission and
indicated they did not know what the
mission of the Center was!!!!!!

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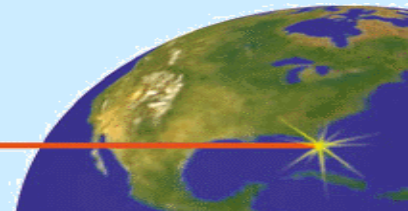
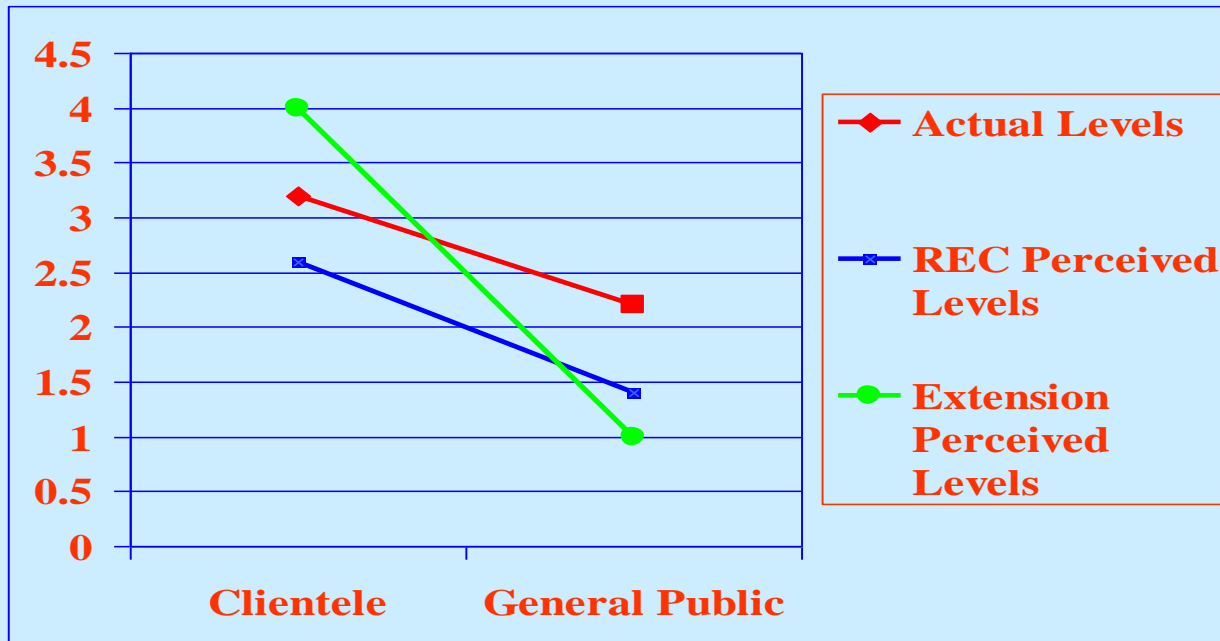
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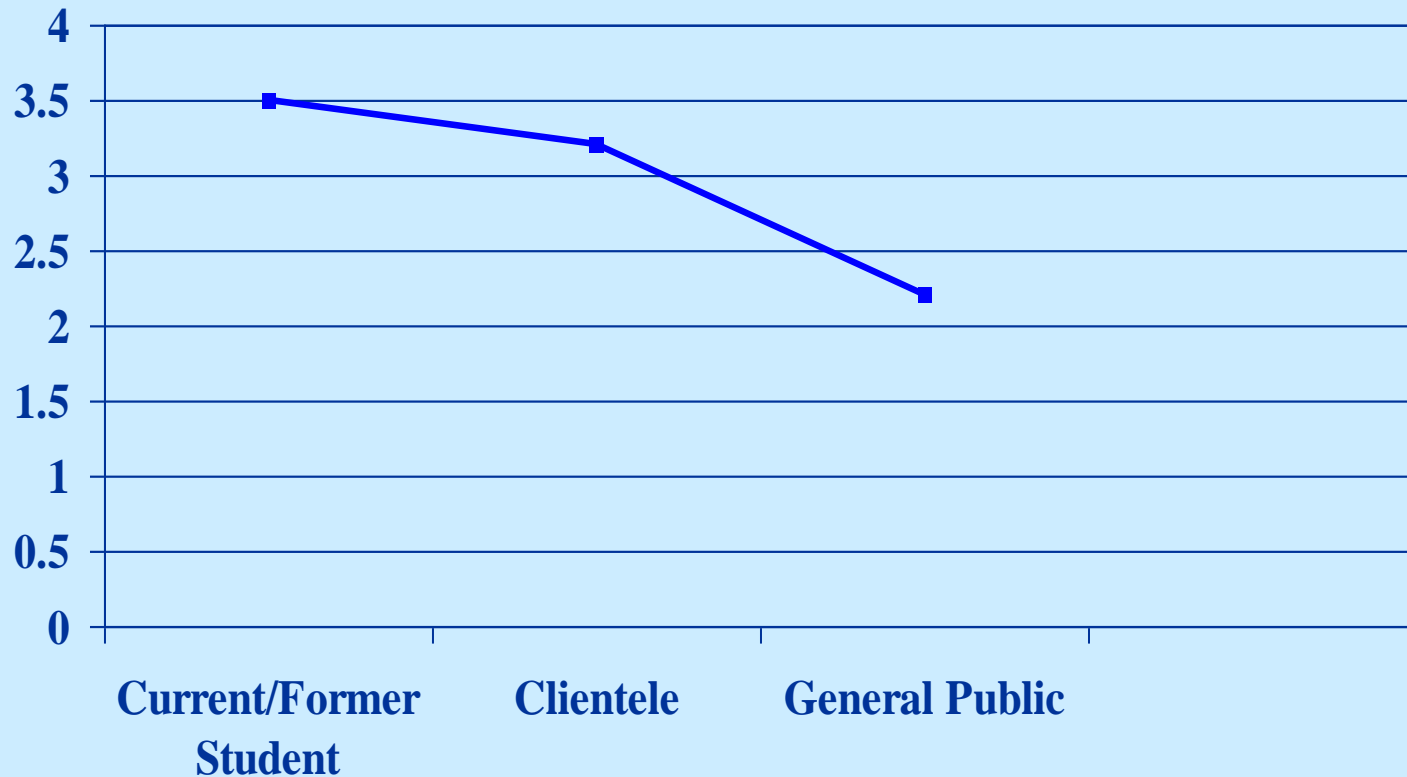
FT. LAUDERDALE REC

Faculty/Staff Perception & Awareness Levels

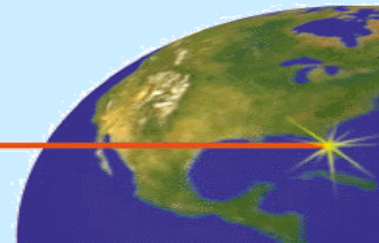
Clientele and Public



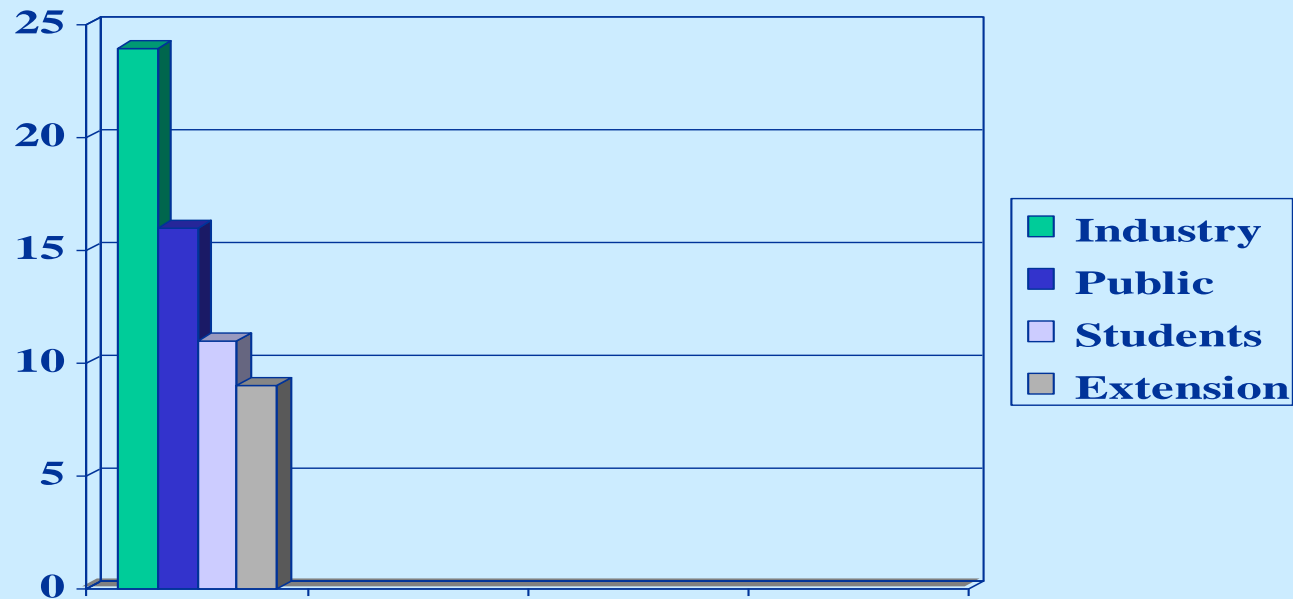
External Levels of Awareness: Ft. Lauderdale REC



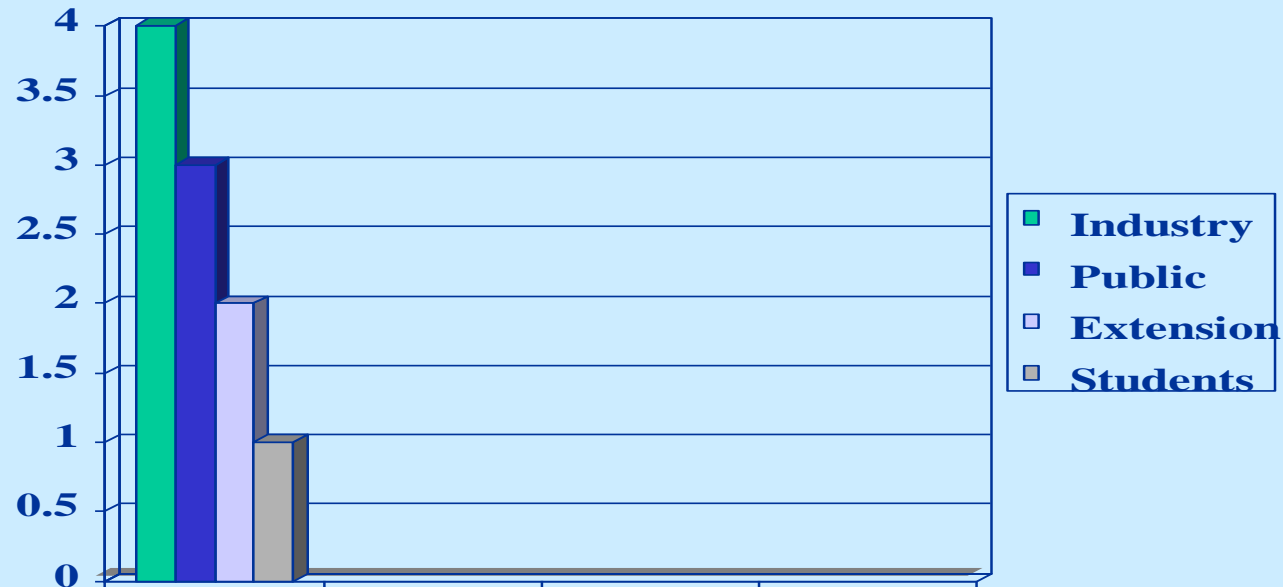
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WHO BENEFITS FROM THE FT. LAUDERDALE REC ?



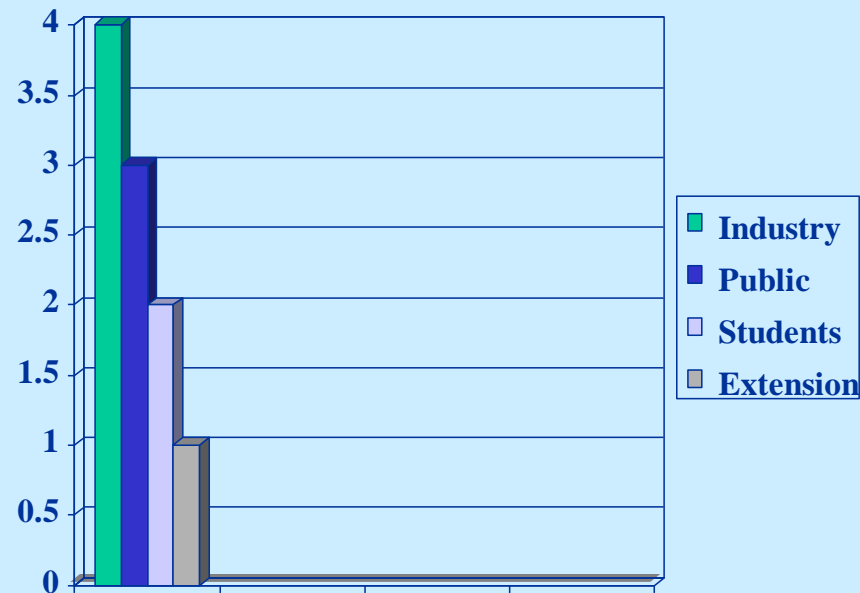
FACULTY: WHO BENEFITS FROM THE FT. LAUDERDALE REC ?



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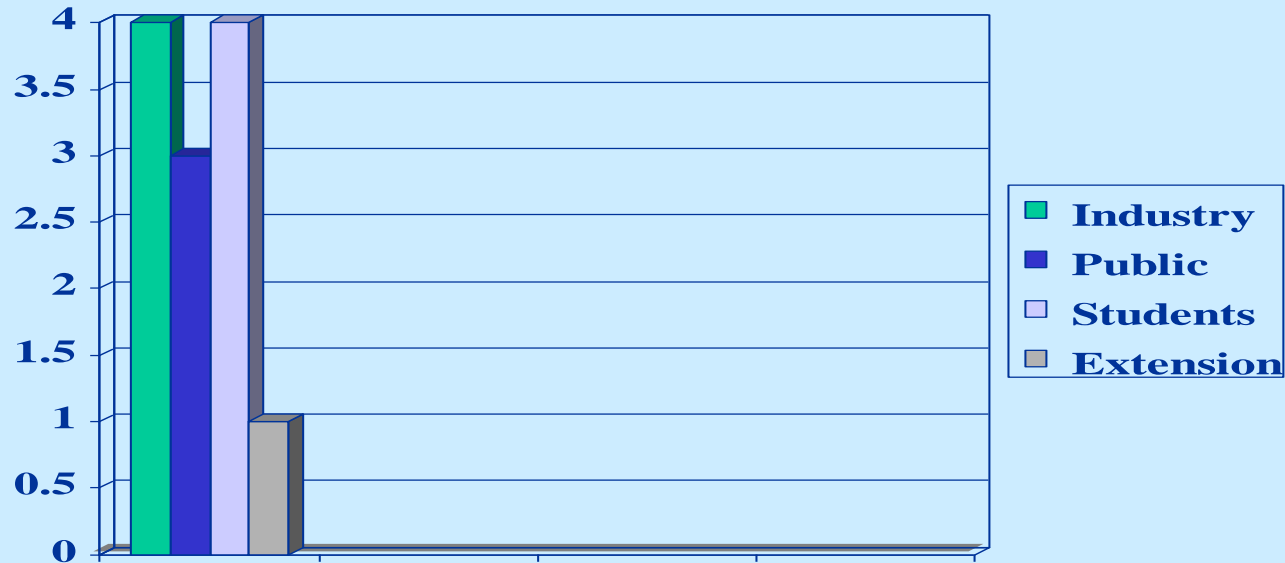
CLIENTELE: WHO BENEFITS FROM THE FT. LAUDERDALE REC ?



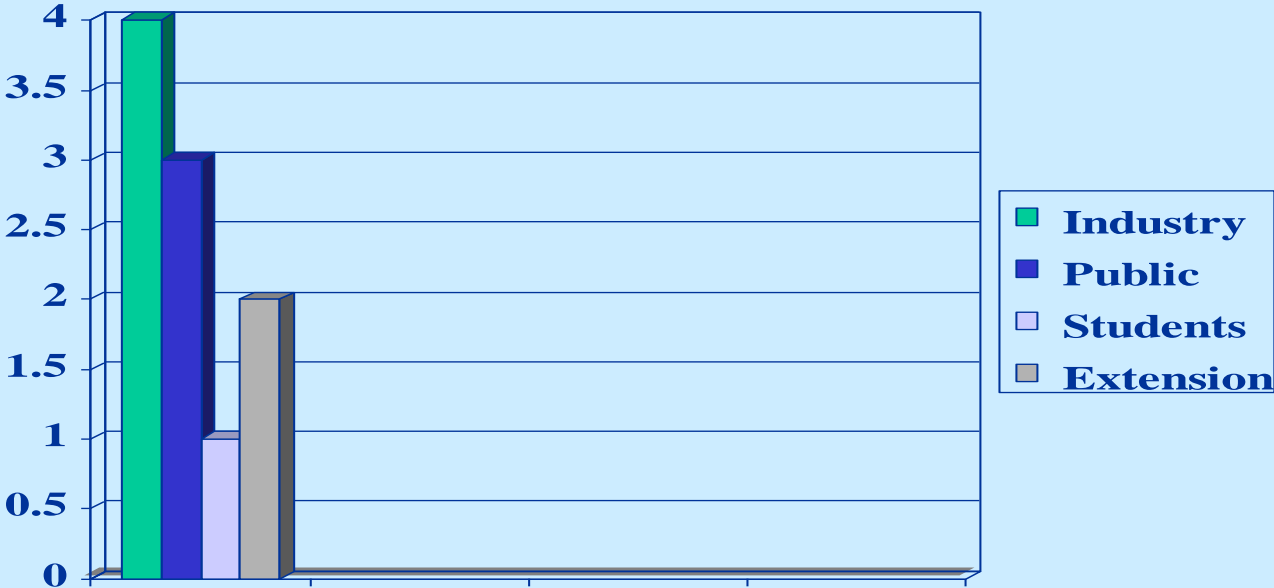
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STUDENTS/FORMER STUDENTS: WHO BENEFITS FROM THE FT. LAUDERDALE REC ?

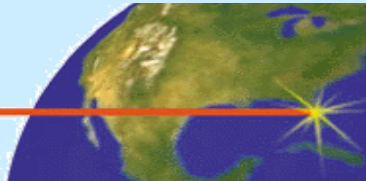


PUBLIC: WHO BENEFITS FROM THE FT. LAUDERDALE REC ?

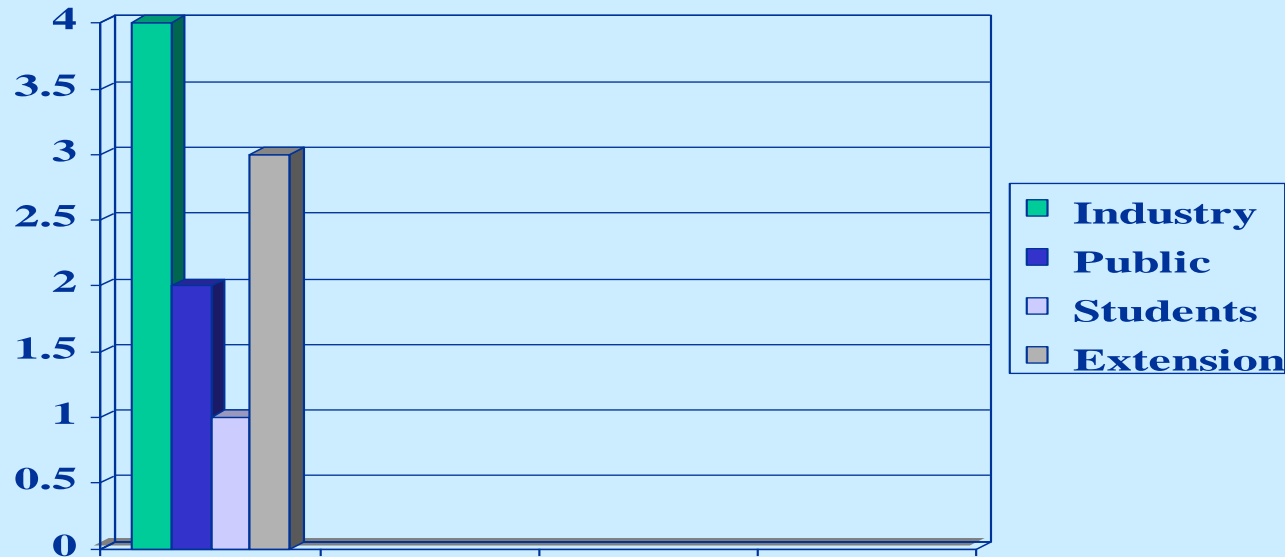


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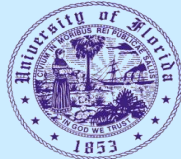


EXTENSION: WHO BENEFITS FROM THE FT. LAUDERDALE REC ?



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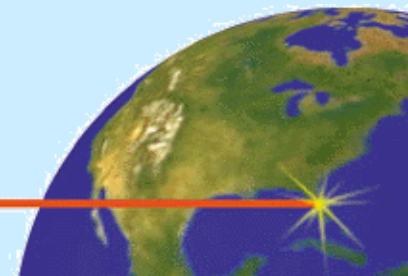
Institute of Food and Agricultural Sciences

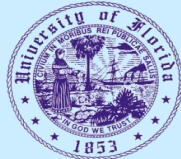
WHAT ARE BENEFITS ?

The General Public said that not only they didn't know the mission of the Center, they received no benefits from the Center's programs.

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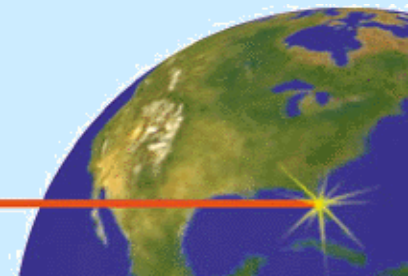


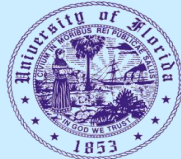
WHAT ARE BENEFITS?

- Students/Former Students: knowledge, degrees, certifications.
- Clientele Groups/Extension Agents: information received in discipline area and interaction with researchers.

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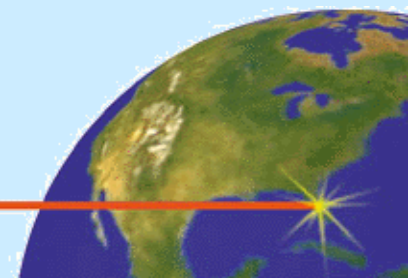
Institute of Food and Agricultural Sciences

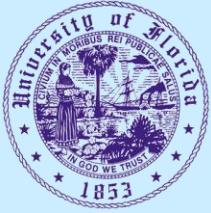
OCCUPATION OF RESPONDENTS

- Clientele/Students/Former Students:
 - Professionals and managers in industry.
 - State and Federal Agency employees.
 - Full Time Students.

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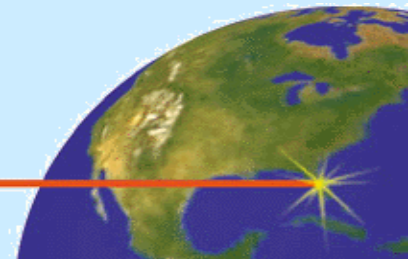
Institute of Food and Agricultural Sciences

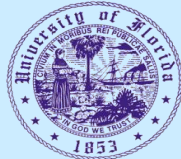
Occupations: General Public

- Retirees
- Teachers
- Homemakers
- Nurses/Other Health Care Professionals
- Airline Pilot
- Firefighter
- Real Estate Sales
- Pharmacist
- Stockbrokers

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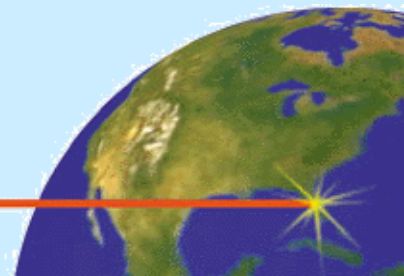
Institute of Food and Agricultural Sciences

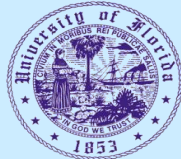
UF/IFAS FT. LAUDERDALE REC: NEEDS FOR CHANGE

- **Broaden focus to include homeowners and community; greater urban emphasis.**
- **Greater/broader teaching emphasis.**
- **Increased public awareness.**
- **Improved collaboration between researchers and extension faculty.**
- **Enhanced/improved facilities (including site clean up).**

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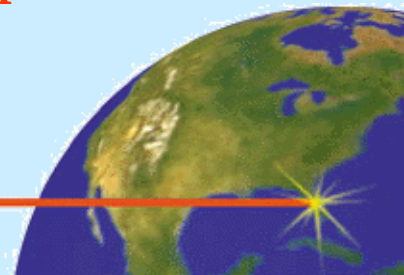


The Next Step.....

- Conduct internal educational effort regarding mission/vision of center.
- Increase/enhance REC-Extension Interaction.
- Upgrade physical facilities; mount major clean-up effort.
- Develop and implement Public Awareness effort for all audiences, including public and clientele.
 - Change the name to reflect a focus on urban community.
 - Increase/enhance community and public interaction and communication.
 - Develop system for increasing faculty interaction with nearby educational institutions.
 - Develop well-placed cadre of volunteer advocates.
 - Analyze most effective/efficient resource utilization for implementing and managing public awareness effort.

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What's With the Dog? Using Student Focus Groups to Guide Recruitment Efforts

A Paper Presented to the Southern Association of Agricultural Scientists
Agricultural Communications Section
Fort Worth, TX
January 2001

[Judy Purdy](#)

Marketing/Outreach Specialist

[Jay Bauer](#)

Art Coordinator

[Carol Williamson](#)

Art Coordinator

University of Georgia

Background

While enrollment at the University of Georgia is on the rise, the number of students in the College of Agricultural and Environmental Sciences (CAES) is shrinking. Our college is not alone; enrollment is down for a handful of other UGA colleges, including the journalism school. But our college enrollment picture may represent one of the more dramatic shifts at UGA. Our enrollment has dropped 25 percent in the past five years, from 1,410 students in 1995 to 1,032 students this past fall.

The college's ratio of returning students has remained fairly constant - 77 percent in 1995 and 80 percent in 2000 - but the composition of its student body is changing. Freshmen are becoming a larger component of the CAES student body and more important in the college's overall recruitment effort. In recent years, transfer students have accounted for two-thirds of the college's new students, and freshmen have made up the remaining one-third. This past fall, however, the mix was exactly 50-50: half were transfers and half were freshmen. The college's new student mix contrasts sharply with the overall University ratios. Of the 5,500 new students who enrolled at UGA this past fall, 4,000 were freshmen and only 1,500, or 27 percent, were transfer students.

UGA's increasing popularity, perceived educational value and steadily climbing academic standards have made it more difficult to be admitted. In its annual ranking last October, Kiplinger's Magazine ranked UGA 15th among the nation's top 100 best values in public colleges and universities. The September 2000 issue of U.S. News & World Report, ranked UGA 38th among the top 50 great schools at great prices, and its 2001 edition of America's Best Colleges guidebook, released September 1, 2000, ranked UGA among the nation's top 20 public schools.

So if the picture at UGA is so rosy, why is CAES enrollment declining? Reasons cited for the decline include the stiffer competition to get into UGA and the demographic changes taking place in Georgia.

- There are fewer numbers of farmers and family farms.
- The state's urban areas are growing rapidly and disproportionately.
- The UGA student body now is predominantly urban/suburban.
- There's a declining interest in studying traditional agricultural subjects.

In 1999, the average age of a Georgia farmer was 57. Farmers represent less than 2 percent of Georgia's population. With the rapid growth of Georgia's metro areas, most UGA students now hail from metro and suburban counties. In 1998, 68 percent of all Georgians, or 5.2 million of the state's 7.6 million residents, lived

in metro areas. Four of the fastest growing counties in the nation are in Georgia. In fact, Georgia will gain two more seats in the US House of Representatives, and both delegates will represent metro populations.

Fewer and fewer prospective college students are exposed to agriculture, much less the advantages of attending a college historically rooted in agriculture. Many do not make the connection between agriculture and cutting edge research in food science, environmental health or cloning. For the most part, neither high school students, their parents nor their teachers know that CAES offers a wide array of majors beyond traditional agriculture, such as pre-law, engineering or economics. In addition, many potential students and their parents and teachers have a narrow view of the academic offerings of an agricultural college and the lifestyles they support. Colleges with the word agriculture in their name must overcome a negative mind set among urban/suburban prospective students and their parents.

You've all heard the forecasts that the number agricultural colleges will be significantly smaller by the year 2020. At the same time, job opportunities in ag-related fields are on the rise. According to a Spring 2000 report, "Employment Opportunities for College Graduates in the Food and Agricultural Sciences," published by the Office of Higher Education Programs at the USDA's CSREES, annual job openings for ag-related fields are projected to exceed the number of graduates. The report projects that food science, engineering, landscape horticulture and plant genetics will be among the hot careers in 2005, the year many of next year's freshmen will graduate.

When you add all this up, it's no wonder that a large number of our prospective students - both those in high school and those already enrolled at UGA - skip over our college. The college needs to explore new ways to engage the attention of potential students.

Last year, ECT completed a new series of recruitment materials that present the college's academic program (English and Spanish versions) and each of its majors. The initial concept for content and graphic design of the entire series of 22 brochures was guided by focus groups of current CAES students. But too many cooks - mostly administrators and departmental coordinators - got involved and spoiled the broth. The original content, photographs and design concepts lost their zest and became watered down. With so many conflicting forces involved, the communications machinery also gummed up, making the production process slow, arduous and muddled. The end result was a compromised version of the original concept, no longer based on focus group findings. The encumbered process with layers and layers of administrative approval delayed some publications by as much as six months.

Method

While the last of the brochures were coming off the presses, ECT was writing a new marketing plan. The plan was aimed at strategies rather than tactics to enhance the college's recruitment efforts. We wanted to use the limited resources - human and financial - where they could do the most good. To enact the plan ECT needed to know the target audience better. What are their perceptions of the college, what information do they need and want, and how do we reach them?

The Academic Affairs department was clamoring for more recruitment materials - a video, a careers brochure and an inexpensive but catchy freebie for a September recruiting event, to name a few. But before developing any more products, the ECT design team wanted to test the ones we had recently completed on prospective students. How would our materials stack up with those from other colleges and universities? What do prospective students want in the way of college information and what materials appeal to them? Feedback from focus groups combined with a strategic approach would guide the design and development of additional materials.

In putting together the focus group survey, the design team wanted to get more than simple reactions to recruitment materials. We wanted to get inside high school kids' heads and find out why they thought things were either cool or "Not." We wrote our open-ended survey questions (see Appendix) to elicit a variety of responses. We suspected that some prospective students would have negative perceptions about agriculture, and about colleges of agriculture in general, so some questions were designed to probe that area as well.

It was too late in the academic year to conduct focus groups through the schools, so we worked with the coordinators of the state 4-H leaders summer camp. We assembled our test materials by calling colleagues at other public and private universities. We told them we planned to do focus groups on recruitment materials with prospective college students. In exchange for a couple matching sets of their materials, we would share our findings. We put together two identical packets of recruitment pieces and assigned corresponding numbers to the 43 printed samples so we could more easily compile and compare our results. The samples represented public and private colleges and universities and included a wide range of content and design approaches. We included the new CAES academic majors brochure as well as UGA's viewbook.

In July, ECT design team members conducted two 30-minute focus groups with college-bound students randomly selected from a group of about 200 junior and senior high school students attending 4-H leadership camp. Participants were randomly selected from rising juniors and seniors who volunteered. Although students needed no incentive to volunteer, we told them participants would receive a gift (a college tee shirt) upon completion of the focus group. Volunteers forfeited their 30 minutes of free time before the evening's planned social activity, which was a dance. The camp coordinators advised us early in the planning stage that the full schedule left campers with little social time, and that for campers, the dance was a "big event." In other words, stay within the allotted time.

We were assisted by CAES student ambassadors. They represent the student leaders in the college and are an important component of the CAES recruiting effort. The ambassadors were to jot down notes of responses and watch for subtle nuances that ECT staff might miss because of our age and cultural differences. We noted the participants' initial reactions and then used the questionnaire to move them into a deeper, closer examination of the materials. We also tape recorded the focus group sessions and transcribed their comments later. The setting and atmosphere were purposely informal, and we encouraged participants to be honest, candid and forthright in their responses. Participants sat in a loosely organized circle with the 43 recruitment pieces spread out in front of them. We encouraged them to pick them up, look through them and tell us what they liked and didn't like, making sure we covered all the questions on the survey.

Focus group demographics:

- All 31 participants were rising juniors (22) or seniors (9).
- All had already been contacted by colleges.
- Sixteen, or 50 percent, had already begun to investigate college on their own.
- Twelve students, or 28 percent, represented families involved in agriculture.

Focus Group Findings

Despite some variation in age and background among participants, responses between the two groups were very similar. Focus group participants were initially keyed into the college's identity. Several lunged for familiar names in the pile. Cover design and images were important attention grabbers.

What they like:

Brightly colored covers with multiple images that show a lot of activity

Large images

Large-format materials

Action photographs that look authentic, not staged

Photographs that realistically represent campus and facilities

Page titles and content that are easy to read - no small print or design that interferes with legibility
Photos that present a wide slice of campus life
Colors that complement the subjects
Pages and sections that focus on individual topics
Images that convey a sense of fun
Athletic events, school colors and mascots, when well-known

What they don't like:

Dull, muted, somber and some pastel colors
Covers with little or no imagery
Boring or small pictures
Designs that look like travel brochures
Staged photos with people looking directly at the camera
Photos of people who don't look like they have fun
Duo-tones and black-and-white photos
Printed materials that look like junk mail
Low-quality and flat-finish papers

Importance of text and photos:

A balance between photos and text
Visual elements should relate to text
Content should include things students care about - extracurricular activities, social activities, majors, cost, size of college, admissions information, everyday life with "real" dorm rooms, campus map, food, sports

Preferred source of information:

All said they want to get information from publications, college reps and Web sites
Prefer to have materials they can examine at their leisure
Colleges need good web sites -- complete information, easy to navigate, different photos than those in printed materials

Role of envelopes:

Stand out from other mail
Addressed to the prospective student, not addressed "to the parents of"
Include first class return postage paid on reply cards

What's important to students (not ranked by priority):

Student life, academic reputation (want to go to a good school; used the term "heifer tech" to describe an agricultural college), majors available (and possible careers), distance from home (want to go away to college), college size (not a vital issue) college cost (not the main issue for most), academic admission requirements, extracurricular activities, leisure amenities in surrounding community and job placement

Implementing the Findings

The idea for "What's with the Dog?" arose from a short brainstorming session among three ECT staff members -- two graphic designers and the marketing/outreach specialist. We met informally to generate ideas for an initial contact piece to be used at an upcoming recruitment event. We quickly agreed on the design parameters: inexpensive, eye-catching, quick production time, high impact, perceived value to the audience, adaptable to multiple settings, interactive and based on focus group findings. Recent experience with developing the academic brochures meant limiting the number of people in the approval process to maximize the integrity of the finished product and to meet the deadline.

Our "wants" list was big. We wanted to overcome the audiences' negative perceptions of an Ag school and

play up the affiliation with the university, which has very high status among prospective students. We wanted the final product to have a high "cool quotient" so kids also would want it and would hang on to it, giving it a longer, more useful life. That meant it had to look inviting to the audience.

We also wanted prospective students to somehow incorporate this "something" into their daily lives. We agreed on a brochure of unusual size and format, with a roll-out fold that would reveal something new and unexpected with each unfolding. An additional benefit of the unusual format was that it could be displayed as a poster.

We needed an alternative to photographic images because we didn't have a photographer on staff and we didn't have a bank of useable photo images. Summer school was already over, so hiring a freelance photographer to document student life wasn't an option. What we did have was a lot of artistic talent on staff who could create fun, light-hearted and appealing images that would encourage more than a passing involvement with the material.

We wanted to include the kinds of information that the focus groups found relevant. We would include a quick overview of Athens, extracurricular activities, student life, academic programs, scholarships and application information, and addresses of relevant web sites for later reference.

The idea for "What's with the Dog?" popped up as we talked about using UGA's bulldog mascot and the university's well-known colors of red and black. UGA fans do funny things at football games - things that include "hunkering" down with the dogs and "calling the dogs." When Carol suggested using these and other dog commands and phrases - train the dog, play with the dog, etc. - you could feel the electricity sparking our imaginations. From there it was simply a matter of organizing tasks and timetables. Jay created the illustrations, Carol created original fonts for the titles and did the layout and Judy created the copy.

The client was enthusiastic about the concept and loved the initial character rendering. The team quickly moved into overdrive. Two weeks, seven illustrations and several new font titles later, the brochure was ready for final approval and went to press on time, at a unit cost of \$0.36.

Results

From all appearances, the "What's with the Dog?" brochure is an overwhelming success. Because the brochure was printed in September, it's too early to tell what impact it will have on next year's enrollment. However, the brochure is getting an overwhelmingly positive reception with target audiences and stakeholders. More than 600 prospective students attended the recruitment event where the brochure was debuted. They called it "cool" and "neat." Judging by the fact that only three or four brochures were left lying around afterward, the brochure is something they planned to keep.

In follow-up focus groups this past November, junior and senior high school students evaluated the brochure by itself. When the brochures were handed out, the noise level in the room dropped to zero as students became absorbed with looking at each illustration and reading each section. They were unanimous in liking the brochure, the illustrations, the design and the information, giving it very high marks. The College also has received overwhelmingly positive responses from current students, faculty and administrators. The marketing committee of the College Advisory Council was so impressed it sent a letter to the dean commending ECT on an "excellent" publication that appeals to many ages. One council member, a public affairs official for a large federal agency, described it as "the best material I've seen come out of the University of Georgia." He said this brochure is something that would appeal both to him and to his 13-year-old son. Academic departments are excited about the bulldog image and want to use it in their recruitment efforts.

At first glance, many people think it's a UGA piece, which was our intention. People like the unusual layout and find it fun, different and engaging. The bulldog theme has become central to other recruitment materials, including a lapel sticker and a recruitment Power point presentation that expands on the brochure's content. The presentation is downloadable from the college web server for the departments and extension agents to use in their recruiting activities. The college is now the proud owner of a human-size bulldog that doubles as a brochure rack and a focal point for Polaroid memento photos with prospective students.

The college has the blessings of the athletic department in using the bulldog for recruitment. The copyrighted bulldog character is in the process of getting trademark protection and the university has granted the college exclusive use, protecting our dog from being adopted by other colleges. With these safeguards in place, the bulldog will soon be appearing on the college's recruitment web site. The dog will soon come to life as an animated segment of the recruitment video currently in production. Watch for many other materials based on the CAES bulldog to be developed in the coming months.

Conclusions

Take time to do focus groups. Focus groups are fun, exciting and eye-opening. They put you directly in touch with your audience, and they don't take a lot of money if you do them with in-house staff. They may take time to organize and even more time to compile the findings, but the investment yields big time savings on the production end. You can use those focus group findings to avoid false starts, and they give you plenty of ammunition when administrators are tempted to become designers overnight.

Appendix

Focus Group Survey Questions

1. Which publications do you like best? Why?
2. Which publications do you like least? Why?
3. Which is more important, text or photos?
4. Would you prefer to get detailed information from publications, college representatives or a Web site?
5. What role do envelopes play in the overall impact of a college information packet?
6. In terms of content of recruiting materials, how important or unimportant are the following in a printed communication?
 - a. Student life
 - b. Academic reputation
 - c. Majors available
 - d. College is close to home
 - e. College is far from home
 - f. Size of college
 - g. Cost of college
7. How important is the opinion of your parents or other family members in choosing a college?

A CONTENT ANALYSIS OF OKLAHOMA'S TWO LARGEST NEWSPAPERS' 1998 COVERAGE OF OKLAHOMA SWINE CONCENTRATED ANIMAL FEEDING OPERATIONS

A Paper Presented to the Southern Association of Agricultural Scientists
Agricultural Communications Section
Fort Worth, TX
January 2001

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Background

News, regardless of the media source, should be presented in a factual manner to inform readers, viewers or listeners and to allow them to form their own opinions concerning issues or events. Journalistic coverage of all topics, including agriculture, should be written objectively. Brooks, Kennedy, Moen and Ranly (1996) asserted that objectivity is viewed as essential by leaders in American journalism. Although specific definitions of objectivity and bias vary (Fico & Soffin, 1995; Stevenson & Greene, 1989), journalistic professional organizations and publications agree about the need for fairness in reporting and provide journalists with codes of ethics and standards to follow as professional guides (Fico & Soffin, 1995). In spite of this agreement, studies show the majority of news stories to be unbalanced (Fico & Soffin, 1995; Terry, Dunsford, & Lacewell, 1996; Whitaker & Dyer, 1998) and that reporters, who tend to have liberal philosophies (St. Dizier, 1989), understand they might not always be impartial (Rothman, as cited in Whitaker & Dyer, 1998).

While everyone forms an individual opinion of the information presented through the media (Stempel & Westley, 1989), researchers have turned to content analysis methodology to create a more formal, systematic approach for studying the media's dissemination efforts (Berelson, 1952). Some content analysis efforts are qualitative; however, Dennis T. Lowry (1971, 1985) built on the efforts of linguist S.I. Hayakawa to create and validate a quantitative approach to content analysis research. Researchers have used the Hayakawa-Lowry news bias categories to study various topics and media, including agricultural topics (Lowry, 1971; Terry, Dunsford, & Lacewell, 1996, Whitaker & Dyer, 1998).

While agricultural producers use both the mass media and agricultural media to gather information (Ortmann, Patrick, Musser, & Doster, 1993; Schnitkey, Batte, Jones, & Botomogno, 1992), consumers are primarily informed about agriculture through mass media sources (Reisner & Walter, 1994). However, research has indicated that mainstream media neglect agricultural topics and present a narrow picture of the agricultural industry and its related issues (Reisner & Walter, 1994; Stringer & Thomson, 1999). In coverage of agricultural and other science-based topics, details are often omitted (Moore & Singletary, 1985; Stevenson & Greene, 1989), and, based on studies of the media's limited coverage of agriculture, the information presented is written in a biased manner with primarily negative statements about agriculture (Hess, 1997; Terry, Dunsford, & Lacewell, 1996; Whitaker & Dyer, 1998).

In spite of the lack of media coverage about agriculture, Americans should be knowledgeable about the

sources of their food and fiber products (National Research Council, 1988; Pope, 1990). However, based on various agricultural literacy studies, Americans are not knowledgeable (Cox, 1994; Frick, Birkenholz, & Machtmes, 1995; Howell, 1995; Terry, 1994; Terry, Dunsford, & Lacewell, 1996). This lack of knowledge can affect public policy that directly affects producers and, ultimately, consumers. The media are a factor in shaping of the public's perception of important issues and in helping to place specific issues on the nation's political agenda (Sweeney & Hollifield, 2000, p. 26).

One issue covered by the mass media in Oklahoma has been swine concentrated animal feeding operations. In fact, Oklahoma members of The Associated Press selected the debate on hog farming and other agricultural issues as the third most important news story in Oklahoma in 1997. (Kurt, 1997, p. 1). Due to the increase of these large-scale operations, swine numbers in the state grew substantially during the late 1990s (Bloyd, 1999), prompting legislation to regulate the operations' impact on the environment (Oklahoma Concentrated Animal Feeding Operations Act, 1998).

With these things in mind, how much newspaper coverage was given to the swine concentrated animal feeding operations issue and how objectively was it reported by the Oklahoma newspapers with the largest total circulation?

Purposes and Objectives

The purposes of this study were to evaluate the news published in 1998 about swine concentrated animal feeding operations (CAFOs) by the two largest Oklahoma newspapers and to profile the people who authored that news. The following objectives were developed to accomplish these purposes:

1. Identify the news articles published about swine CAFOs by the two largest Oklahoma newspapers;
2. Determine the level of objectivity in the identified articles;
3. Determine the favorability of judgment statements in the identified articles;
4. Develop a collective profile of the journalists responsible for these articles, including their professional characteristics, agricultural literacy, and perceptions about agricultural topics; and
5. Compare the level of objectivity with the agricultural background of the identified journalists.

Method

To achieve Objective 1, the Gale Directory of Publications and Broadcast Media (Fischer, 1998) was used to identify the two largest Oklahoma newspapers based on total circulation: The Daily Oklahoman (215,000 daily and 306,000 Sundays) and the Tulsa World (160,000 daily and 225,000 Sundays). Subsequently, the Dow Jones Interactive site on the World Wide Web was used to identify all news stories concerning swine CAFOs that were published in the two newspapers between January 1, 1998, and December 31, 1998. The selected articles as well as articles on other topics were compared to original newspapers to ensure the completeness of the set of articles that were studied. No differences were detected. From the article bylines, a comprehensive list of the journalists who authored the articles was created to achieve Objective 4.

Content analysis methodology based on the Hayakawa-Lowry news bias categories was used to achieve Objective 2 and Objective 3. Linguist and former U.S. Senator S.I. Hayakawa (1990) said statements can be categorized into three categories:

1. Report sentences are factual and verifiable statements (Lowry, 1971, p. 574).
2. Inference sentences are subjective and not immediately verifiable (Lowry, 1971, p. 574), statements about the unknown based upon the known (Hayakawa, 1990, p. 24) where a writer draws an inference from some set of observable data (Hayakawa, 1990, p. 24).
3. Judgment sentences express the writer's opinions (Lowry, 1971) and are expressions of the speaker's approval or disapproval of the occurrences, persons, or objects he is describing (Hayakawa, 1990, p. 25).

Lowry (1971) expanded on Hayakawa's work, creating the nine Hayakawa-Lowry news bias categories:

1. Report sentence/attributed (factual information attributed to a source);
2. Report sentence/unattributed (factual information without citing a source);
3. Inference sentence/labeled (predictions, interpretations, or statements about the unknown based upon the known that contain tip-off words such as appear, could, may, perhaps, or possible to let the reader know the information is subjective);
4. Inference sentence/unlabeled (same as category 3, but without the tip-off words);
5. Judgment sentence/attributed/favorable (statements of approval or disapproval of an event, person, or situation that are attributed to a source and are favorable toward the subject which in this case was agriculture);
6. Judgment sentence/attributed/unfavorable (same as category five except unfavorable toward the subject);
7. Judgment sentence/unattributed/favorable (same as category five except no attribution is presented);
8. Judgment sentence/unattributed/unfavorable (same as category six except no attribution is presented); and
9. All other sentences (primarily questions and incomplete sentences).

While other content analysis methods were available, the validated Hayakawa-Lowry method (Lowry, 1985) approaches the analysis from a quantitative, objective perspective. All sentences in the set of articles from *The Daily Oklahoman* and the *Tulsa World* were coded by three individuals who were trained to use the Hayakawa-Lowry news bias categories (Lowry, 1971). From the initial coding in nine categories, all report sentences were valued as 1, all inference sentences as 2, and all judgment sentences as 3 (Hayakawa's original categories) to calculate a mean for each story to determine objectivity levels. In addition, Hayakawa-Lowry categories five and seven were combined to determine the quantity of sentences that were favorable toward agriculture, and categories six and eight were combined to determine the quantity of sentences that were unfavorable toward agriculture. Descriptive statistics were calculated using Microsoft Excel®.

To achieve Objective 4 and Objective 5, journalists who wrote one or more of the articles identified for Objective 1 were contacted via telephone to complete a survey that addressed their professional characteristics, agricultural literacy, and perceptions about agricultural topics. The instrument was based on a questionnaire developed by Terry (1994) in his survey of Texas television reporters because of the similarity between the studies. Descriptive statistics and correlations were calculated using Microsoft Excel®.

Results

Identification of articles

The search for articles related to swine CAFOs published in *The Daily Oklahoman* and the *Tulsa World* between January 1, 1998, and December 31, 1998, resulted in 40 articles. Of those, 21 (52.5 percent) were published in *The Daily Oklahoman*, and 19 (47.5 percent) were published in the *Tulsa World*. Thirty-six (90 percent) were news stories while four (10 percent) were feature stories. The articles, article placement, publication date, and publication are presented in Table 1.

Table 1
News Articles, Article Placement and Date of Publication

Article Placement	Date
1. Hold Your Nose, But Not Your Breath _*	1 January 12
2. Top Lawmakers Urge Hog Farm Moratorium _*	1 January 13
3. County Option on Feedlots Discussed**	6 January 22
4. State Inspector's Job Keeps Her Busy _*	1 January 30
5. Farm Groups Set Agenda**	1 January 30
6. Lawmaker Expects Moratorium on Animal Operations**	13 January 31
7. CAFOs To Top Agenda**	1 February 1
8. Rally Held for Poultry, Pig Interests**	12 February 4
9. 2 Waste Proposals Trashed**	9 February 11
10. Panel OKs Limits on Feed Operations _**	17 February 13
11. Seaboard Permits*	2 February 19
12. State Board Approves Fine Against Seaboard*	1 February 19
13. Hog Farm Moratorium Gets Key Backing**	6 February 19
14. Keating Blames Demos for Hog Moratorium Bill**	12 March 4
15. Letter Favoring Tyson in Moratorium Retrieved _**	10 March 5
16. EPA Floats Proposal to Regulate Manure*	17 March 6
17. EPA Chief Denies Aim to Punish*	1 March 7
18. Senate Approves OU-OSU/Tulsa Bill**	10 March 11
19. New Legislation is Unlikely to Alter Oversight**	11 March 16
20. Nader to Speak at OU _*	1 April 24
21. Poultry, Hog Bills Pushed**	1 April 25
22. Water Quality Hearing Set for Guymon*	12 May 10
23. EPA Seeking Public Views on Pig, Poultry Operations _*	6 May 11
24. Federal Agency Gets Both Sides of Hog Debate*	1 May 16
25. Hog Runoff May Reach Lake _*	1 June 1
26. Hog Bill Called Nation's Strictest _*	1 June 11
27. EPA Regulations on Farm Waste to be Updated*	1 July 6
28. Union Chief Sees Problems With Farm Act in Lean Times*	1 July 12
29. Public Hearing Set on Animal Waste Discharge Permit _**	17 July 18
30. EPA Plans Hearing on Feeding Operations*	15 August 12
31. Wastewater Plan Divides _*	7 August 14
32. Wasting Time: Hearing Draws Crowd, Diverse Views**	1 August 14
33. EPA Extends Comment Period*	23 August 27
34. EPA Extends Comment Time on Animal Operations**	3 August 29
35. Hog Farmers in Quandary Over Rules*	1 August 29
36. Federal Plan to Control Waste Runoff Released**	1 September 17
37. Poultry Waste Talk Set**	1 November 14
38. Groups Split on Animal Pollution Plan**	1 November 17
39. Counties Allowed to Regulate Lagoons*	6 November 21
40. Environmentalists Want State to Hire More Farm Inspectors*	5 December 4

Note. Items marked with an asterisk (*) were published in The Daily Oklahoman. Items marked with two asterisks (**) were published in the Tulsa World.

Article objectivity

The 40 articles contained 1,091 sentences. Overall, 394 sentences (36.1 percent) were report sentence/attributed and 300 sentences (27.5 percent) were report sentence/unattributed. There were 26 sentences (2.4 percent) coded as inference/labeled and 139 sentences (12.7 percent) coded as inference/unlabeled. Additionally, 57 sentences (5.2 percent) were judgment/attributed/favorable, 94 sentences (8.6 percent) were judgment/attributed/unfavorable, 2 (0.2 percent) were judgment/unattributed /favorable, and 40 (3.7 percent) were judgment/unattributed/unfavorable. Thirty-nine sentences (3.6 percent) were coded in the all other sentences category. This data is illustrated in Figure 1.

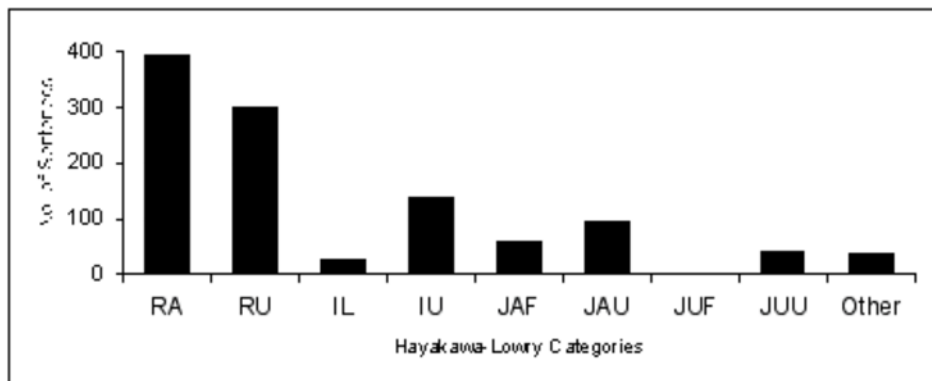


Figure 1. Total sentences by Hayakawa-Lowry news bias category.

Based on the recoding to Hayakawa's original three categories, 694 sentences (63.6 percent) were reports, 165 sentences (15.1 percent) were inferences, 193 sentences (17.7 percent) were judgments, and 39 sentences (3.6 percent) were other. This data is illustrated in Figure 2.

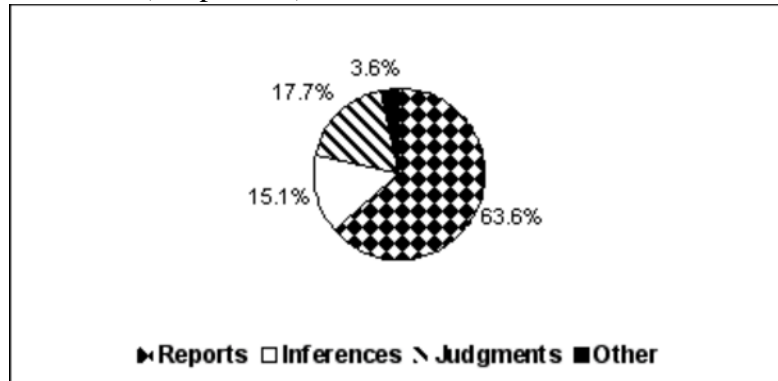


Figure 2. Percentage of sentence categories.

The level of objectivity (mean) was 1.52. Each journalist's level of objectivity (mean) was determined so that correlations could be calculated between the level of objectivity and the journalist's responses to the questionnaire. In considering the level of objectivity, a lower mean indicates more objective writing in the articles while a higher mean indicates less objective writing.

Article Favorability

Of the 193 judgment sentences, 59 sentences (30.6 percent) were positive toward agriculture while 134 sentences (69.4 percent) were negative toward agriculture (Figure 3).

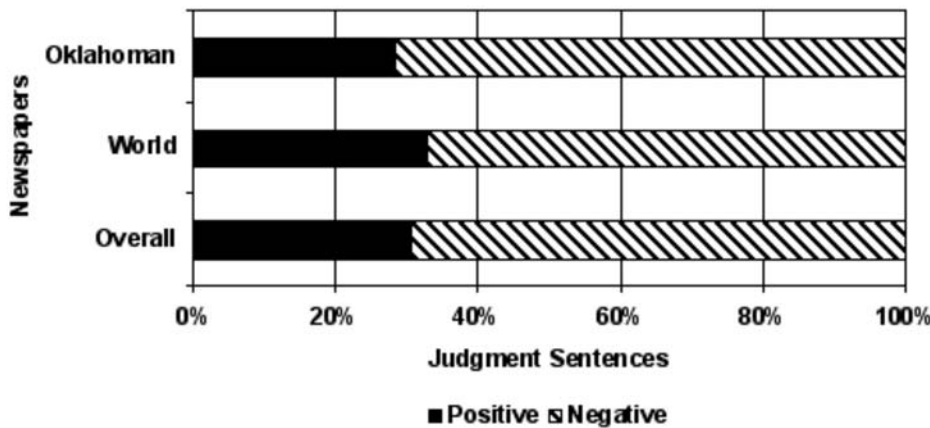


Figure 3. Favorability of judgment sentences by newspaper and overall.

Journalists' Profile

Fifteen journalists were identified to have authored or co-authored at least one newspaper article related to swine CAFOs in 1998. The 10 journalists from The Daily Oklahoman represented 66.7 percent of the authors while the five Tulsa World journalists represented 33.3 percent. Of the journalists identified, 12 (80 percent) were male and three (20 percent) were female. In May 2000 when the questionnaire was administered, 14 (93.3 percent) of the journalists were still employed at the same newspaper.

For the questionnaire portion of the study, 14 of the 15 journalists (93.3 percent) completed the instrument via telephone. As illustrated in Figure 4, three respondents (21.4 percent) have lived on a farm or ranch; two respondents (14.3 percent) have taken formal coursework in agriculture (one in high school and one in college); two respondents have been members of FFA, 4-H, Farm Bureau or other agricultural organization; and five (35.7 percent) have been members of People for the Ethical Treatment of Animals (PETA), Green

Peace, Sierra Club, or other animal welfare or environmental organization.

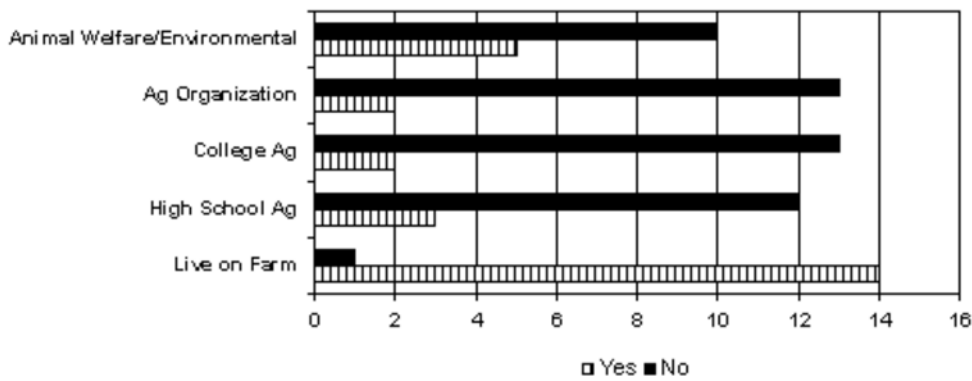


Figure 4. Agricultural and environmental background of identified journalists.

Fourteen (100 percent) of the respondents have received degrees above the high school level. Twelve respondents (85.7 percent) earned bachelor's degrees while one (7 percent) earned an associate's degree and one (7 percent) earned a master's degree.

The respondents' average tenure as newspaper reporters was 21.1 years. The respondents' assigned beats were varied with five (35.7 percent) assigned to government or state capitol, three (21.4 percent) assigned to general news coverage, two (14.3 percent) assigned to agriculture, and one each assigned to demographics (7 percent), southwest Oklahoma (7 percent), University of Oklahoma and Norman (7 percent), and Washington, D.C. (7 percent).

The respondent's coverage of agricultural news ranged from one story to 220 stories in the past year. For the past year, the mean number of stories was 35.15, and the median was 20 stories. On a scale of 1 (lowest) to 10 (highest), respondents had a mean response of 8.36 with a range of responses from 5 to 10 on the importance of agricultural news. Thirteen respondents provided answers concerning their ability and enjoyment of reporting agricultural news as well as their interest in a media workshop related to agriculture. Of those, 10 (76.9 percent) indicated that they liked to report agricultural news, 12 (92.3 percent) indicated that they felt qualified to report agricultural news, and 11 (84.6 percent) were interested in the workshop.

Agricultural Literacy of Respondents

Thirteen open-ended items on the questionnaire acquired data concerning the respondents' knowledge of agriculture's contribution to society, the economy, and government as well as Oklahoma's top commodities and farm size. The respondents' scores ranged from three (23.1 percent correct) to 10 (76.9 percent correct) with a mean of 6.57 points or a mean of 50.5 percent correct.

Perceptions about Agriculture

To determine respondents' perceptions about agriculture, they indicated their level of agreement with 17 statements about agricultural issues, including food safety, animal treatment, environmental impact, and economic impact. A five-point Likert-type scale (-2 = strongly disagree; -1 = disagree; 0 = neutral; 1 = agree; 2 = strongly agree) was used for each item. The mean for the 17 items was 0.84 which places it within the real limits of the agree category.

Journalists' Background vs. Level of Objectivity

Correlations were used to determine if relationships existed among the following variables: knowledge of agriculture, level of objectivity, perceptions about agriculture, and journalists' years of experience. The adjectives used to describe the magnitude of the correlations were very strong (.70 or higher), substantial (.50 to .69), moderate (.30 to .49), low (.10 to .29), and negligible (.01 to .09) (Davis, 1971). Although no

relationship was statistically significant, the moderate relationships between knowledge of agriculture and perceptions of agriculture ($r = .30$) and between perceptions of agriculture and level of objectivity ($r = -.42$) should be noted.

Conclusions

1. As compared to studies of national news periodicals' coverage of agricultural and environmental issues (Terry, Dunsford, & Lacewell, 1996; Whitaker & Dyer, 1998), the percentage of report sentences was higher by both papers. Therefore, The Daily Oklahoman and the Tulsa World were objective in their coverage of swine CAFOs.
2. When judgment sentences were used, issues related to swine CAFOs were portrayed in a negative manner. This agrees with content analysis research by Terry, Dunsford, and Lacewell (1996) and by Whitaker and Dyer (1998) where the majority of judgment sentences were negative.
3. While journalists like to report news about agriculture and feel qualified to do so, few have the background or education normally associated with agriculturally literate persons and few have the appropriate knowledge to inform the public accurately about the agricultural industry.
4. Nearly 85 percent of the journalists said that they would participate in a workshop to learn more about agriculture.
5. A positive relationship exists between a journalist's knowledge of agriculture and his or her perceptions about agriculture. Therefore, as a journalist becomes more knowledgeable about agriculture, he or she perceives agriculture in a more positive manner.
6. As a journalist's perceptions about agriculture became more positive, his or her objectivity increased. Therefore, as a journalist perceives agriculture more positively, he or she would report about agriculture in a less judgmental manner.

Recommendations

1. Based on the conclusion that these journalists do not have agricultural backgrounds, an agricultural course designed for journalism majors should be developed so that future journalists could better understand their topic and accurately inform the public about agriculturally related issues.
2. When considering legislation related to agriculture, legislators and other policy makers should review information from those knowledgeable about agriculture and use newspapers as only one source of information.
3. Citizens should use newspapers as a source of information, but they should not consider every sentence to be factual information stated in a purely objective manner.
4. Agriculturists, especially swine producers, should fully educate themselves about the issues regarding their industry and speak factually about such issues. Furthermore, they should make themselves available to the media for interviews as reporters prepare stories about agricultural issues.
5. Due to the level of interest expressed by the journalists, agricultural communications professionals and agricultural educators should develop a media workshop or seminar designed to teach participants about agriculture and how to report agricultural topics effectively.
6. Organizations, such as the Oklahoma Pork Council, the Oklahoma Wheat Growers Association, and the Oklahoma Cattlemen's Association, and programs, such as the Oklahoma Agricultural Leadership Program, should implement media training programs for agricultural producers and agribusiness professionals.
7. Additional research should be conducted to determine the sources used by journalists when writing about agricultural topics and how those sources are selected.
8. Additional content analysis research should be conducted to determine the favorability of attributed judgment statements made by agriculturists in newspaper articles.
9. In addition to swine concentrated animal feeding operations, media coverage of other agricultural issues and topics, such as poultry concentrated animal feeding operations, should be investigated in future research.

10. As the swine concentrated animal feeding operation topic is a highly charged issue, additional research should be conducted to determine the objectivity used by other Oklahoma media (i.e., other publications, radio networks, television networks, etc.) when reporting about this topic.

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The View from the Front: County Agent Evaluations of Extension Publications

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Background

The editors and artists who produce Extension educational publications sometimes feel that we are operating in a vacuum of sorts. We don't normally have contact with the people who actually read and use our publications, so that we can find out what they think of them. I believe we communicators have pretty good instincts about how to reach and teach people effectively. Still, it's a very good thing to have some feedback.

Several years ago in Texas we began a three-pronged publication evaluation process to get feedback from authors, readers and county agents. When a project is completed we ask the author how well we did with the editing, design and delivery time. We include response cards with publication orders filled from our warehouse, so that readers can tell us what they think of our publications. And, periodically we ask county Extension agents to evaluate publications. Agents are on the front line. They can tell us what they themselves think of publications, and also how their clients react to them.

In this paper I'll describe what we've learned from those agent evaluations.

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Method

How Agent Evaluation Works

Twice a year, in January and July, we select six publications we'd like agents to review. We choose publications that have been in circulation for at least a year so that agents have had time to become familiar with them and observe readers' reactions to them. We try to select a good mix of publications from agriculture/horticulture, family and consumer sciences, and 4-H. We select publications carefully. We might

decide to include one that required extensive editing, one that had an innovative design, or one that was intended to reach a specific audience. We're looking for feedback about the success of particular features, as well as the overall usefulness of the publication.

Once we've chosen the publications, the top administrators for agriculture and for family and consumer sciences identify agents they think are well qualified to evaluate them. Ten agents are selected to review each title.

Each agent receives a copy of the publication he or she is to evaluate, with a brightly colored evaluation form clipped to it. The form is designed so that it can be opened flat and faxed back to us. We ask agents to return their forms within two weeks. Few do, so we call to remind them. We may call several times, until we believe all the forms are in that we can expect to receive. Overall our return rate is 76 percent.

The form asks agents to rate the following characteristics as excellent, good, fair or poor:

Appropriateness of the reading level for the audience

Attractiveness of the design

Helpfulness of the graphics/tables

Clarity of the writing

Completeness of the subject matter

Usefulness in your county

We also ask "What could improve this publication?" There is space for that answer and other comments.

Data analysis consists of assigning point scores to the possible answers for each question, as in a four-point Likert scale (Poor = 1 point, Excellent = 4 points). Then we calculate the average scores for each question. We put the data for each publication into a table, with agents' comments listed underneath. The artists and editors review and discuss the evaluations, and we also share the information with the authors.

Publications Reviewed

So far, we have had 38 publications evaluated, with 285 county agents participating, or 7.5 agents per title. The publications include 22 from agriculture/horticulture, 12 from family and consumer sciences, 3 from 4-H, and 1 from a miscellaneous category.

Extension communicators across the country produce similar kinds of educational materials. Assuming that county agents everywhere have more similarities than differences, and should have similar opinions about the effectiveness of publications, I believe communicators from other states may find the results of our evaluations in Texas useful to them.

Results

The General View - Composite Scores

Average scores for publications in the three main program areas are shown in Tables 1, 2 and 3.

Table 1. Average Scores for Agriculture/Horticulture Publications.*

Characteristic Average Score

Appropriateness of reading level 3.55
Attractiveness of design 3.68
Helpfulness of graphics/tables 3.59
Clarity of writing 3.52
Completeness of subject matter 3.62
Usefulness in your county 3.49

* 4 = highest score possible

Table 2. Average Scores for Family and Consumer Sciences Publications.* Characteristic Average Score

Appropriateness of reading level 3.31
Attractiveness of design 3.48
Helpfulness of graphics/tables 3.39
Clarity of writing 3.49
Completeness of subject matter 3.45
Usefulness in your county 3.45

* 4 = highest score possible

Table 3. Average Scores for 4-H Publications.* Characteristic Average Score

Appropriateness of reading level 3.51
Attractiveness of design 3.43
Helpfulness of graphics/tables 3.33
Clarity of writing 3.49
Completeness of subject matter 3.43
Usefulness in your county 3.32

* 4 = highest score possible

Scores are most useful when you relate them to an individual publication. All we can really tell from these average scores is that, on the whole, agents rate the materials they reviewed somewhere in the midrange between good and excellent on all six characteristics.

From the General to the Particular - Specific Suggestions from Agents

To really get at the agents' opinions of these 38 publications, we need to dig deeper than the numerical scores. The specific suggestions for improvement made by reviewers can be very instructive. On any survey like this there is a kind of magnification factor at work, in that each comment you receive probably reflects the opinions of several other respondents who just didn't take time to write them down.

Agents are not shy about telling us what they think will improve publications. The 285 agents who have participated so far have made 167 suggestions for improvement. They fall into 15 categories. The top four categories (suggestions most often made) are listed in Table 4, along with the number of times agents mentioned them. There's a tremendous amount to be learned just from these four items.

Table 4. Suggestions for Improvement Most Often Made by Agents.

Suggestion No. of times mentioned

1. Needs more information (incomplete) 46
2. Lower reading level 19
3. Better (or more) design/graphics 17
4. Too long/too much information 17

Suggestions 1 and 4: Amount of Information

It seems our most common fault in developing publications is not including all the information readers need in order to understand a topic or carry out a practice or action (suggestion 1). We editors need to be more vigilant about this. We know that the authors, who know a subject thoroughly, often skip over basic information the uninformed reader really needs. After awhile, editors also pick up a good bit of knowledge about a wide variety of subjects - and the same thing can happen to us. Obviously we need to back off from the familiar and be much more critical of manuscripts. We should ask ourselves if a manuscript contains all that readers need to know, and we should test step-by-step instructions to be sure nothing is left out.

Interestingly, the opposite of this problem seems to be common also. Some publications are just too long, and contain far more information than the reader wants or needs (suggestion 4). County agents are warning us that it's very hard for learning to take place when a reader has to work to dig out answers. It's the editor's responsibility to quiz the author about the audience he's writing for and what he wants the publication to achieve, and then help the author find the right balance between too little information and too much.

Suggestion 2: Reading Level

Another concern agents often express is that the reading level is too high (suggestion 2). Of the 38 publications reviewed so far, nine received this specific criticism. Five of these nine were also among the ten publications with the lowest scores for appropriate reading level. Reading level is the only publication characteristic in our survey that can be measured against an objective standard, so I used both the Fog Index and the Flesch Index to measure the reading levels of the ten lowest-scoring publications (Table 5).

Table 5. Comparison of Agents' Scores and Actual Reading Level for Publications with the Ten Lowest Reading Level Scores.

Publication Agents' Score

(1 to 4) Fog Index

(grade level) Flesch Index Intended Audience

- | | | | | |
|-----|------|------|-----|--|
| A | 1.89 | 1 | 1.7 | Standard low income - Expanded Nutrition Program |
| B * | 2.75 | 16.9 | | Difficult farmers and ranchers |
| C * | 3.1 | 13.8 | | Difficult homeowners |
| D | 3.12 | 14.8 | | Difficult cattle producers |
| E * | 3.12 | 14.4 | | Difficult low socioeconomic level parents |
| F | 3.16 | 17.8 | | Difficult farmers |
| G | 3.17 | 4.4 | | Easy low socioeconomic level parents |
| H | 3.28 | 8.7 | | Easy 4-H leaders and kids |

I * 3.29 9.4 Easy general public

J * 3.33 12.5 Difficult general public

* = agent(s) commented on inappropriate reading level

Table 5 shows how agents' scores compare with the results of the two indexes (which, incidentally, measure reading level in very different ways). If it's true that most adults read most comfortably at no more than an eighth or ninth grade level, then clearly most of these publications are much too difficult for the intended audiences. We especially missed the mark in writing to low socioeconomic level-and perhaps low literacy-audiences. In fairness to the editors, I know that we warned the author of one of these publications that the reading level was too high, but she wasn't willing for us to edit the manuscript significantly. In fact, we chose a couple of these publications for evaluation because we wanted to verify problems we saw with the reading level. Having these agent evaluations to confirm our assessment has helped us be more persuasive with certain authors.

You'll notice that publications G, H and I do have acceptable readings levels according to both indexes, so there must have been other factors that agents thought hindered readability and comprehension, and that they interpreted as "reading level." Perhaps it was some element of the design or typography, or the subject matter itself.

Suggestion 3: Design/Graphics

Another top concern of agents is that some publications need better design, or perhaps more or better graphic elements. Seventeen agents suggested that this would be a way to improve the publications they reviewed. We know that interesting design, well-constructed charts and graphs, and good quality photos or illustrations not only add to the eye appeal of printed material, but also aid readability and comprehension, and when it comes to design, readability and comprehension are agents' primary concerns. Some of the common remarks from agents include:

Use better graphics and color pictures to reinforce the message.

Use more graphics, pictures and bullets rather than just text.

Use empty space by adding graphics or spreading out the text.

A few of their remarks did have to do with design for design's sake, for example:

Needs a more eye-catching design.

Needs a more fun and creative design.

Agents understand that good design draws readers into a publication and can actually motivate people to read.

Other Suggestion Categories

The remaining eleven suggestion categories are listed in Table 6.

Table 6. More Suggestions for Improvement.

Suggestion No. of times mentioned

5. Less writing/more graphics 9

6. Explain things better/clarify 9
7. Use more color 8
8. Some information inaccurate or inappropriate for the audience 8
9. Organize information in a more useful way 7
10. Larger type 5
11. Text hard to read over "watermark" graphic 4
12. Make text elements easier to see 3
13. Larger/better photos 3
14. Don't list hard-to-get resources 2
15. Color combinations hard to read 2

What's notable here is the wide array of concerns - from the clarity of the writing, to the organization or structure of the material, to the size of the type and the ink and paper colors used.

The thoroughness of these agent evaluations makes them valuable to us, and always causes us to recognize areas for improvement that we might have overlooked.

I should note that the opinions agents express about a given publication are rarely unanimous. In fact, there are often contradictory remarks. For example, on one evaluation three agents found fault with various aspects of the content and layout, while three others said, "Very good publication!" On another evaluation, one agent commented, "Some parts are too detailed. Could be briefer," while another said he liked the fact that it was "Very in-depth and answers questions well."

Differences of opinion probably reflect the different levels of experience agents themselves have, and the characteristics of the particular audiences they're working with. While we appreciate positive comments, if even one person has something negative to say we pay attention.

Content vs. Appearance

I thought it would be interesting to see whether agents' suggestions for improving publications had to do with content or with appearance. The 15 categories break down this way (C = content and A = appearance).

- | | |
|------|-------|
| 1. C | 9. C |
| 2. C | 10. A |
| 3. A | 11. A |
| 4. C | 12. A |
| 5. C | 13. A |
| 6. C | 14. C |
| 7. A | 15. A |
| 8. C | |

You can see that the remarks made most often have to do with content. Clearly, what county agents care most about is having publications that:

- contain the right amount of information;
- use good graphics and tables to convey the message rather than just text;
- have appropriate reading levels;
- are clearly written and well organized; and
- are accurate.

They are also concerned about readability, and some of the appearance-related categories (e.g., font size - category 10) actually have to do with readability rather than design per se. It seems safe to conclude that content and readability matter most to agents. The appearance of publications is very important, but secondary.

We communicators know just how intertwined all those characteristics are, and what a juggling act it is to make them all come out just right in a single printed piece.

Conclusions

How Agent Evaluations Help Us

No amount of feedback does any good unless we use it to do better work. I mentioned that we share these publication evaluations with the authors, and I think they pay attention to what agents say. It certainly helps us to be able to back up our suggestions for improving publications with hard evidence.

When the editors and artists go over the evaluations we may look for reactions to specific text or design elements, but we also try to get an overall sense of how useful agents think a publication is. As we work on educational materials, we need to be advocates for the readers and keep their needs in mind. Through the eyes of county agents, we catch a glimpse of the folks in the real world whom we are trying to reach. It's a connection that helps us stay on track, measure our success, and know how to improve.