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Recommended Citation

Fett, John and Mundy, Paul (1995) "Disseminating Crop Variety Trial Results Via Agricultural Newspaper Supplements," *Journal of Applied Communications*: Vol. 79: Iss. 2. <https://doi.org/10.4148/1051-0834.1372>

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Abstract

This study evaluated disseminating annual crop variety trial results through supplements in agricultural newspapers.

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John Fett
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This study evaluated disseminating annual crop variety trial results through supplements in agricultural newspapers. Results indicate that the supplements were a cost-effective method to reach a large percent of the state's farmers with timely information. Two-thirds of the respondents recalled seeing the supplement and nearly all of these read at least part of it. Nearly one-half of those who read the supplement saved it for future reference. Most county extension agricultural agents approve of disseminating this kind of information through supplements. However, some oppose distributing copies of supplements through the extension office when these supplements contain advertising.

Introduction

Research and extension bulletins have always been major vehicles for disseminating research-based recommendations to farmers about crop varieties and practices. They allow writers and editors to devote as much space as is warranted to the topic covered, and tend to be saved for future reference.

However, publication circulation has dropped in Wisconsin and in other states in recent years (G. W. McGee, personal communications, January 1990, May 1995). Only part of this can be attributed to lower farm numbers. Selling publications once free is often cited as a contributing factor. Yet shrinking budgets increasingly require charging users or finding less expensive dissemination channels.

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Mass media can provide alternative or supplemental distribution channels. In most cases they are economical to use in that they bear the production and distribution costs. They can also get out information quickly to a high percent of the intended audience.

Most people make substantial use of a range of mass media. Nearly all who have contact with extension have much of this through the mass media. For a large portion of extension information users, mass media represent their only contact with extension (Warner and Christenson, 1984; Steele, 1978; Fett et al., 1995). Some evidence shows that those who receive extension information via the mass media do not differ significantly from the population as a whole on socio-economic measures (Fett et al., 1995).

Mass media are also favored sources of agricultural information. Farmers consistently rate agricultural magazines as the most used and preferred source of farm information. Other mass media sources such as newspapers and radio also rate high (Jones, Sheatsley and Stinchcombe, 1979; Jones, 1980; Adams and Parkhurst, 1984; Shinnors-Gray, 1988; Fett and Mundy, 1990; Reyes, 1991; Powers, 1992). However, questions about agricultural newspaper use are seldom included in studies of farmers' preferred sources of information. This is probably because agricultural newspapers have not been available in many study settings. By agricultural newspapers we mean newspapers that deal nearly exclusively with agricultural topics. Most publish weekly and circulate statewide. Intuitively we would expect agricultural newspapers to rank somewhere between farm magazines and other media as preferred sources of production information. However, there are barriers to using mass media to diffuse annual crop recommendation information. The complexity and length of the information rules out using radio and television to report anything beyond a few highlights. In most cases length also precludes using print media — unless the information is published as a separate supplement. Newspapers have an additional shortcoming in that they tend not to be saved (Sissors and Bumba, 1991). To a lesser extent this is also true of magazines. However, this might not be the case for supplements included in newspapers or magazines.

Based on the literature, our general hypothesis is that agricultural newspaper and magazine supplements reporting crop variety trials and recommended cropping practices would be widely read and saved by farmers.

We were able to test this hypothesis in Wisconsin for University of Wisconsin corn and soybean variety test information published in agricultural newspaper supplements. Wisconsin has three weekly agricultural newspapers. All three have statewide circulation. Their

In collaboration with two University of Wisconsin-Extension agronomists, two of the agricultural newspapers published corn and soybean variety trial results in a special supplement. One was published in December and the other in January. The other newspaper published just the corn trial results in January.

One published just the variety trial results in the supplement while the other two included crop information articles and advertising.

The supplements were tabloid size. Each had a cover page that through words and graphics clearly identified the subject of the supplement and the source as the University of Wisconsin-Extension and the College of Agricultural and Life Sciences.

Most of the information was in table form. The soybean information included nine tables and the corn information included 12. On average, the soybean information ran nine pages and the corn information ran 12.

Methodology

A mail questionnaire and cover letter were sent in early March to a systematic sample (every *n*th number) of subscribers to each of the newspapers. The initial mailing went to 437 subscribers. A second questionnaire was sent to nonrespondents. This was followed by phone interviews with a random sample of those who had still not responded. To limit interview time, phone interviews excluded some of the less critical questions in the mail questionnaire.

Newspaper personnel attempted to screen out nonfarmers before drawing the sample. We attempted to do more of this after receiving the sample lists by eliminating obvious city addresses. Our combined efforts were only partially successful; 26 percent of the respondents returning the questionnaires were nonfarmers and were dropped from the analysis.

The final number of farmer respondents was 246, for a response rate of 76 percent. As mentioned, some questions were dropped from the phone interviews. The total response from the mail questionnaires alone was 191 farmers, for a response rate of 59 percent.¹

Respondents who returned the first mail questionnaire, the second or who were phoned did not differ significantly on most variables. However, they did differ in the extent to which they recalled receiving, reading and saving the supplement. Means for second mailing respondents were lower than first mailing respondents on these measures; phone respondents were still lower.

We cannot conclusively assess to what extent this biases the results for these three variables. Normally we would expect that the means would be slightly lower if we had been able to obtain a 100 percent response rate. But there is a compensating factor. The phone interviews were made more than two months after the first questionnaires were mailed. It is logical to assume that more of the respondents would have forgotten the supplement by that time. Because of forgetting it may well be that the means for "recall receiving" and "reading" may be artificially low for all respondents. Over two months passed between publication and mailing of the first questionnaire. However, we would expect high validity for the measure of "saving the supplement." The ratio of reading to saving appears quite reasonable, increasing our confidence in the validity of all three measures.

Findings

Audience Size

Approximately 55 percent of the 82,000 farmers in the state at the time of the study received one or more of the agricultural newspapers. This was lower than we expected and what the newspapers claimed. First, the number of nonfarmers receiving the newspapers was higher than expected. Second, there was a very high overlap among subscribers. Most received two or all three papers rather than just one.

Audience Composition

Subscribers were significantly more apt to be full-time farmers and to have larger farm operations than nonsubscribers. Eighty-three percent of the farmer respondents were full-time farmers. This compares to agricultural census figures for the state which showed only 54 percent having no off-the-farm employment (U.S. Department of Commerce, 1987).

On average, respondents grew significantly more corn, soybeans, oats/barley, and forages than did the average state farmer (Wisconsin Agricultural Statistical Service, 1989).

Nearly all respondents could potentially benefit from at least some of the information in the supplements. Ninety-two percent grew corn and 20 percent grew soybeans.

Recall, Read and Saved the Supplement

Nearly two-thirds (63%) recalled receiving the supplement. This is a high percentage, particularly in light of the fact that this was the first time such a supplement had been produced and some probably forgot having received it by the time they were questioned. Nearly all (95%) who recalled seeing the supplement read at least part of it.

We asked specific questions about the corn and soybean sections of the supplement. Of those who recalled receiving the supplement, 85 percent read at least part of the section on corn. Mail questionnaire respondents also indicated their readership of various sections of the corn information in the supplement. Not surprisingly, test results interested readers most. All of the corn supplement readers read at least part of the test results. This was followed by climate information at the various test sites (62%) and descriptions of how the tests were conducted (52%).

Two of the three papers published the soybean test information. Although only 20 percent of the respondents grew soybeans, 35 percent read at least part of the soybean section. Considering just the soybean growers who recalled the supplement, 74 percent read at least part of the soybean information in the supplement. The readership pattern for individual sections of the supplement paralleled that for corn — test results were the most read.

One-fourth of all farmers (44 percent of those who read the supplement) saved it for future reference. The supplements ranged from 12 to 48 pages, but size did not influence saving; the percent saving was nearly identical for all papers.

Two of the supplements carried advertising and articles. Most of the articles were crop production advice stories. Mail questionnaire respondents of these two papers were asked if they read any of the advertisements or articles. Of those who recalled receiving the supplement, 61 percent read some of the articles and 54 percent read some of the advertisements. We would expect both the articles and the advertisements to have greater impact than typical newspaper articles and advertisements because of the number of farmers who saved them for future reference.

December and January were most often mentioned as the preferred months to receive this information. The December date has an advantage in that it provides the information in time for farmers who wish to make purchases before the end of the year for taxes.

Audience Reached and Cost Effectiveness

In previous years, it cost \$5,000 to print the 9,000 corn and the 6,000 soybean variety test result publications. Publishing the information in agricultural newspaper supplements eliminated that cost while increasing the number of people who received the information. Applying findings to all farmers who receive the agricultural newspapers, we would expect that 25,650 read the supplement; 11,250 saved it.

Preprinting costs remained about the same because newspapers were offered the information on computer disks already formatted to fit their supplement pages or as camera ready copy.

One agricultural newspaper also provided free copies of the supplement for distribution through county extension offices and at state grower and dealer meetings. Approximately 5,000 additional supplements were distributed in this way.

Agricultural Agent Satisfaction

Publishing this kind of information in newspaper or magazine supplements takes distribution out of the control of local agents. Our experience with agents indicates that many feel strongly that with rare exception extension information circulating in their county ought to be distributed by the county office.

To get a more systematic view of agents' opinion, we included a number of questions on this issue in another study in which we surveyed county extension staff. The data reported came from one agricultural agent in each county. (N = 55, response rate = 79%.)

Although most agricultural agents supported publishing this kind of information in newspaper or magazine supplements, nearly one-fourth were neutral or disagreed (Table 1). Some worried about accuracy—for example, a mistyped number in a pesticide recommendation. Others were concerned that extension information might circulate in their area without their prior knowledge.

TABLE 1.

Agricultural extension agents' attitudes about publishing crop and pesticide recommendations in agricultural newspaper and magazine supplements. (N=55)

"It's a good idea to publish this kind of information in this form."

Strongly agree	33%
Agree	43
Neutral	9
Disagree	15
Strongly disagree	0

"Distributing this information in this form undermines county offices' centrality as distributors of this kind of information."

Strongly agree	7%
Agree	20
Neutral	27
Disagree	35
Strongly disagree	11

We included a question to specifically measure the extent to which agricultural agents prefer that this kind of information be distributed through county offices (Table 1).

Although many supported this kind of information diffusion, slightly over half harbored some doubts about it or thought it undermines the counties' role. Clearly agents want the information available for their own distribution, and they want it at the same time it is going out through the mass media.

As mentioned, one of the newspapers provides additional copies free to county offices. This satisfies the agents' concern about having the information available for their own distribution, and it does it at zero cost. Yet it does lead to agents distributing publications containing advertising. Although 85 percent felt some concern about the issue, most felt it could be dealt with easily (Table 2).

Stamping supplements with a statement making it clear that extension doesn't endorse products advertised can be done relatively easily. But eliminating the advertising requires republishing the material. This adds to cost and can present late-delivery problems.

Conclusions

Publishing annual crop practice recommendation information in agricultural newspaper supplements is a cost-effective way to quickly reach a substantial percent of a state's farmers. The same would also be true for a supplement in a state farm magazine.

Furthermore, our Wisconsin data show that more farmers use agricultural newspapers and agricultural magazines than any other

TABLE 2.

Agricultural agents' responses to the statement: "Which of the following best describes your feeling about distributing supplements that contain advertising through your county office."

Statement	Percent
No problem	15%
No problem if a sticker or stamp is added making it clear that extension is not endorsing products advertised.	56
Extension offices should not distribute publications that include advertising.	29

source for farm information. They also give the highest usefulness grades to these sources. We would expect similar findings for agricultural magazines in most states. The findings for agricultural newspapers might vary, depending on the availability, circulation, and quality of these newspapers.

Farmers reached by the agricultural newspapers were more apt to be full-time farmers and grew more crops than those not reached. This difference would probably not be as great if the supplements were published by state farm magazines because most of these reach a higher percent of their state's farmers than was the case for the agricultural newspapers we studied.

Additional farmers can be reached when the agricultural publications provide county extension offices with copies. However, this extension distribution raises policy issues when the supplement contains advertising. If this is objectionable, county offices may still need to be provided with copies of the information in bulletin form.

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Footnote

1. The confidence interval for the N of 246 is + or - 6.2%. The confidence interval for the N of 191 is + or - 7.1%. Both are calculated at $p = .05$ and a mean of 50%. The farther the mean is from 50%, the more the confidence interval narrows.



Illustrations by Eric McGaw

Two cameras were used for this series: the Nikon F2 camera and a Hasselblad camera. These photos have been shortlisted for inclusion in a CD of "Images of the CGIAR" (see page 34).