

# A Test of Some Principles In Information Campaign Planning

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**A**LTHOUGH INFORMATION campaigns are standard fare for agricultural colleges and the U. S. Department of Agriculture, the campaign reported here may be of special interest for at least three reasons. It involves a topic of widespread social concern, a research design that permitted measurement of campaign effects, and a testing of some basic principles that influence campaign planning.

We conducted the information campaign in May, 1972, as the final step of a two-year research project seeking ways to improve user attitudes toward and readership of pesticide labels.

Earlier phases of the project had focused upon two questions about why pesticide users often fail to read labels, even those that are highly legible: (1) How aggressively are pesticide users being encouraged to read labels and use them as advised? (2) To what extent does this encouragement conform to what is known of the psychological and communication principles that one might use in choosing appeals, referents, and other communication strategies?

Results of those research steps, reported in *ACE* (Vol. 56, No. 1), were combined with a review of literature to produce guidelines for use in this information campaign.

## Previous Studies

The most directly-related study involved an information campaign by Gruenhagen in 1966 to change urban residents' knowledge and attitudes concerning chemicals and pesticides. His research design included before and after measurements of knowledge and attitudes in two Virginia communities. The messages

were channeled through television, radio, newspapers, and an extension publication. The one-month information campaign failed. Gruenhagen concluded that "... the experimental treatment, or planned communication program was not effective in producing the desired change in the urban audience"(1).

Failure also seems to characterize mass media information campaigns on other topics. Reviews of information campaigns by Douglas *et al.*(2), Haskins(3), and a recent study reported in the magazine *Advertising Age*(4) indicate very little empirical support for the proposition that public information campaigns can produce significant changes in attitudes and values on social issues. According to Douglas, *et al.*:

... the public information industry continues to mount such campaigns implicitly taking it on faith that they produce desired results. The faith is rarely put to test.

When systematic tests of the effectiveness of information campaigns on their target audience have been run, the results have been discouraging to the campaigners(5).

An uncertain relationship between knowledge and attitudes is another source of frustration for campaign planners. Hyman and Sheatsley(6), Hovland(7), Nettler(8), and McAshan(9) are among those who have found that a gain in information does not guarantee a corresponding change in attitude. Other authors have noted a curvilinear relationship between knowledge and attitudes(10). That is, more informed persons are more intense in their opinions and preferences, especially in voting, but the directions of their preferences cannot be predicted from the level of knowledge.

Douglas and others concluded that certain topics "on which informed people are unlikely to differ" should show a high and positive correlation between knowledge and attitudes(11). This boils down to saying that high, positive correlation might be expected when topics are not highly controversial.

Cartwright has suggested some principles for conducting information campaigns to change audience knowledge, attitudes, and behavior(12):

1. The "message" must reach the sense organs of the persons who are to be influenced.

2. Having reached the sense organs, the "message" must be accepted as part of the person's cognitive structure.
3. The message must appeal to the person's needs or goals.
  - 3a. A given action will be accepted as a path to a goal only if the connections "fit" the person's larger cognitive structure.
  - 3b. The more goals that are seen as attainable by a single path, the more likely it is that a person will take that path.
  - 3c. If an action is seen as leading to a desired goal, it will tend not to be chosen to the extent that easier, cheaper, or otherwise more desirable actions are also seen as leading to the same goal.

Other campaign planning guidelines identified during earlier phases of this research project also invite testing(13). Specifically:

1. Present the message through more than one medium to sidestep the phenomenon of "channel selectivity" among residents.
2. Use a central theme through all media.
3. State basically the same message in each medium to maximize redundancy and cross-channel reinforcement.
4. All campaign materials should include appropriate appeals—positive, negative, or both. The unsupported imperative, such as "Read the Label," should be avoided as too inert.
5. Immediately follow threats (of injury or death) with ways in which the threats may be avoided.
6. Tap the various needs and motives of pesticide users by presenting combinations of appeals, positive and/or negative, rather than single appeals in a given message.
7. Include more than the individual reader/viewer/listener as referent. Emphasize "valued-others" such as family members, friends, pets, and environment as beneficiaries of pesticide label-reading.
8. Consider using interpersonal mediation through established local groups to augment mass media efforts.
9. Avoid the confounding effects that might occur if the issue of the *safe* use of pesticides is intermingled with the issue of

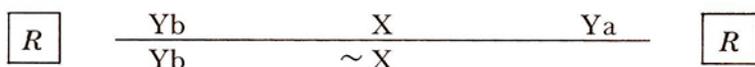
desirability of pesticide use. Maximize the chances for positive response by taking no role as advocate or critic of pesticide use.

10. Use locally-based and credible sources of messages.

11. Carefully relate the timing of information to the season of intended use for particular types of pesticides.

### The Study

A field experiment was chosen as the most rigorous and realistic way to measure effects of this public information campaign, for it takes into account the exposure risks which characterize such efforts. We used a before and after design, with equivalent groups interviewed at pretest and posttest in each community.



- Where:  $\boxed{R}$  indicates random assignment of subjects between pretest and posttest within cities  
 $Y$  indicates measurement of the dependent variable  
 $X$  indicates experimental treatment (information campaign)

### Test communities

Two Illinois cities were chosen for study, Decatur (population, 90,000) as the control community and Quincy (population, 45,000) as the treatment community. Both were highly similar in education, age-sex composition of residents, mass media availability, and occupational composition of residents. Greater population and income in Decatur appeared to make it more change-prone than Quincy, which would favor the null hypotheses being tested.

### Sampling and data-gathering

From each city, 640 primary respondents were chosen from current city directories by systematic sampling. Two alternates also were selected for each primary respondent.

Pretest and posttest respondents were chosen by randomly dividing the list for each city. During April, 1972, 239 pretest interviews were completed in Quincy and 208 were completed in Decatur. Posttest interviews (280 in Quincy and 247 in Decatur) were conducted simultaneously during June. A 74-item interview schedule served for both pretest and posttest.

### *Information campaign*

Table 1 shows the scope and pacing of the information campaign in Quincy that began on May 1 and ended on May 31, 1972. All newspaper, radio, and television space and time were provided by local media on the basis of public service, including a series of newspaper advertisements(14). In addition, one of four versions of a direct mail piece went to all households in Quincy each week.

The message was geared to nonprofessional users of pesticides, especially urban residents. A central theme, "Take a Look and Live," appeared in all messages, plus a basic core of "campaign-specific" facts about pesticide hazards and elements and functions of the pesticide label. These were unique enough to assure that they would be available to Quincy residents only through and during the campaign.

### *Variables and hypotheses*

Dependent variables and their hypothesized relationships in the pretest and posttest measurements were as follows:

<i>Variable</i>	<i>Decatur Pretest</i>	<i>Hypothesized Direction of Difference</i>	<i>Decatur Posttest</i>
1. General knowledge	$\bar{X}_1$	=	$\bar{X}_2$
2. Campaign knowledge	$\bar{X}_1$	=	$\bar{X}_2$
3. Attitude toward the pesticide label	$\bar{X}_1$	=	$\bar{X}_2$
4. Attitude toward the safe use of pesticides	$\bar{X}_1$	=	$\bar{X}_2$
5. Attitude toward pesticide use	$\bar{X}_1$	=	$\bar{X}_2$

<i>Variable</i>	<i>Quincy Pretest</i>	<i>Hypothesized Direction of Difference</i>	<i>Quincy Posttest</i>
6. General knowledge	$\bar{X}_1$	=	$\bar{X}_2$
7. Campaign knowledge	$\bar{X}_1$	<	$\bar{X}_2$
8. Attitude toward the pesticide label	$\bar{X}_1$	<	$\bar{X}_2$
9. Attitude toward the safe use of pesticides	$\bar{X}_1$	<	$\bar{X}_2$
10. Attitude toward pesticide use	$\bar{X}_1$	=	$\bar{X}_2$

<i>Dependent Variable</i>	<i>Decatur Pretest</i>	<i>Hypothesized Direction of Difference</i>	<i>Quincy Pretest</i>
11. General knowledge	$\bar{X}_1$	=	$\bar{X}_2$
12. Campaign knowledge	$\bar{X}_1$	=	$\bar{X}_2$
13. Attitude toward the pesticide label	$\bar{X}_1$	=	$\bar{X}_2$
14. Attitude toward the safe use of pesticides	$\bar{X}_1$	=	$\bar{X}_2$
15. Attitude toward pesticide use	$\bar{X}_1$	=	$\bar{X}_2$

<i>Dependent Variable</i>	<i>Decatur Posttest</i>	<i>Hypothesized Direction of Difference</i>	<i>Quincy Posttest</i>
16. General knowledge	$\bar{X}_1$	=	$\bar{X}_2$
17. Campaign knowledge	$\bar{X}_1$	L	$\bar{X}_2$
18. Attitude toward the pesticide label	$\bar{X}_1$	L	$\bar{X}_2$
19. Attitude toward the safe use of pesticides	$\bar{X}_1$	L	$\bar{X}_2$
20. Attitude toward pesticide use	$\bar{X}_1$	=	$\bar{X}_2$
21. Behavioral intentions	$\bar{X}_1$	L	$\bar{X}_2$

## Findings

1. Before the campaign, respondents from Decatur and Quincy, Illinois, did not differ in most dependent variable measures. This was expected. However, Decatur (control) had more favorable attitudes toward the safe use of pesticides than did Quincy (Table 2).

Table 1. The Information Campaign in Quincy, Illinois

Category	Communication Channel				
	Newspaper Releases	Newspaper Ads	Direct Mail	Radio Spots	Television Spots
Number disseminated	2	5	4 complete versions	4 spots	4 spots
Frequency of dissemination	A total of 2 releases in one month	A total of 5 ads in one month	Each version sent to all households at one-week intervals	A total of 5 times a day for one month	A total of 3 times a day for one month
Time or date of dissemination	4/30/72 5/14/72	5/2/72 5/5/72 5/11/72 5/12/72 5/17/72	5/1/72 5/8/72 5/15/72 5/22/72	Time of day not ascertained	Time of day not ascertained
Contact with local organization	Distributed copies of direct mail to heads of local groups e.g., Safety Council, Chamber of Commerce, and Lions Club				

**Table 2. Summary of One-Way Analyses of Variance in Decatur and Quincy, Illinois, Pretests**

<i>Dependent Variable</i>	<i>Decatur Pretest (N=208)</i>		<i>Quincy Pretest (N=239)</i>		<i>F-Value P</i>
	<i>Mean</i>	<i>S.D.</i>	<i>Mean</i>	<i>S.D.</i>	
1. Attitude toward pesticide use	3.09	.64	3.17	.65	1.70 N.S.
2. Attitude toward the pesticide label	3.94	.59	3.89	.59	.97 N.S.
3. Attitude toward the safe use of pesticides	3.52	.60	3.38	.59	5.70 $\angle$ .05
4. General knowledge of safety	14.64	2.61	14.24	2.44	2.76 N.S.
5. Campaign-specific knowledge	.42	.93	.39	.99	0.11 N.S.

2. One-fourth of the posttest respondents in the treatment community were exposed to the information campaign. Those who saw or heard the slogan "Take a Look and Live" mentioned radio (39 percent), mail pieces (39 percent), television (36 percent), newspaper (22 percent), and friends and group meetings (4 percent) as sources of the exposure.

3. Highly significant differences were observed between the pretest and posttest respondents in the treatment community. After the information campaign, the posttest group in Quincy had higher scores in attitude toward the pesticide label, attitude toward the safe use of pesticides, and campaign-specific knowledge than their pretest counterparts in the same city. This was expected (Table 3).

4. On the other hand, no differences were observed between the pretest and posttest measures of the relevant dependent variables in Decatur, the control community. This was expected (Table 4).

5. The posttest group in Quincy had higher scores in campaign-specific knowledge and behavioral intentions than the posttest group in Decatur. This was expected (Table 5).

6. Attitude toward the pesticide label, attitude toward the safe use of pesticides, and general knowledge were highly correlated

**Table 3. Summary of One-Way Analyses of Variance for Pretest and Posttest Measures in Quincy, Illinois**

<i>Dependent Variable</i>	<i>Quincy Pretest</i> ( <i>N</i> =239)		<i>Quincy Posttest</i> ( <i>N</i> =280)		<i>F-Value</i>	<i>P</i>
	<i>Mean</i>	<i>S.D.</i>	<i>Mean</i>	<i>S.D.</i>		
	1. Attitude toward pesticide use	3.17	.65	3.28		
2. Attitude toward the pesticide label	3.89	.59	4.03	.52	7.89	<.01
3. Attitude toward the safe use of pesticides	3.38	.59	3.58	.57	15.01	<.001
4. General knowledge of safety	14.24	2.44	14.32	2.01	.14	N.S.
5. Campaign-specific knowledge	.39	.99	.85	1.37	17.91	<.001

**Table 4. Summary of One-Way Analyses of Variance for Pretest and Posttest Measures in Decatur, Illinois**

<i>Dependent Variable</i>	<i>Decatur Pretest</i> ( <i>N</i> =208)		<i>Decatur Posttest</i> ( <i>N</i> =247)		<i>F-Value</i>	<i>P</i>
	<i>Mean</i>	<i>S.D.</i>	<i>Mean</i>	<i>S.D.</i>		
	1. Attitude toward pesticide use	3.09	.64	3.25		
2. Attitude toward the pesticide label	3.94	.59	3.99	.59	.67	N.S.
3. Attitude toward the safe use of pesticides	3.52	.60	3.58	.57	1.18	N.S.
4. General knowledge of safety	14.64	2.61	14.49	2.47	.39	N.S.
5. Campaign-specific knowledge	.42	.93	.53	.10	1.48	N.S.

with each other. The intent to read the pesticide label was a function of the knowledge of pesticide accident statistics and, thus, the information campaign.

7. Apart from the comparison between communities, it appears that respondents' attitudes toward pesticide use were highly mixed and unpredictable. Tables 2 to 5 show that the mean score for that variable was about neutral (Likert-type), reflecting a bal-

**Table 5. Summary of One-Way Analyses of Variance for Posttest Measures in Decatur and Quincy, Illinois**

<i>Dependent Variable</i>	<i>Decatur Posttest (N=247)</i>		<i>Quincy Posttest (N=280)</i>		<i>F-Value P</i>
	<i>Mean</i>	<i>S.D.</i>	<i>Mean</i>	<i>S.D.</i>	
1. Attitude toward pesticide use	3.25	.65	3.28	.66	.37 N.S.
2. Attitude toward the pesticide label	3.99	.59	4.03	.52	.58 N.S.
3. Attitude toward the safe use of pesticides	3.58	.57	3.58	.57	.00 N.S.
4. General knowledge of safety	14.49	2.47	14.32	2.01	.65 N.S.
5. Campaign-specific knowledge	.53	1.01	.84	1.37	8.51 $\angle$ .005
6. Behavioral intentions	.073	.376	.579	.694	16.97 $\angle$ .001

ancing of rather strong positive and negative attitudes. Attitudes toward the safe use of pesticides and toward the pesticide label tended to be more favorable, as expected. "Attitude toward pesticide use" was measured to separate this concept from the variable "the safe use of pesticides." The former's unpredictability is perhaps characteristic of the issue.

8. Our measure of what respondents knew generally about safety reveals a relatively large share of correct answers. Tables 2 to 5 show an average score of more than 14 out of a possible 20 points. Again, this was expected.

## Conclusions and Implications

The intensive one-month information campaign in Quincy, Illinois, significantly increased the levels of relevant knowledge, attitudes, and behavioral intentions of the audience toward the pesticide label and the safe use of pesticides.

Given the disheartening results of most efforts to evaluate public information campaigns, the experiment reported here offers some encouragement to campaign planners. Findings support the combination of guidelines used in conducting the information

campaign in Quincy, although they do not let us measure the impact of specific guidelines.

Exposure is a critical factor in such efforts. It concerned us throughout the campaign, even given full cooperation of the public media in Quincy. An alternative, of course, is to buy prime time and space, a method suggested by Gruenhagen. The point to remember, however, is that those who conduct information campaigns should exercise a certain degree of control over the timing and frequency of the dissemination of their messages. Results of Gruenhagen's study and the relatively low audience exposure rate in our campaign mitigate against heavy reliance on the level of exposure which classic forms of "public service" can afford. The first prerequisite of any information campaign is that the message must reach the intended audience. Any hope for effects of the campaign must begin there.

Unity and uniqueness of the message also are especially critical in a campaign such as this. Efforts to measure changes in knowledge could succeed only if the audience gained specific pieces of knowledge through the campaign. Furthermore, modest levels of exposure stress the importance of repeating key information across media and striving for maximum visual and verbal impact. If we were to duplicate this campaign we would emphasize the central theme even more than we did. The campaign planner may seek variety in message presentation, but should do so within a well-defined thematic framework.

Pretesting of questionnaires alerted us to another element that seems especially important in campaigns heavily-laden with emotion and controversy. That element is the careful sorting of campaign issues. In this case, pretests showed that some respondents held intense attitudes against the use of pesticides. In turn, they appeared to be against the *safe* use of pesticides because our attitude statements did not differentiate between the two. We met the problem by forcing respondents to react to these two concepts separately, first to pesticide use, then to safe use. The basic lesson, we feel, is that dimensions of a campaign issue must be sorted with care to minimize the "static" that can arise from vagueness or internal inconsistency of a campaign message.

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Funds for this study were provided to the Illinois Agricultural Experiment Station by the Pesticides Regulation Division of the Environmental Protection Agency.