CONSUMER HORTICULTURE: TRENDS IN PROGRAM DELIVERY

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The unofficial beginning of Cooperative Extension is traced to 1903, Kaufman County, Texas when Dr. Seaman A. Knapp initiated demonstrations with Mexican boll weevil in cotton. Knapp once said, “What a man hears, he will not believe, what he says, he may believe, but what he does he must believe.”

The basic objectives of all Cooperative Extension programs are the improvement of people’s incomes and their development. These objectives include the goal of encouraging families to best use the resources available to them. What better justification for home horticulture can we ask for? The Smith-Lever Act does not specify that extension work is to be conducted with farm families or even with rural families; however, the work historically has been conducted primarily with rural people. Now there is an increasing amount of urban and suburban participation, and some agents are being highly trained in special fields like home horticulture.

Communication and diffusion of innovations

Rodgers, a sociologist, wrote the classic Communications of Innovations (3), which paved the way for developing the recent theory of diffusion of innovations. Let us look at these recent theories and apply them to home horticulture communicators who work in Extension. Rodgers defined diffusion as “the process by which innovations spread to members of a social system” and an innovation is “any idea, practice or material object perceived to be new by the members of a social system” (3). Cooperative Extension has been involved in this type of transfer of information, attitudes and behavior for the last 67 years. Extension has examined and continues to examine the same processes as the diffusion of innovations model, for example, how long it takes innovations to spread through a system, (the diffusion rate), and the ways in which members of society adopt an innovation. These statements lead to the same question for all interested educators: How can we persuade the greatest numbers of people in the least amount of time?

In the early 1940s, field analyses of innovation campaigns flooded the literature (4), since various media tried to acquire mass audiences during these years. Also, direct mass media persuasion was viewed as a powerful force. The investigators sought answers to the questions: 1) Are particular individuals characteristically more adventuresome, that is, earlier adopters, and others characteristically later adopters? 2) Which communication channels are most effective under given social and environmental conditions? 3) Which strategies are most effective for information dissemination and which are most effective for changing attitudes and behaviors? Much has been gleaned from the past 40 years of inquiry in this field. If we examine what is known about each element in the model we can get a feel for the state of the art.

Concerning the first question, some individuals definitely are early adopters and others are late adopters. Members of society who are persuasive and influential are called social network opinion leaders (3). These individuals have more contacts, are better informed, and participate socially more than many of the individuals with whom they interact. Community leaders, if motivated, can become excellent change agents, especially in small communities. Their influence far outweighs the confines of the informal social group.

Other studies (2, 3) have identified adopter types in the target audience. The immediate adopters of innovations do not seem to influence many other community members. They are labeled nonconformists by the social group and they have diverse contacts rather than being involved in a close social network.

The next, somewhat slower group of adopters (usually about 13.5% of a community) commonly consists of respected, conforming members of social groups. They exert opinion leadership and influence the slower adopters, who constitute more than 75% of the population. Thus, advances in communicating can be made by using other individuals’ abilities as internal change agents.

The source or the change agent will be most effective if he or she is perceived as: 1) credible, that is, knowledgeable and trustworthy; 2) attractive, that is, likeable, familiar, similar; and 3) concerned. If there is not trust, then the recipients will respond to the message with skepticism. Concerning the second point, some individuals definitely are early adopters, who constitute more than 75% of the population. Thus, advances in communicating can be made by using other individuals’ abilities as internal change agents.

The second and third points of the model — those that deal with communication channels — have been investigated most thoroughly. The mass media are clearly most effective at disseminating information, creating awareness, interest, salience (that is, attaching a level of importance to the innovation), and, under certain conditions, increasing informal interpersonal discussions about the innovations. The mass media have been poor at influencing attitudes, basic values, and behaviors; however, there are a few examples which show that media alone can create an atmosphere of behavior change, i.e., political advertising to change voting behavior. However, it is a well-accepted notion that interpersonal, face-to-face communication, particularly between close-knit members of a social group, is the most effective means to influence attitude, value and behavior (3).

¹I gratefully acknowledge University of Kentucky Extension Information Specialists Dean Wolf and Randy Weckman for their assistance in the development of this material.
Among the mass media, the print media have the greatest impact on our memory of new issues and on the importance or salience we attach to these issues. When print and TV content disagree on an item, the our memory of new issues and on the importance or salience we attach to each issue) more often than television, even though many individuals may spend more time watching news programs on TV. It is more than likely that those who consistently read newspapers and news magazines pass value-laden information on to others who do not read consistently. However, the visual dimension available from television can be very useful to the change agent. Visual perspective allows the viewing of new behaviors; that is, it allows modelling (1).

On the receiving end, by selective exposure (5), people attend to messages if they find utility in the presentation, or if they regard the information gratifying. Individuals expose themselves to media messages because they believe that there is value in knowing. A past discussion, an article they read, experience with the topic of the message, a related experience, the potential for experience in the future, or just plain curiosity — all may be factors in the perception of utility. Even though mass media may not be effective in influencing behavioral change, as noted earlier, they may be crucial to the first stages of that change: creating awareness and interest and convincing the public of the utility of a certain innovation.

The last element in the diffusion model is described by effect, outcome, or by the consequences of relaying information. As mentioned earlier, if the source of the change agent is not credible, attractive, powerful, etc., individuals may disbelieve the target message; they may counter-argue in their own minds. Note, for example, the growing skepticism concerning the plethora of reports from the scientific community regarding suspected carcinogens.

If the channel or medium utilized by the change agents is not suitable for achieving the changes desired, diffusion may be slow, incomplete or short-lived. If the campaign message is not tailored to the target audience, the target individuals may never be exposed to the message, or simply may not attend to, comprehend, or retain the information presented. And, finally, it is important that the target individual receiving the message finds utility in presentation of the message. This step is necessary whether the perception of utility takes the form of a desire to know more about the topic for personal knowledge or to be able to discuss the topic, or whether it is spurred by a desire to re-evaluate or change values, opinions and/or behaviors for some personal or societal gain.

To optimize our communication efforts, we need to take a holistic approach: we must know our audience, know its needs, know how it wants to receive information, know the information from which it will benefit, and know the best way to formulate the message and to choose the best medium for transmitting that message. In other words: who is saying what to whom for what reason and for what effect?

We have a vast quantity of scientifically collected data and various methods of making our audience aware of the information and of the fact that we want to share it with them. Why, then, is it so difficult to communicate with our audience? Perhaps it does not know that it needs the message. Maybe it does not trust us, the communication channel, or the information, or perhaps its members just are not ready for the information. Perhaps we are not presenting the information in a proper manner. Extension personnel have had the tendency to form a message and then present it the same way to everyone, as if the audience were homogeneous, instead of a heterogenous mixture of different audiences of varying sizes. One can speak to a group, but communication takes place only between the speaker and each individual in the group. We must sell individuals on the idea of using our information and we must convince them that they will benefit from the relationship with us.

Choosing the appropriate strategies is essential to the effectiveness of communicators. It is also cost-effective. The more target individuals one can reach and influence with the fewest and most succinct messages, the less money and effort is expended to carry out the campaign.

Present information delivery systems serving home horticulture

A set of encyclopedias on gardening or a TV program on gardening is of no value to our clients unless they know how to access the portion of the information that they need or want. They also have to know how to implement the information so that it will benefit them.

There is no magic wand for communicating. We throw new names around for methods of long distance teaching, such as telejen, teletext, and others. But, I think that we sometimes hide behind these impressive phrases and forget that our primary role in Extension is to communicate with people, not just to deliver information to them. We have an abundance of communication technology or gadgetry which we will use: home visits, county meetings, information services to newspapers, magazines and broadcast stations. The problem is not a shortage of means, but the selection of the most effective and medium to carry a message to a specific audience.

Recently, de Sola Pool was quoted as follows: 'The notion that improvements in communications facilities reduces travel is not a new one. Within three years after the invention of the telephone in 1876, we find the London Spectator predicting the new device would replace personal meetings (6)." This statement did not consider the possibility that, as people interacted more and more over longer distances, they eventually would want to meet each other. These long-distance contacts did take the place of some personal meetings, but they did not decrease the number of personal meetings; they actually increased.

In 1981, we have the technology to communicate in both directions to anyone almost anywhere in the world. Yet, unless certain preliminary steps are taken, the gadgets of the 21st century will do little to alleviate either the problems we face in communicating today or in the future.

Do we currently have the information delivery systems that are necessary to provide home horticulture information that will effectively perform the tasks that are required? Yes and no. We have the technology to provide this type of service, but in most cases it is not operational. There is no doubt that it is possible to develop delivery systems that will provide individualized information to consumers; but, should such systems be provided? That depends on consumer demand.

The use of printed material can provide detailed information, but many times it is generalized in its approach and it is left up to the consumer to find the particular information he needs.

The electronic media are even more limited in the amount of detail that can be provided on a specific subject. Radio or TV spots or taped telephone messages are designed to be alerts and reminders of where more information on the subject can be obtained. They cannot provide in-depth treatment of a subject, because of lack of time and difficulty in holding an audience.

Computers offer the beginning of the opportunity to provide individualized information. Several states have developed interactive computer systems that provide county agents with access to software programming for specific services. These systems (for example FACTS, AGNET or ANSER) are really in their infancy, because they provide some very specific information on only a limited number of subjects. These systems still are limited by 1) the lack of many useful software programs, 2) the cost of telephone interconnections or maintenance of hardware connections, and 3) their continued limited availability to clients. They are, however, a bright new move toward more effective ways to disseminate information.

Where should we be going in the development of innovative information delivery systems? We obviously will have to use a combination of the old and the new, because of lack of money, of adequate software and equipment and because of the need to educate potential users to the value of new systems.

Tight budgets will limit future travel; thus, many future county meetings will have to be handled by the county agent or by specialists who give presentations recorded on video cassettes or who arrange telephone conference calls. More use will need to be made of slide/ tape sets, video tapes, and other non-personal types of presentations. However, this type of approach may not satisfy all clients' needs for individualized information. Those clients who want more individualized attention will find mini-computers highly useful in their operations. These mini-computers will provide the local capacity for the storage of software programs and still will be able to interact with larger systems. Thus, the information delivery systems of land grant universities will need to provide the type of programming that will
allow consumers to take advantage of modern technology. Cassette tapes, floppy disc or disc storage also allow programs to be stored at county or areas offices for local use.

Other technologically advanced systems, such as those using fiber optics in information delivery, have the potential to reduce travel costs and provide very flexible systems that can deliver video, voice or computer information.

The future of information delivery will require a commitment of funds and personnel. New systems are expensive and their incorporation into current delivery systems must be done with an eye for expanded usage in the future. Decisions made on the types of equipment and systems to be adopted will require input from many disciplines.

The maintenance of a strong, effective and reliable information delivery system will require editorial control procedures; that is, information will have to be available in a specific presentation style and at the proper time. All phases of the delivery system will require the advice of communication experts in planning, development, and implementation.

An effective system fulfills 2 functions: it ensures that a high quality product is provided to our customer on a very timely basis, and it provides the opportunity for extraction of important information from specialists who sometimes are uncommunicative.

### Literature Cited


### RESEARCH REVIEW OF CONSUMER AND SMALL FARM HORTICULTURE

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Those responsible for publicly sponsored agricultural research are frequently accused of serving only the interests of large-scale commercial agriculture and the agri-business and agri-chemical industries. Instead of denying this charge, spokesmen for federal and state research institutions often express the opinion that we must concentrate our limited research resources on the primary source of our impressive food and fiber production, which is large-scale agriculture. This kind of rhetoric has nurtured the impression that very little agricultural research is applicable to small farm or garden enterprises, because administrators of agricultural research do not consider these enterprises important. It seemed to us, therefore, that the first requirement in assessing the research and research needs of consumer horticulture was to ascertain the numerical importance of the likely beneficiaries of small farm research and the potential contribution to human welfare of such research. We chose to consider research for all small agricultural enterprises, because the same technology should apply to small, intensively cultivated plots whether they are home gardens, small commercial farms with high value crops, or subsistence farms.

Within the United States and Canada, the largest group of small growers consists of home gardeners. The Associated Press earlier this year publicized a survey by "Gardens for All," a Vermont based firm (1). That survey disclosed that 43% of American families grew vegetable gardens which produced crops worth nearly $10 billion in 1980; also, the number of gardens is expected to be even greater in 1981. If this survey is accurate, the value of home-grown vegetables is 40% of the value of all vegetables consumed in the United States. We did not find an estimate of the total families who grow no vegetables, but who do grow ornamental or fruit gardens; however, there must be many of these. Considering those who grow fruit, those who grow vegetables, and those who grow ornamentals, the total number of gardeners is obviously many times the number of commercial farmers.

A second group of small growers comprises those who grow specialty crops on a small acreage. A number of horticultural crops are so labor- and capital-intensive that an economic unit requires but a few acres. Nursery crops, bulbs, hybrid seed, cut flowers, wine grapes, forced rhubarb, hops, and many other specialty crops are produced on this kind of farm. In Washington, one of the leading fruit producing states, 60% of the more than 7,000 commercial orchards are smaller than 15 acres (11).

The third category consists of part-time growers. This includes those who own what were once viable farms that, with the present farm economic situation, are too small to produce sufficient income to meet all family needs: Therefore, these owners work in town and farm during off-hours. It also includes those who have invested in, and farm, a few acres as an escape from city problems or for spare-time income or as an inflation hedge or tax shelter. The more profitable of these kinds of farms are likely to be near the owner's residence and main place of employment; however, they can be located near a vacation or summer home or near a winter or retirement home. Among part-time growers are also those who plan to be full-time farmers, but who have not yet acquired the necessary investment capital.

Other small growers are sometimes called the alternative agriculturists. These are people who are concerned by the consumption of non-renewable energy and by the negative impact of ever-increasing mechanization and farm expansion on rural communities. They are seeking a less complex farming system based on renewable resources. Most, but not all, profess to be organic or biologic growers. This category overlaps the first categories in that those professing to be alternative agriculturists may grow home gardens or specialty crops or be part-time farmers. Quite a few alternative agriculturists farm on a scale large enough to preclude their being considered small growers. The number of organic growers has been officially estimated at 20,000, but a Rodale Press survey of subscribers to their New Farm magazine estimates that 24,000 of their subscribers farm wholly or partially with organic methods. Since not all organic growers subscribe to New Farm, the number of organic farmers is assumed to be considerably greater than 24,000 (10).