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Abstract

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Futures Panel
The Green Thumb Box

William Carnahan

When Bob Bergland came to the USDA as Secretary of Agriculture, he said in 27 years of farming he had only seen two years of average weather. He vowed to do something about it...not the weather, but about weather information.

Cooperative Extension, SEA-Extension, and the National Weather Service (NWS) are doing something to improve agricultural weather information. Early in 1976, NWS and Extension began a joint effort to bring better agricultural weather information and other data to farmers.

The program has four closely interrelated parts; (1) gathering weather data from volunteer observers in rural areas; (2) preparing localized weather and agricultural information; (3) disseminating that information directly to farmers; and (4) presenting a comprehensive educational program to teach farmers how to use the information.

Maryland Extension recruited some 80 volunteer weather observers. Each volunteer purchased his or her own rain gauge and maximum-minimum thermometer. Then extension agents helped the volunteers set up their weather stations. At approximately the same time each day, each volunteer sends data directly to a NWS computer in Suitland, MD, a Washington suburb, via a toll-free telephone line. It takes less than a minute using a touch-tone pad that couples

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to the telephone receiver. If the weather observer has a touch-tone phone, then the touch tone pad is unnecessary.

The data includes precipitation (rain or snow), maximum or minimum temperatures over the past 24 hours, weather conditions at the time, estimated wind direction and velocity, snow fall and snow pack and, in some cases, maximum and minimum soil temperatures. In addition to daily reports, the volunteers call in such special weather conditions as a sudden storm, hail, lightning, and so forth.

This pilot program is working so well that it is now also in Connecticut, New York, Virginia, North Carolina, Florida, Ohio, Michigan, Wisconsin, Illinois, Kansas, and California. Delaware is coming on soon.

The Maryland data is currently being used primarily by Galen Dively, extension pest management specialist, and only for the Integrated Pest Management program in Maryland. Galen uses the data from the Suitland computer to put together pest management recommendations that go to some 1,200 people around the state. These recommendations also go to five newspapers on Maryland's eastern shore. The recommendations are for spraying or not spraying for insects and are based on the information from the volunteer weather observers. The newspapers print the complete recommendations so farmers have access to this information through the media.

The same data are used by a NWS agricultural meteorologist in West Virginia. He has a daily agricultural weather broadcast and advises farmers in parts of four states on possible frosts, potential buildups of insects or diseases, and other agricultural information.

This system is getting important weather information to farmers on a weekly basis, but it is not fast enough and is not always available when the farmers need it. Farmers often need to know weather conditions by the hour.

This is where the "green thumb box" comes in. The green thumb box is connected between the farmer's television set and his telephone.

By dialing a special number he is connected to a small computer in his county Extension office. The county Extension office computer in turn is updated hourly by a larger computer at the land-grant university. Data from the green thumb box can provide farmers useful information on controlling insects (based on weather data). It can help them know when to apply herbicides (based on weather data).

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And it can help them schedule crop harvest for optimum quality (again, based on weather data).

The green thumb box not only provides this data, but it tells the farmer what he might expect or should do under certain conditions. For example, if there is going to be a prolonged period of no rain, the county agent can use the weather data to make recommendations to the farmer whether or not to irrigate. He can put these recommendations in the county computer so the farmer can get them on his TV when it is convenient for him.

The county computer, capable of storing the equivalent of nearly 1,000 TV screens of information, can readily be updated by the county Extension staff. It can also be updated hourly by the state computer with state and national information.

The green thumb box can store up to eight TV screens of information at one time. Farmers can dial the county computer any time during the day or evening. The TV screen displays a "menu" of information. From this menu a farmer can select up to eight items. It might be local, county, state or national weather; it might be marketing reports from Chicago or market reports right in his own county or state; it might be a listing of county meetings coming up; or it might be information on irrigating, fertilizing, harvesting, or many other subjects.

Extension will eventually provide a printed menu that the farmer can hang on his bulletin board for reference. It may also be that the local newspaper will print the menu, updating it daily.

So far, I have mentioned primarily weather data. The green thumb box has another dimension. Farmers can also get market information, agricultural recommendations, notices of county meetings, and nutritional information for the home. It is even possible that the farmer might someday be able to dial the airline computers and get the same flight information displayed on airport TV monitors.

Here is how it works.

If the farmer wants weather information, he punches the right combination of buttons on his green thumb box to get the latest state and county forecasts, the extended outlook, a special weather elements forecast, local weather conditions, and radar showing precipitation, its intensity and its movement.

Similarly, he might choose agricultural recommendations such as the latest guidance on soil preparation, insect

control, irrigation scheduling, disease control, or other highly perishable information.

The farm wife can call the county computer while her husband is working in the field. The data she requests is stored in the green thumb box, and can be displayed on the TV set at dinnertime or at any other convenient time. If additional information is needed the county menu can be requested for further selection.

The county computer, which feeds the farmer's green thumb box, can be readily updated by the county Extension staff according to local needs. It will also be updated hourly on a dial-up basis by the state computer with state and national information.

The real test of this system is just getting underway in Todd and Shelby counties in Kentucky. These two counties have been selected to participate in a pilot project. One hundred farmers are being selected in each county. A green thumb box will be installed in each farmer's home, and they will be instructed on how to use it. The project should be operational by late December or early January. The two-county test getting underway in Kentucky is being conducted to determine if the project has the potential to be expanded to other areas. We think it has.

The green thumb box has the potential for providing farmers with a whole "cafeteria" of ideas and valuable information. The farm family can choose the information they want and need to help them make their farming decisions. It is a revolution in communications and one more tool for the farmer to use in his efforts to feed the world. It may even be as much fun as the TV games.

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