

# COMMUNICATION OF KNOWLEDGE AND NEEDS BETWEEN RESEARCHER AND ARBORICULTURIST<sup>1</sup>

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**Abstract.** Research has produced a wealth of knowledge about trees, but not much of it reaches the people who need it and can use it. Some possible reasons for this are discussed, and the need for improving two-way communication between researcher and arboriculturist is emphasized.

Researchers have provided a wealth of information about trees. The problem is that much of it is not reaching the people who need it. Here are some possible reasons, and some comments about them.

## False Premises

We researchers start with the premise that arboriculturists and the general public want new research information about trees. This premise may not be entirely true. To accept and use new information sometimes requires that a current procedure or practice must be changed.

Another false premise is that *all* research can have direct and immediate practical applications. This is not and should not be the case. A sound research program may include much information that is not currently applicable.

## Change and Risks

People resist change. Change means that some old practices and procedures must be abandoned or altered. There is a sort of security in performing the same task the same way for a long period. Change signals a risk. What if the new idea, or new tool, or new method does not work? What if change will cause some new problems?

"What if," "what if," and "what if" can stop many people before they give any new thing a reasonable chance. It is naive to think that, just because a person asks for new information and new tools, he will accept them and use them. Too often everyone is watching everyone else to see how the new information can be applied. Yet

there are always a few brave pioneers who lead the way.

## The Receptive State

To accept new information, a person must be in a receptive state. There are times when a person is not ready to receive anything new. When profits are high and steady, it may be difficult to get a person to change the way he is obtaining the high profits. The only way most people accept new information, when all is going well, is to see someone else who suddenly begins to do even better.

But, when a person is in trouble, he may still not accept new information simply because the information does not help to satisfy a current need. The person in trouble still must be in the receptive state. For example, consider the man who has trees dying from drought. New information about preventing flooding in an orchard or nursery will not be welcomed. Timing is extremely important, especially the timing of new information to help satisfy a current and pressing need.

## Interactions, Problems, Needs, and Priorities

The researcher must be aware of current problems and needs. He must know which problems have the highest priorities for different user groups. The arboriculturist must know who can help him with his old problems, and some of his new ones. The homeowner who is interested in his trees must know where to go for help.

But unless these people get together, they will all continue to have problems. Contacts between

<sup>1</sup>. Presented at the 52nd Annual Meeting of the International Society of Arboriculture in St. Louis, Missouri in August of 1976.

the general public and researchers are very poor. The situation is not so different between researchers and arboriculturists. This should not be. Both researchers and arboriculturists often go on their separate ways until some emergency brings them together. Even at meetings, most researchers talk mainly with other researchers, and arboriculturists with other arboriculturists.

Each group must make an effort to get to know the other much better. Transmitting information is not a one-way process. While the researcher is sending out new information, he should be receiving new information from the arboriculturist.

### **Classic Barriers**

There are some long-standing barriers between researchers and arboriculturists. Arboriculturists tend to think that researchers live in high ivory towers and cannot be approached except by other researchers. Researchers tend to think that arboriculturists are too practical and cannot understand the intricacies of research.

Some researchers, being scientists and scholars, erect their own barriers between them and the people they want to communicate with. By writing and talking in laboratory lingo and technical jargon, they surround themselves with a barbed wire barrier of words that keeps their ideas from getting out to the general audience that might use their new knowledge.

Whatever the foolish reasons on both sides, long-standing barriers exist. They must be broken down.

### **But Is It Research?**

Some researchers will not accept transmission of information as a research responsibility. They believe it is not research! Their position is fortified by some research administrators. They believe that this activity should be done only by extension professionals and that the researcher should then get on to "more important things"!

### **Who Should Do It?**

A complex problem begins to emerge. Everyone begins to become concerned over slight overlaps in responsibility. Insecurities begin to show. But there is a solution.

The researcher who does the experiment is in a good position to develop and transmit his message. Often the researcher must combine his new results with the old results from his work and from the work of other researchers.

After the message is developed, the extension specialist can help to tailor it to fit the needs of a specific user group. The extension specialist then can begin to disseminate the message. There will be all degrees of overlap, but this can be an advantage, not a disadvantage.

### **Problems with Incomplete Research**

This procedure is fine as long as the researcher has something to tell. But this is not always the case. Some researchers accumulate mountains of data over many years of hard work yet neglect completing portions of the work to the point where a message can be developed. The ability to complete research is the mark of a mature researcher.

If information is to be transmitted, it must be in a completed and usable form. Nobody will buy a tool that is incomplete. It is the same with information. The user cannot be expected to accept incomplete information and to fill in the missing parts. The user usually does not have the time or the training to do this. The researcher must give the user a complete package.

### **The Package**

If you want somebody to accept and use something, your chances are better if you put it in a package. The package must be designed to get the attention of the target audience. The message must be presented in a form that can be received easily and quickly by the user at the time he needs it most. This is what packaging is all about. The key words are *audience, attention, timing, and message*.

There are many different ways to get the attention of people. Unless you get a person's attention, your message is wasted!

There are many different ways to present a message. The facts must be accurate, but the way the message is tailored to fit different user groups can be highly variable.

There are many different user groups or target audiences that need information about trees. The needs and interests of different user groups will vary greatly. But even if the perfect package were developed, it does not guarantee that the users will rush out to accept it. This is similar to the old proverb about building a better mousetrap and having the world beat a path to your door. This is extreme naivety, based on the half-truth

that the person indeed wants a better mousetrap.

Getting useful new knowledge put to use is a common concern for both the researcher and the arboriculturist. Both of us have to work on it.

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## A LOOK AT FAST-GROWING SHADE TREES

by Ray Rothenberger

One of the first conditions that the home owner specifies when selecting shade trees is "something that grows fast". Fast growth of trees, however, often sacrifices some other qualities. A look at some of the fastest growing trees uncovers faults or future problems. If we are willing to accept the faults, or take care of the problems, perhaps we can use some of these trees.

One of the fastest growing large shade trees is the silver maple, sometimes called soft maple. Both names are very descriptive. The leaves have a silvery-grey underside, which is attractive when the wind blows. The wood is quite soft, and when the limbs become large they are quite easily broken by strong winds or ice storms. Since it becomes an extremely large tree, it may be dangerous if planted close to structures. Since this tree grows rapidly, it needs much water, and as a result it is notorious for plugging sewer lines. Its large roots also lift sidewalks if trees are planted too close to them. Nevertheless, it is an attractive, large, fast-growing tree for an area where these problems cannot develop.

Another fast-growing tree is the Siberian elm, also often called Chinese elm. It is a smaller tree than the silver maple and, therefore, more suitable for limited space. However, since it grows extremely rapidly, its wood is also weak and easily damaged by high winds or ice. Probably the most serious fault of this tree in our area is the damage by an insect known as the elm leaf beetle, which skeletonizes the leaves, turning them brown in mid-summer. The pest can be controlled by frequent spraying, however.

The green ash is a vigorous tree while young, eventually slowing growth to develop a broad

crown. It tolerates a wide range of conditions, but its wood is also fairly weak. Ash produce both male and female trees. In the landscape the male "seedless" tree should be preferred since it is less messy and not subject to an insect which attacks the flowers. The green ash is susceptible to a borer, which may be considerable damage unless the bark and limbs are sprayed occasionally to keep the pest under control. Normally the ash is vigorous and fast growing, so it is able to recover from borer damage.

Sycamore is another fast-growing tree that becomes too large for planting on small lots. In the lawn it is considered a rather dirty tree since it is constantly dropping bark, leaves, or seed balls. It is also susceptible to a disease that may kill twigs or disfigure leaves each spring. The London Plane tree and the Oriental Plane tree are more resistant to this disease than the American species.

The red maple is another fast-growing choice. It has few problems, although like so many fast-growing trees the wood is somewhat weak.

Where speed is important, excellent care can do much to speed growth of any tree. Keep the tree well watered, but not overwatered, during the entire summer. Fill around the roots with good soil when planting. Do not fertilize at planting, but once the tree is well established, fertilize it yearly in the fall. Keep pests under control. With this care even a slow growing tree can produce shade faster than we might have expected.

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