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RESEARCH SUPPORT AND THE DISSEMINATION OF RESEARCH FINDINGS

Expenditures for forest products and utilization research in the United States presently are in the neighborhood of \$28 million in the public sector and perhaps \$100 million in the private sector. Less than one percent of the value of forest products is invested in research on the production (fertilization, tree improvement, silviculture, etc.), products-utilization aspects of this important renewable raw material. By contrast with the chemical industry where about two and one half percent of the product value is put into research, or with the pharmaceutical industry where about five percent is invested in research, our efforts are feeble indeed. Current energy problems, the need to substitute renewable resources for nonrenewable ones and the bright prospects for wood as a more widely used raw material all combine to make the creation of new knowledge relating to wood production and use one of our most pressing demands.

Both in the public and in the private sector, forest products research has always been strongly oriented to application. The line between problem-solving (or applied) research and basic research is tenuous at best, but one distinction is simply the elapsed time between completion of the research and its application to the solution of a problem having importance to people. Currently, emphasis in forest products and general forestry research seems to be heavily oriented to applied in contrast to basic research. This is not to say that the need for basic research is any less than it has been. In agriculture, for example, there is now a widely held opinion that research during recent years has contributed less to increased productivity than was true perhaps two decades ago and that this is the direct result of inadequate basic research. The forestry and related rangeland research policy symposium held at Airlie House under the sponsorship of the Renewable Natural Resources Foundation in mid-1977 stressed the need for basic research. Current emphasis strongly directed toward shortrange solutions may imply, particularly during a period of relatively scarce monetary resources (at least in the public sector), that research should be problem-solving rather than "knowledge for the sake of knowledge." But both applied and basic research, of course, can be directed toward the solution of problems, though "knowledge for the sake of knowledge" may not be.

The current emphasis upon applied research that is quickly available to prospective users may have relevance to underinvestment in research. Unless potential users see value in research, they are not likely to support it. The most dominant and consistent request at recent regional and national forestry and related rangeland research planning symposia (in which research users were heavily represented) was the need for more adequate dissemination of research

findings to the ultimate users. Are we adequately transmitting and interpreting research findings to such users? The forest products research community has effectively transmitted findings to other research scientists through such publications as *Wood and Fiber*, but the ultimate user rarely reads such publications. Those who do might have trouble translating what they read into a usable form to solve problems. We certainly need a better research dissemination and translation system.

The Renewable Resources Extension Act of 1978 has not yet been funded but is an effort to improve the situation. Extension delivers new research findings to prospective users in a form that is helpful in solving problems. It also brings important problems to research scientists for investigation. When funded at a significant level (\$5 million or more), the new Act should provide leverage for more adequate research funding. In agriculture, scientific and technological improvements derived from research have been effectively applied through Extension. But in renewable natural resources, funding has never permitted an adequate level of Extension activity. It is doubtful, however, that an expanded Extension program will provide all of the technology transfer required. There is need for more research scientist participation in the dissemination of usable research findings. Wood and fiber users, land owners, policy makers, professionals who have been out of school some years, and many others need to perceive research as the basis for the solution to problems they face. When this is clearly understood, a more adequate investment in research realistically may be anticipated.

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