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What is an AGRICULTURAL SCIENTIST?

A recent study published by the National Academy of Sciences noted that new conditions, such as the leveling off of yields per harvested acre, the cost and supply of energy, and the rate of production of new knowledge and technology may threaten our access to the plentiful supply of low-cost food we have taken for granted in the past. The point was made that, "for its own preservation, society must seek understanding of the complex agricultural systems that produce its food."

Although science and technology have been a central factor in keeping agricultural production abreast of population growth, the "agricultural scientist" is as misunderstood today as is agriculture itself. There seems to be no clear understanding of what an agricultural scientist is or how he or she functions. Partly because of this, but for other reasons as well, an agricultural scientist often is generally placed in a class apart from his or her colleagues in the "pure" sciences.

Perhaps this separate status is as much self perceived as it is imposed by others. Nevertheless the point to be made here is that a **good** plant pathologist is a **good** scientist and it is more accurate, and more important, to identify **first and second rate science** than to rate **scientists** on the basis of the material on which they work or their mission orientation.

An agricultural scientist is a chemist, physicist, economist, biochemist, microbiologist, geneticist, zoologist, botanist, engineer,

mathematician, or member of some other "pure" science discipline who is engaged in the discovery, expansion or synthesis of knowledge to improve the production and use of food, feed, fiber and ornamentals. Thus the agricultural sciences are simply an aggregation of recognized sciences directed toward solving problems that impede the accomplishment of these objectives.

In some measure, agricultural scientists have created a climate of isolation and misunderstanding for themselves — guarding their ongoing, formula-based funding support and often not competing with other scientists for funds outside agricultural sciences boundary lines. Generally speaking, by design or for lack of invitations to do so, they have not participated broadly in study groups and meetings concerned with national issues and policies. Agricultural scientists have spent a good deal of time and energy in resentful criticism of "non-agricultural scientists" who express interest in and actively participate in debate on agricultural questions. This tendency to remain independent of the larger scientific community has deprived the agricultural sciences of informed criticism and interdisciplinary interchange essential to growth, increased acceptance, and effectiveness in the larger community.

The agricultural sciences, like the medical sciences, are absolutely dependent on basic science studies in a broad range of subject areas.

Since these subject areas are mostly the same in the agricultural sciences as they are in the "pure" science departments, opportunities should be sought to bring appropriate science groups or individuals together in pursuit of solutions to some of our major agricultural problems. This policy would not only help solve our existing scientist year (sy) deficiency, but it would broaden the base of comprehension of agricultural science within the entire scientific community. Barriers must be lowered and cooperation, coordination and communication must be promoted if we are to deal with the complex problems confronting us.

Now that the world food problem looms as a severe and continuing phenomenon, food production is more closely tied than ever before to national goals and purpose. In spite of past impressions, representatives from our national network of agricultural scientists concerned with food and fiber research are ably qualified to be involved in science policy formulation at the highest levels of government. As Congress considers the reestablishment of a science advisory capacity to the President of the United States it is urgently appropriate that any plan developed to accomplish that end include a provision to include an "agricultural scientist" in that advisory capacity. Food production is this country's most successful accomplishment and it deserves the attention and care of both the Congress and the President.