LOWELL N. LEWIS
Director
Agricultural Experiment Station

Who's responsible for environmental research?

The preservation and enhancement of environmental quality have been major areas of attention for California's Agricultural Experiment Station and Cooperative Extension for over 25 years. Numerous departments in the University offer environmental science programs in their curricula (and even include the terms in their names). We have a substantial program in toxicology to investigate problems associated with the use of pesticides and other agricultural chemicals. We have extensive studies on soil and water pollution by heavy metals, nitrates, urban wastes, and salinity. Our Integrated Pest Management Project was designed to develop alternative pest management techniques that would minimize the use of pesticides.

Clearly, there is nothing new about our concern for environmental issues, or about our research and extension activities to help achieve a balance between food production and environmental quality. But one has only to look at present-day issues in California to wonder if we have done enough and to question the adequacy of our dollars, our personnel, and our facility resources to meet the new wave of environmental issues growing out of production agriculture.

Last year more than 60 bills dealing with soil and water pollution and pesticide problems were introduced in the California legislature. Perhaps the most significant was a measure calling for an evaluation of existing data on the toxicological effects of the active ingredients in pesticides (SB 950). The bill would require the California Department of Food and Agriculture to identify 200 pesticide active ingredients which the Department determines have the most significant data gaps and widespread use, and which are suspected to be hazardous to people.

Certainly extensive study would be needed to accomplish this complex undertaking, not only to define terms and what they mean biologically, but also to test the pesticides themselves to establish the toxicological data base. But SB 950 makes no provision for such research.

Already this year, more than a dozen additional bills dealing with various facets of soil and water quality and pesticide issues have been introduced in the state legislature. The state has called for the expenditure of $100 million to clean up pesticide contamination at dump sites and pesticide applicator sites. Again, no research was called for to study such related questions as engineering problems, the development of microorganisms that break down pesticides, management practices to simplify disposal, and alternatives to pesticides. This is not exclusively an agricultural issue; similar problems exist in non-agricultural industries dealing with materials that may have a toxic impact on soil, water, and air quality.

California recently received widespread attention for the selenium problem at Kesterson Reservoir and for the drastic action taken by the Department of the Interior to curtail the flow of selenium-containing wastewater from 42,000 acres of land in the Westlands irrigation district. The issue has reached a fever pitch as a "new" problem, but the management of salinity and toxic materials is an age-old problem associated with irrigated agriculture in many areas of the world. We have a huge storehouse of knowledge and technology on irrigation management systems, on soil-water interaction, salinity management, and on the problems of toxic elements in the soil and water continuum, but the need for additional knowledge is critical. Increasingly complex questions are constantly arising, questions involving not only the production of food and fiber, but also the health and well-being of wildlife, the efficient use of our water system, contamination of our estuaries, other waterways, and seas. Inherent in all of these issues is the ever-present dilemma: who is responsible for funding research on the solution of environmental problems?

Some would say the agricultural industry, which is seriously affected by the problems. But that industry is already overburdened with debt and fiscal recession, and, as pointed out previously, this is more than just an agricultural problem.

Some say the state government should assume responsibility for funding greater research into environmental issues, but such issues go beyond the borders of individual states.

That leaves the federal government, but which is the appropriate agency at that level? Environmental Protection Agency? Agriculture? Interior? Health and Human Services?

We are at a point at which it's easy to ask questions but much more difficult to come up with the answers. One thing is clear, however; the issue of how to maintain agricultural productivity while minimizing possible harmful effects on the environment is becoming increasingly difficult. The quality of our environment, our abundant supply of food and fiber, and our entire agricultural economy hang in the balance. The Agricultural Experiment Station and Cooperative Extension have the facilities and the expertise to help find solutions, but to be effective, a state or federal agency needs to take the lead and develop appropriate programs and necessary funding, just as the U.S. Department of Agriculture takes the lead in developing agricultural research.