Budgets vs. Food Research

J. B. KENDRICK JR.
Vice President, Agricultural Sciences Director, Agricultural Experiment Station University of California

DEVELOPING BUDGETS in a period of tight money generates a certain amount of stress and strain. But also, it has the virtue of compelling one to pull back from day-to-day preoccupations and think about direction and future objectives. The process involves bringing all the pieces together, identifying problems, evaluating programs and progress, and making hard choices. I would like to report on some of the results of this exercise as related to support needed for agricultural research and extension activities for the fiscal year 1976–77.

Of new funds requested for research for system-wide activities, 18 percent was for three new positions, two of which are in disciplines that did not exist five years ago. The remaining 82 percent of funds requested is for the support of existing programs. The level of general support presents the most serious funding problem for the Experiment Station's research program. Salaries, which represent 84 percent of the Experiment Station's funding, do benefit from periodic upward adjustments, but there has been no state funded increase in program support in more than eight years. This means that the real level of support has been reduced by the impact of inflation.

The largest increase in funds was requested for research to improve agricultural production and efficiency and the protection of plants and animals. But other research efforts also would contribute to increasing our food and fiber supplies.

For example, in resource conservation and management studies, we propose an expanded effort to improve our use of marginal lands. Borderline arable lands (one-third of California and an even larger proportion of the world's land surface) are a major potential resource for increased food production. In addition to their value for recreation, they can support much plant material not usable as human food but readily converted to high quality protein food by grazing animals.

As population and food needs continue to increase, competition for the resources used by agriculture also will become greater. We must develop better ways to conserve and reuse those resources with greater efficiency for agricultural production.

Improved technology is needed to monitor, capture, and manage effluents from irrigated lands, processing plants, nuclear and fossil fuel power generators, and municipal waste dischargers.

Because our arable land is now near full utilization and future supplies of energy, fertilizer, and other inputs are uncertain or costly, our best hope for increasing productivity lies in improving the efficiency of biological processes.

New genetic and molecular techniques promise substantial advances in both crop and animal production. For example, cattle fertility can be increased dramatically by inducing twin births. New techniques could make the transfer of fertilized eggs as routine as artificial insemination, significantly increasing our meat production capacity.

Application of genetic engineering to single plant cells offers still greater possibilities for expanding production capacity and efficiency. Cell culture may enable development of new varieties more effectively than is now possible.

As land, water, fuel, fertilizer, and other resources become scarce and more costly, the possibilities for increased food production will depend upon the minds and laboratories of our scientists.

Confronted with these exciting prospects in food research and the world's rapidly increasing food deficiencies, it is frustrating to see budget support rising so rapidly for programs which contribute little to the economy, while public investment in food research continues to be held at a constant level and eroded by inflation. Public awareness that could reverse this trend usually emerges only after the crisis is upon us. Hopefully, it can be reversed in this case before we seriously cripple our research capability.