The Role of Research in Meeting Future Agricultural Requirements

Byron T. Shaw

An appraisal of the role of research in meeting future agricultural requirements must rest on certain basic assumptions. I believe most people agree on the following points:


2. We do not want any deterioration in the American diet. Black estimates per capita food consumption by 1975 at 127 percent of 1935-39 and nonfood farm products at about 115 percent. Daly estimated per capita use of all farm products by 1975 at 117 percent of 1935-39. Shaw estimates that if all our people were provided an adequate diet in 1975, per capita use of all farm products in 1975 would need to be 130 percent of 1935-39. 1951 per capita use of all farm products was about 112 percent of 1935-39.

3. We need to increase agricultural production, make better utilization of the products produced, and improve distribution. Johnson foresees demands for farm products in 1975 as coming within a range of a 30 to 40 percent increase from 1950. This compares with a 30 to 35 percent increase projected by Daly for 1975, and a 40 percent increase projected by Black. The Water Resources Policy Commission report estimates increased needs for agricultural products in 1975 at 35 to 40 percent above 1950.

4. Expected increases in cropland by 1975 will provide only a small part of the projected increase in production that will be needed. The Water Policy Report concludes that it may be possible to add 30 million acres to our cropland base by 1975. Wooten estimated 25 million additional acres might be used for feed. Release of land now required for horse and mule feed will add another 10 to 15 million acres. Additional acres needed in 1975, assuming 127 percent above 1950 yields per acre and using Daly's estimate of 17 percent increase in the per capita use of farm products over 1935-39, would be 158 million. A higher per capita consumption as estimated by Black would require even larger additional acres. Barton estimates that about 10 to 15 million acres might be used for crops by 1975. Release of land now using but much of the land available for development would not yield a satisfactory return on investment.

5. Substantial improvements in current technology will be required if the Nation's agricultural products in 1975 are met. Johnson for 1975, "neither exports nor imports or foreign aid programs" are large factors in the total requirements picture. He expects imports of products not readily grown in this country to increase with population. He states that "exports are likely to represent less than 10 percent of the total output." Black believes that agricultural requirements in 1975 can be met almost wholly from improved technology resulting from known information plus information that can be acquired between now and 1975. Daly estimates a 35 percent increase in total farm output assuming continued development and adoption of improved practices, about 25 million acres additional cropland would be needed. A considerable improvement in permanent pasture is also required. Johnson concludes that with the improved techniques known and fairly well tested, and certain further improvements that seem to be on the horizon, output can be expanded by 1975 to meet demands at 30 to 40 percent above present levels. He says Johnson, "these results will not be achieved without a greatly expanded research program, or without educational and research program, or without educational and training programs."