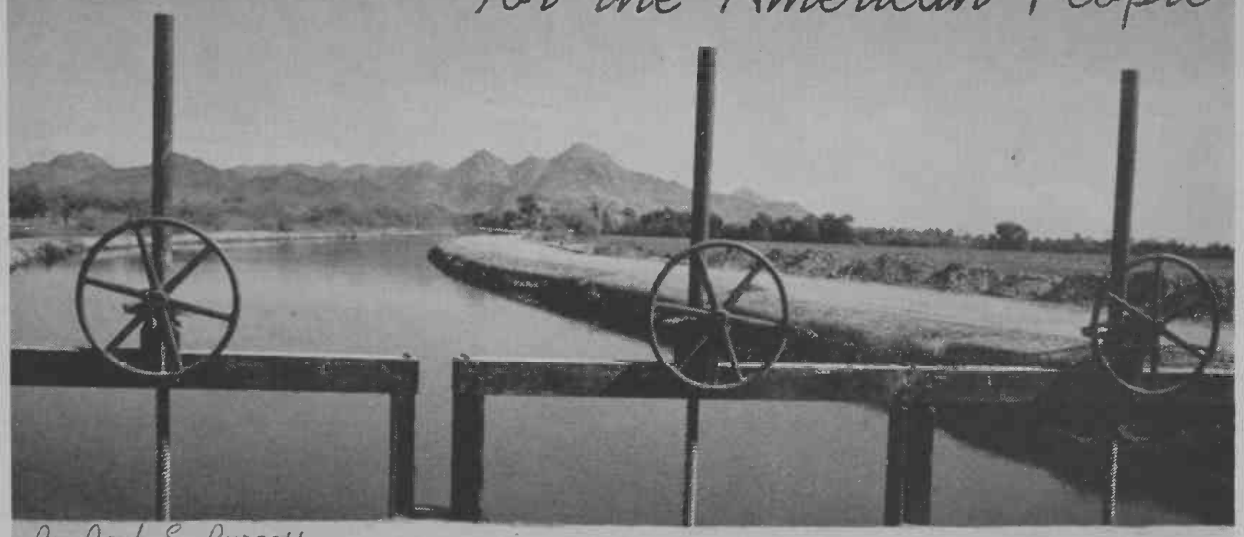
A WATER POLICY

For the American People



By Paul S. Burgess

Water is our most precious and most indispensable resource.

It is required in large quantities by all living things—plants, animals and man. Much concern during the recent past has been voiced throughout the country over growing water scarcity.

Water Supplies Short

Water supplies of cities are becoming inadequate. Large industries are being forced to move, on account of lack of water. Groundwater in many irrigated areas has sunk below economic pumping levels. The rapidity of our population increase, and the tremendous growth of our industries are largely responsible for this.

Progressive Agriculture IN ARIZONA

Vol. III Apr.-May-June, 1951 No. 1

Published quarterly by the College of Agriculture, University of Arizona, Tucson, Arizona; Dr. P. S. Burgess, dean of agriculture. Reprinting or quoting permitted with or without credit.

Entered as second-class matter March 18, 1949, at the post office at Tucson, Arizona, under the act of August 24, 1912.

Arizona farmers, ranchmen, and homemakers may have their names placed on the mailing list to receive **Progressive Agriculture** at no cost by sending a request to the College of Agriculture, University of Arizona, Tucson, Arizona.

Two years ago the Hoover Commission in its report advocating a reorganization of the executive branch of the Federal Government, suggested that a commission be appointed to harmonize conflicting laws pertaining to water resources development, review past activities, and propose new policies for future expansion.

For these and other reasons President Truman on January 3, 1950, established his Temporary Water Resources Policy Commission consisting of seven members with Mr. Morris L. Cooke, a Philadelphia hydraulic engineer, as Chairman. I was appointed to represent reclamation which includes not only irrigation but also drainage, land clearing and watershed management.

Committee Assignment Broad

The President's assignment was broad, including all water uses, policies and laws, and directly involving the activities of the five federal water-resources construction agencies —the Department of Interior, the Corps of Engineers of the Army, the Department of Agriculture, the Federal Power Commission, and the Department of Commerce. In announcing the appointments, the Commission was told not to concern itself with individual projects. It was to deal only with policies which in the future should govern all Federal activities involving water.

For a century and a half the federal government has played an important role in the development of water resources — first, river, harbor, and canal navigation; later, flood control and reclamation; and more recently, hydroelectric power, pollution control, municipal and industrial water supply and fish and wildlife protection. During all of this time, laws and policies have been changed and modified to meet growing needs and changing conditions. Many inconsistencies and conflicts in laws directing the construction agencies have arisen, and it was a part of the President's request that policies might be recommended which would reconcile such difficulties.

Space does not permit a discussion of the Commission's procedure in carrying out the assignment. Suffice it to say that the conclusions and the 70 recommendations included in the report are the results of a year's study by a large group of technicians working in Washington under the general direction of the Commission, of conferences held throughout the United States, and of hundreds of questionnaires submitted to government and non-government agencies and individuals interested in water uses and policies.

Final Report Issued

From information gained by these methods, the final report was drafted by the Commission. The 450-page document was published last December by the Government Printing Office under the title, "A Water Policy for the American People," and may be purchased from the Superintendent of Documents, Washington 25, D.C. ($3.25). Chapters are devoted to all of the important uses of water and to methods of land and water conservation with recommendations intended to solve some of the more difficult and complex problems.

A few of the agricultural predictions advanced in the chapter entitled, "Land Reclamation," may be of interest. The two things which will determine the amount of food and fiber needed in the next 25 years will be the increase in population and the improvement in diet. During the past 10 years our population has increased by 19 million (15 percent) to a present total of 151 million.

More People Need More Food

The Nation's best informed experts on population trends forecast a population of 190 million by 1975 with

(Please turn to page 12)

A Water Policy for the American People

(From page 2)

the heaviest increases (as in the past 10 years) in the eleven western states. The past 10 years also have shown improved dietary trends, both as to quantity and quality. People now are eating 15 percent more per person than they did 10 years ago. This is equivalent to feeding 50 million more people at the 1935-40 consumption level.

Furthermore, the quality of food has improved. The use of starchy foods (grains and potatoes) has declined by an average of 30 percent. Fruits and vegetables are up almost 50 percent, and livestock products—meats, dairy and poultry products—are up 12 percent. This shift represents more proteins, vitamins and minerals per calorie.

Need Livestock Products

A fully adequate diet is one in which 43 to 45 percent of the total food energy is secured from livestock products. We are approaching this desirable goal although many of our people still are below standard, due either to poverty or to ignorance in food selection.

Now, what effects do increasing populations eating more and better food have on land requirements? We can be sure that present agricultural surpluses are very temporary. Heavily expanded production will be required to meet future needs if we are to improve or even maintain our present living standards.

We are now farming about 375 million acres and grazing about a billion acres of range lands. There has been little increase in either category during the past 35 years, although 60 million acres formerly used for feed for work stock and 20 million acres formerly devoted to export have been released for domestic food production. Also in the past 10 years, production per acre has been increased by about 25 percent—largely at the expense of our soil fertility. Thus have we provided in the past for our gradually increasing needs.

More Crop Land Needed

On the basis of careful analysis, it is predicted that the amount of food and fiber produced from about 100 million additional acres of average crop land will be required to meet our requirements by 1975. To accomplish this, we must either produce more on lands presently farmed or bring in new lands through reclamation. With proper price incentives we may increase production on present acreage by another 15 percent which would be the equivalent of about 60 million acres of this requirement, leaving 40 million acres of production to come from newly irrigated, drained or cleared lands.

Twenty million acres are now irrigated in the western states and there is sufficient water to irrigate another 17 million acres and to provide about 8½ million acres of presently irrigated land with badly-needed additional water. But, based on past rates of development, not over 7 or 8 million additional acres of new irrigated land will be producing in the next 20 or 25 years. This would be equivalent in crop production to possibly twice this acreage of average, non-irrigated crop land.

25 Million New Acres

There would be left some 25 million new acres to be brought into production by drainage, flood protection and clearing projects which past experience indicates to be of questionable desirability due to the usual low fertility of drained lands. A greatly accelerated reclamation program thus appears necessary to meet demands, especially in the West.

It is thus apparent that full development of production potentials must be considered if we are to provide sufficient food and fiber to satisfy anticipated requirements. While these are merely predictions, they are based, nevertheless, on the best information presently available. They show that future needs will be great and the challenge must be met by a unified agricultural program.

—Paul S. Burgess is Dean of the College of Agriculture, and Director of the Agricultural Experiment Station.

Cotton income in Arizona last year to farmers totaled $118,000,000.

Cash income from cattle and calves in Arizona in 1950 was $54 million.

Arizona leads all other states in yield per acre of cotton. Last year it was 890 lbs.

New Courses Offered Ag Students at U

(From page 10)

in detail and comparisons will be made of different measurement techniques on the same area. Instructor—R. R. Humphrey.

Animal Pathology 201—**Advanced Problems in Disease Control**—2 credits.

Animal disease control problems with reference to the needs of Arizona teachers of vocational agriculture, especially in communities where veterinary services are not available. (First term of the 1951 summer session.) Instructors—W. J. Pistor and V. H. Fisher.

Three of the new courses were planned specifically for graduate students in the field of nutrition. The titles and content of these courses were developed in response to recommendations from the Nutrition Committee on graduate study. The courses are as follows:

Animal Husbandry 204—**Chemistry of Enzymes**—2 credits.

Classification, sources, methods of study; physiochemical properties and actions of enzymes. Instructor—B. P. Cardon.

Home Economics 202—**Chemistry and Metabolism of Carbohydrates and Lipids**—3 credits.

The chemistry and metabolism of carbohydrates and lipids with emphasis on recent contributions and interpretations. Instructor — Ethel M. Thompson.

Nutrition 208 — **Chemistry and Metabolism of Proteins** — 2 credits.

The chemistry and structure of proteins and amino acids; the chemistry and physiology of their metabolism and their biological and chemical evaluations. Instructor—A. R. Kemmerer.

—Russell W. Cline, is Head of the Department of Agricultural and Home Economics Education.