

estry agencies. Research on the manufacture and marketing of forest products is moving forward in cooperation with universities in the area.

TVA has similarly interested itself in mineral research, collaborating with seven state and two federal agencies and with some seventy private firms. Development of mineral resources has resulted in greatly increased employment and increased regional income from mining.

Methods for developing and utilizing wisely the available natural resources of the Valley are not discovered by "armchair specialists"; nor can the job be done alone by scientists in their laboratories. The region is made up of individual farms and woodlots, cities, towns, and industries, and the sum of the use or misuse of the region's resources depends upon the operations of individual farmers, lumbermen, and industrialists. The results of research are applied by the millions of people who work with the resources.

TVA's approach to the full development of the agricultural resources of the Valley affords an illustration of its methods of attacking problems of resource development. It is based upon recognition of the need for both scientific research and practical application of findings under operating conditions on individual farms. For the accomplishment of this program, TVA, the land-grant colleges of the seven Valley states, and the U. S. Department of Agriculture have joined forces in a program of research, demonstration and education. Technical assistance is supplied directly to the farmer through the agricultural extension services in recognition of the fact that the land-grant colleges are the primary state agencies of research and extension service in the field of agriculture.

To this partnership TVA contributes the experimental production of fertilizing materials, especially high concentrate phosphates, through its facilities at Wilson Dam. It assists in developing new methods for using electric power to increase the efficiency of farm operations and to lessen ruggedness in the rural home. TVA and the land-grant colleges have cooperatively undertaken studies to identify and develop varieties of fruits and vegetables which can be grown satisfactorily in the area, and to devise new methods of processing these foods by freezing and dehydration. Farm machinery adapted especially for use on the

small farms of the Valley includes a side-hill cultivator, furrow seeder, a small "trailer" thresher, a barn hay-drier, and other kinds of equipment.



*Courtesy of TVA*  
Small threshing machine developed by TVA and state experiment stations for small and hill farms

Methods developed in the laboratory under experimental conditions require tests in practical farming situations. These tryouts are given on selected test-demonstration farms, so-called because they "test" results of laboratory investigations and "demonstrate" to their neighbors improved farm practices, including the use of TVA high analysis phosphatic fertilizer.

Farmers in community and county groups, with the assistance of the county agent's office, select one or more farms in the community, representative of the different conditions of soil, elevation, type of farming, size and other factors. The owner of the selected farm, approved by the county organization, generally a soil conservation association, and by the college and TVA, undertakes to follow an agreed-upon farm program, to make any required adjustments in his farm layout and cropping system, to keep records, and to make his farm and the results of the project accessible to his neighbors and the college.

The farm layout and cropping system are worked out jointly by the farmer in consultation with his neighbors and representatives of the interested agencies. The soil, the farm woodlot, the livestock, the farm machinery and equipment, and the farm home and buildings—all play a part in determining the over-all plan. The required