

tary, inventories of seeds and plants imported, North American fauna, service and regulatory announcements, soil surveys, yearbooks, miscellaneous folders, unnumbered publications, and posters.

### The Department's Periodicals

Finally there are the periodicals, each issued at regular intervals throughout the year. They cover special fields and are designed primarily to aid those engaged in certain lines of work and others who require the information. The department periodicals published this year are: Agricultural Situation, Climatological Data, Clip Sheet, Crops and Markets, Experiment Station Record, Forest Worker, Journal of Agricultural Research, Monthly Weather Review, Official Record, Public Roads, Snow and Ice Bulletin, and Weekly Weather and Crop Bulletin.

The question whether the present grouping or arrangement of department publications is the best that is possible was studied during the year. Are there too many series? Would it be better to combine some of them? Or, in view of the diversified nature of the department's work and the variety of subjects covered in its printed matter, is it desirable to have as many series as at present? This problem is still under consideration.

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**R**ABBIT Raising for Food and Fur Studied at Experiment Station The methods of production of domestic rabbits for food and fur now being developed at the United States Rabbit Experiment Station at Fontana, Calif., can be followed with profit by rabbit producers generally throughout the country. This experiment station was established in 1927 by the United States Department of Agriculture through the cooperation of local rabbit breeders in California and the National Rabbit Federation, and is operated by the Bureau of Biological Survey. Its primary object is to provide reliable information based upon experimentation for the benefit of all who are engaged in the rapidly growing rabbit industry. The establishment of the station fills a recognized need of breeders who are engaging in the business on an extensive scale and of farmers and others who are raising only a few animals as a side line to regular farming operations. The accomplishments at the station for the rabbit industry generally will be of help also to those who contemplate engaging in the business as well as to the younger members of farm and other families who are raising rabbits merely as a pin-money venture.

The rabbit industry has advanced, however, beyond the stage of a pet-stock business and is now an agricultural enterprise of considerable proportions throughout the country, particularly in the Pacific Coast States. In many rural sections rabbits are being produced in great numbers. In California great numbers of farmers keep a few pairs, and some raise 1,000 to 5,000 or more. To care for the products of these rabbitries large slaughterhouses are operated, equipped in some instances to handle 25,000 to 50,000 rabbits a month, particularly in the Los Angeles district. The food value of the rabbits served in the hotels and on the home tables of that city alone is estimated to be greatly in excess of \$1,000,000 annually.

### Research Needed for the Industry

An industry of such proportions, to be permanent and stable, must be based on scientific research. The cost of research is good insurance on both large and small investments in rabbitries. Problems confront all rabbit raisers regarding feeding, breeding, and housing conditions, and preventing the ravages of diseases and parasites among their stock. To provide a means of solving such problems and of developing economical and efficient methods of production was the aim of the organizations and individuals who tendered their cooperation to the department in the establishment of the Rabbit Experiment Station at Fontana.

The station is on the site of a 5-acre orange grove. The equipment furnished by the cooperators includes this tract, an administration building (fig. 147) containing laboratories, offices, and an assembly hall, various open and closed types of shelters for hundreds of hutches (fig. 148), which are kept cool on hot days by a sprinkler system; a large feed-storage house for hay and grain; and an attractive residence for the director and his family. The director of the station is employed by



FIGURE 147.—Administration building of the United States Rabbit Experiment Station operated by the Bureau of Biological Survey at Fontana, Calif., to determine the best methods of producing rabbits for food and fur. The structure is of white stucco with a red tile roof

the Bureau of Biological Survey, and reports to that bureau through its division of fur resources.

When the station was formally opened in March, 1928, there had been donated by the co-operators and others interested approximately 50 rabbits of different breeds and of various ages for use in the experiments. It was first necessary, therefore, to determine the ability of the stock at hand to produce uniform young

before a suitable number of rabbits could be obtained for further studies. In August, 1928, with 125 rabbits available, five major experiments in feeding for production and maintenance were inaugurated. Thirty-six rabbits were obtained to replace poor producers and thereby maintain uniformity among the various groups. In the summer of 1929 there were available for the experiments 191 mature rabbits, 113 young, and 26 rabbits of fancy breeds. From 88 breeding does on two experiments, 1,182 young had been produced, of which 762 were carried through the weaning period.

### Study of Rabbit Maladies Projected

The means by which rabbits can be raised to a marketable age at minimum expense, keeping in mind the opportunities for maximum profits from both meat and fur, are subjects of special attention at the station. These ends are being attained partly through a study of the factors that reduce losses among young rabbits and increase the prolificacy of the adults. The station was enabled to render excep-

tionally valuable service to the rabbit industry in the present year, through cooperation with the Universities of Minnesota and Southern California, in studying and controlling a malady that had attained epizootic proportions among domestic rabbits. The laboratory facilities at the station were not adequate at the time to cope with the situation without the aid of research workers in other institutions. Until authentic and adequate information can be developed for controlling outbreaks of disease, the appeals to the station for help made by producers of rabbits can not be fully answered, and large investments in the business are thus in jeopardy. It is planned to expand this line of research as rapidly as facilities are provided for the purpose.

Construction work has played an important part in the development of the station. The equipment and facilities now available include 4 inclosed breeding buildings, 4 outside rabbit runs, a new open unit with a total capacity of approximately 300 individual hutches, and 8 pens. This equipment represents a wide variety in types of construction, and considerable information regarding proper housing will result from a comparison of the buildings in use.

#### Fertilizer Experiments Conducted

A fertilizer experiment for the purpose of establishing a market value for rabbit manure is now being conducted by the Bureau of Biological Survey at the station, in cooperation with the Bureau of Chemistry and Soils and the county farm adviser. The results promise to be valuable not only to the development of the rabbit industry, but to fruit growers and gardeners as well.

Farm boys and girls in California have taken a keen interest in rabbits, and the director of the station has assisted agricultural extension agents in organizing 4-H rabbit clubs. Invitations have been sent to the schools of California to visit the station, and boys and

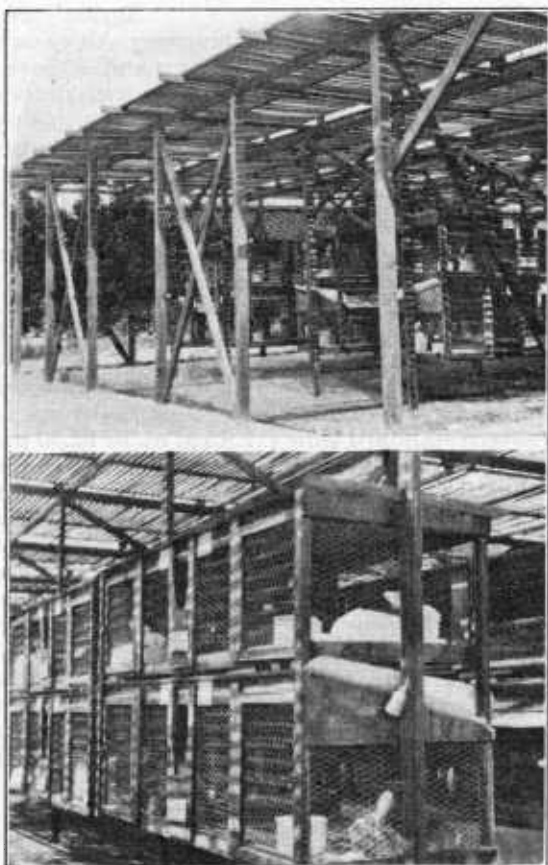


FIGURE 148.—Exterior and interior views of new type of open-air butch unit for rabbits, used at the United States Rabbit Experiment Station, Fontana, Calif.

girls interested in 4-H club work have taken advantage of this opportunity to observe modern methods of raising rabbits for both food and fur and to learn of the profits that may be made in the industry.

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**R**ADIO Programs for Both National and Regional Use Adopted From the development of general information radio broadcasting by the United States Department of Agriculture during 1929, two particularly significant facts emerge: An expansion of the department's "chain" broadcasting program, and a move to correlate Federal and State broadcasting in cooperation with individual commercial stations. These developments may seem to be in opposite directions, but the apparent contradiction disappears in practice.

The chain program began in October, 1928, when the National Broadcasting Co. opened a network of 17 stations in the Middle West and Southwest to a 5-day-a-week program of 15 minutes from Washington. In July, 1929, the company expanded this network to 32 stations covering the country east of the Rocky Mountains, and undertook to provide entertainment and information features to balance a 45-minute program daily, except Sunday. The Federal Farm Board, the land-grant colleges and universities, and the great national farm organizations were invited to participate. This program, called the "National Farm and Home Hour," is broadcast from 12.45 to 1.30 p. m., eastern standard time (11.45 a. m. to 12.30 p. m. central standard time, and 10.45 to 11.30 a. m., mountain standard time). On Saturdays when the 4-H club, land-grant college, and farm-organization programs are sent, the Pacific coast stations of the National Broadcasting Co. are included in the network.

In this program of centralized broadcasting, which reaches an audience scattered over at least 37 States, speakers have to choose subjects having the widest possible interest. This has developed emphasis on broad economic and scientific trends. The speakers try to explain current developments in the farm-commodity markets. They summarize and interpret Federal crop and livestock reports, and give the essential new findings of research. In making seasonal reminders of approved production technic, they confine their remarks to practices which apply over wide areas. In short, the chain broadcasts are shaped to give the information that can best be given by the Federal authority. It is logical that this service should be centralized.

#### A Decentralized Type of Broadcasting

It is equally logical that another type of farm and home broadcasting be somewhat decentralized. This second type includes weather reports, market news, and information broadcasts in cooperation with individual radio stations. Weather and market news broadcasts have been decentralized from the beginning, and handled through the branch offices of the Weather Bureau and the Bureau of Agricultural Economics. Weather reports and market news dealing with facts of specific interest and value to the audiences of the stations are issued from these branch offices through cooperating radio stations.

In 1926, when the Radio Service of the department was organized, it was realized that farm and home information for release through