EXPERIMENTAL FUR FARM *of the* BIOLOGICAL SURVEY

LEAFLET NUMBER 6

THE BIOLOGICAL SURVEY maintains an experimental fur farm in the Adirondack region of New York for the purpose of determining the most satisfactory methods of raising fur animals in captivity; ascertaining conditions under which the various species can be raised profitably and produce good fur; developing improved strains by selective breeding of promising species; learning the breeding, gestation, whelping, and prime-fur periods; and investigating diseases and parasites and determining methods of prevention and treatment. This leaflet furnishes information about the experimental fur farm along the following lines:

	Page
Location and history of the farm	1
Stock and equipment	1
Feeding methods	3
Sanitary precautions	3
Accomplishments from the experiments	4

Washington, D. C. July, 1927

This leaflet is a contribution from the
Bureau of Biological Survey . . . . Paul G. Redington, Chief
Division of Fur Resources . . . . . Frank G. Ashbrook, in Charge

ADDITIONAL COPIES
OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT
5 CENTS PER COPY

EXPERIMENTAL FUR FARM OF THE BIOLOGICAL SURVEY

By Frank G. Ashbrook, *in Charge Division of Fur Resources*, and Karl B. Hanson, *Assistant in Charge of Experimental Fur Farm, Division of Fur Resources, Bureau of Biological Survey*

THE EXPERIMENTAL FUR FARM maintained by the Biological Survey in the foothills of the Adirondack Mountains, Saratoga County, N. Y., is the outgrowth of similar farms established by the bureau between 1913 and 1923 in other sections of the country. One of these was operated for a time near Pritchard, Idaho, and the other near Keeseville, N. Y. Not only is the present site in a region noted for the quality of fur produced in the wild, but it also meets all the requirements for raising fur animals in captivity, and in addition is quickly accessible for bringing in stock, building materials, and other supplies.

Location and History

The tract on which the present fur farm is located is leased by the Government and comprises 20 acres of well-drained soil, 15 acres of which are covered with an excellent forest growth. The trees include pine, hemlock, beech, oak, black and white birch, basswood, locust, maple, hickory, butternut, white ash, and ironwood. The farm is within less than 4 miles of Saratoga Springs (fig. 1) on an excellent State road running to Corinth. An automobile bus line runs between these places, and stops are made at the farm.

The farm is open to the public from June 1 to December 1, from 10 a. m. to 4 p. m. on Wednesdays and Sundays. Many visitors from all parts of the United States, from Canada, and from European countries have already inspected it and have been interested in noting the experiments in progress. The funds for operating the farm are provided in annual appropriations made by Congress to the United States Department of Agriculture, for expenditure by the Bureau of Biological Survey in its "investigations, experiments, and demonstrations in connection with rearing fur-bearing animals."

The prime object of the experimental fur farm is to determine the best methods of producing fur animals in captivity. The farm is not run for commercial profit through the sale of either breeding stock or pelts, all energies being directed to developing the best methods for producing fur of fine quality, insuring sanitary surroundings, and preventing diseases and parasites. Surplus animals are pelted, however, and the proceeds from the sale of the skins revert to the United States Treasury. No live animals are sold for any purpose.

Stock and Equipment

The fur animals with which experiments are being carried on at present are red, cross, and silver foxes, martens, and rabbits of various breeds. Other species will be included as the work develops and funds permit. The equipment includes modern pens, dens and nest boxes for the animals, a laboratory and office building, a utility house containing cookroom, feed room, and car-

51853°—27

penter shop (fig. 2, A), a watchtower for observing animals during periods of breeding, gestation, and whelping, a storehouse for miscellaneous supplies and equipment, a building for housing utility rabbits (fig. 2, B), a large stone garage, and a comfortable house of eight rooms for the caretaker of the farm and his family.

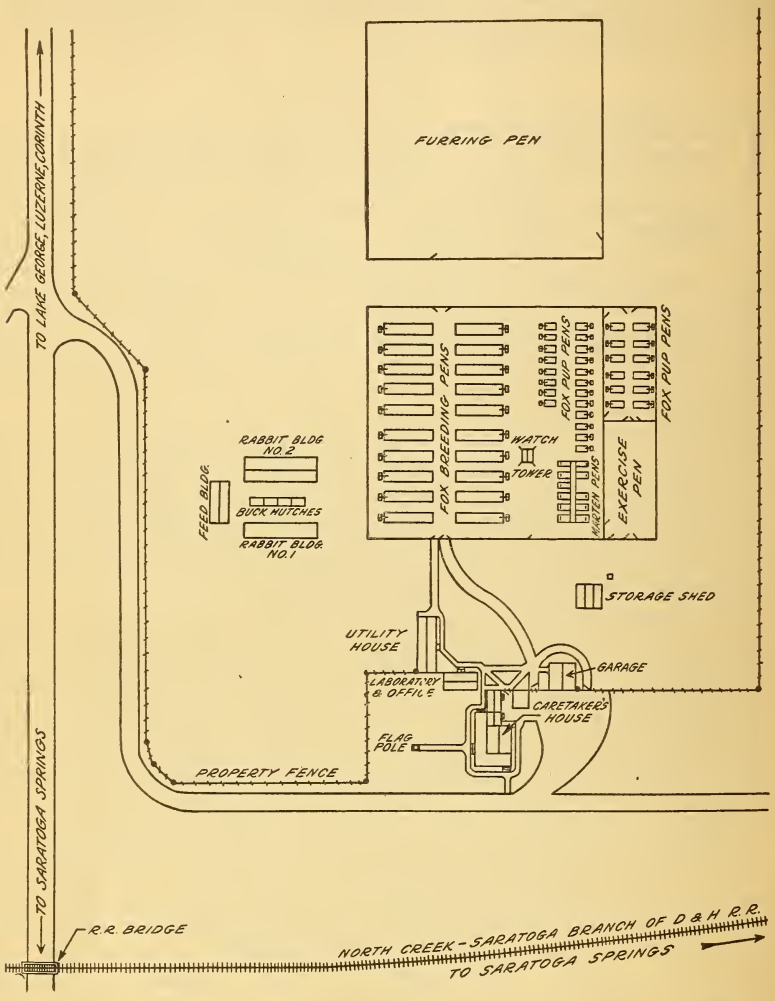


FIG. 1.—Map showing the location and general plan of the experimental fur farm of the Biological Survey

There are two large guard-fence inclosures, each more than an acre in size. (Fig. 3, A.) In one of these are fox breeding pens, fox pup pens, marten breeding pens, and the watchtower. (Fig. 3, B.) The other, called the "furring pen," is used as a place where the foxes may exercise and develop their fur.

Wholesome feeds are supplied to all the animals, and the water used is pumped from a deep well. As a rule the animals are fed once daily, but there are certain periods when the foxes are fed both morning and evening. Practically all of the feed is given raw and in individual aluminum pans. The main ration consists of a mixture of 2 parts by weight of ground raw meat, 1 of a cereal mixture, 2 of milk, 1 of water, and one-fourth part of cod-liver oil. The cereal mixture consists of 1 part each of kiln-dried bread, shredded-wheat waste, wheat germ, and corn oil cake meal, one-half part each of fish meal and edible bone meal

Feeding

B30175; B31373

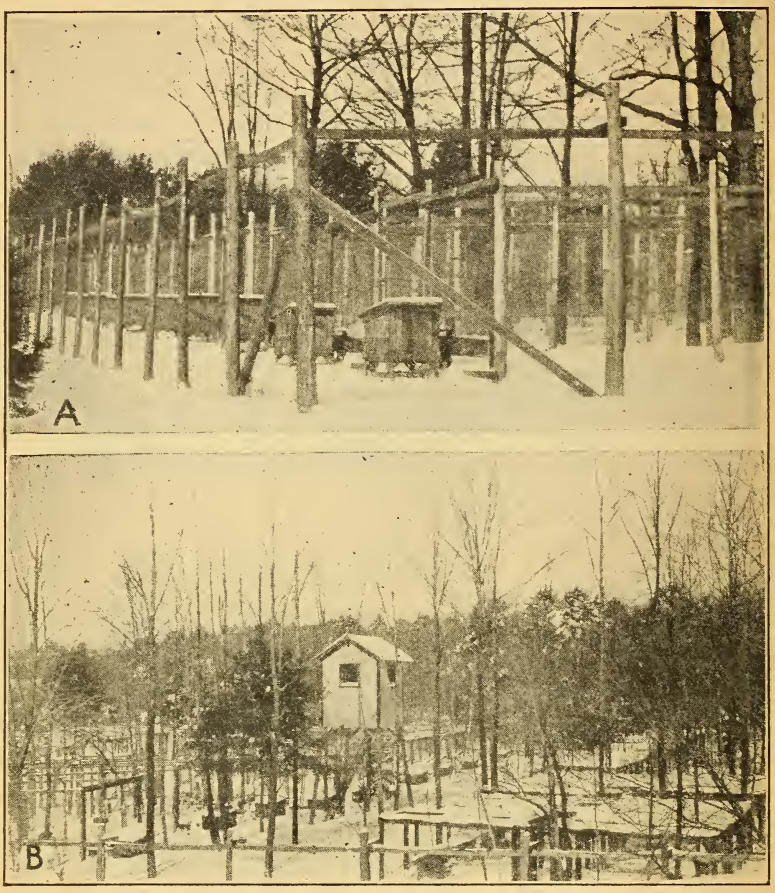
FIG. 2.—Structures on the experimental fur farm: A, Office and laboratory (at left) and building (at right) containing feed room, storerooms, and carpenter shop; B, rabbit building, for breeding does, with hutches for bucks in the foreground. The main ranch is seen at the extreme right (fig. 3)

one-fourth part of alfalfa meal, and one-eighth part of iodized salt. The ground meat and the cereal are mixed together with the milk, water, and cod-liver oil and then fed to the animals. The quantity of feed consumed daily by each fox ranges from 0.6 to 0.9 pound (about 9½ to 14½ ounces). The rabbits are fed dry cereals, chiefly whole and rolled oats, carrots or rutabagas, and alfalfa hay.

The necessity for cleanliness and sanitation can not be over-stressed if fur animals are to be produced profitably. Sanitary surroundings are most essential to success in fur farming. Cleanliness and common-sense methods of management are relied upon to keep the animals in health and vigor. Dens and pens (fig. 4) are at all times kept as clean as

Sanitation

possible, so that the surroundings may be healthful. Feeding and drinking dishes are kept clean, and the water supply is pure and fresh. After each feeding all the dishes are collected, cleaned, and thoroughly sterilized.



B30185; B30650

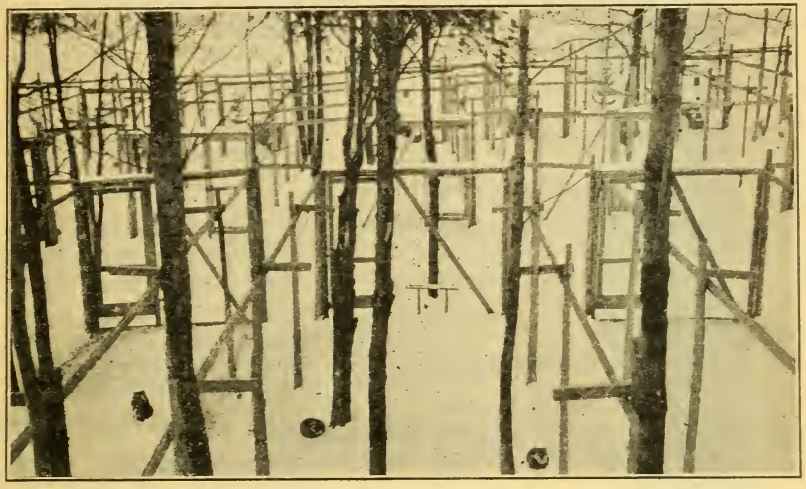
FIG. 3.—Views of the main fur ranch: A, Corner in the section containing the fox and marten breeding pens; B, general view, showing watchtower, from which observations can be made of the animals without disturbing them

Accomplishments

Experiments conducted at the farm have shown that the same general principles of feeding, breeding, and sanitation followed with domestic animals can be applied to the production of fur-bearing animals. The wrong kinds of food and feeding methods, as well as parasitic infestation, have been found to be determining factors in producing inferior pelts. Studies are being made of fur animals during the mating, gestation, and whelping periods, and improved methods of handling diseased animals during treatment have been devised. Investigations of diseases and their treatment have been in progress,

and in this work the Bureau of Animal Industry has cooperated by examining diseased organs in the laboratory and inspecting live animals on the farm. Further experiments are necessary to determine how parasites and diseases affect the quality of fur. Breeding experiments at the farm tend to prove that the characters of a "samson" fox (one that lacks guard hairs and thus produces a nearly worthless pelt) are inherited and can be transmitted, thus rendering such animals valueless as breeders.

Various kinds of dens have been constructed at the experimental farm to ascertain the types best suited to the production of fur animals in captivity. Drawings of those found most practicable have been prepared, and blue prints have been made available for free distribution through the cooperation of the Bureau of Public Roads.



B30171

FIG. 4.—A view of the fox-breeding pens as seen from the watchtower

The information obtained by experimental studies on the fur farm, together with observations made in the field, is assembled in the form of leaflets and bulletins for free distribution to those who request it, and for use in answering correspondence.

The majority of persons who plan to engage in the new industry of producing fur-bearing animals in captivity know little about the business. Prospective breeders, as well as those engaged in fur farming, are benefited by the experimental work of the Biological Survey. State agricultural colleges and experiment stations, State game commissions, and conservation societies have been given assistance in the solution of their problems. The benefits derived from the work under way at the experimental fur farm do not end with the actual raising of animals in pens. The data obtained aid also in furnishing necessary information for the formulation of uniform trapping laws and in determining breeding and prime-fur periods and thus form the basis for important conservation measures.

THE FOLLOWING BULLETINS and leaflets on fur farming, prepared in the Biological Survey, are for free distribution by the United States Department of Agriculture, Washington, D. C., as long as the supply lasts, and are also for sale by the Superintendent of Documents, Government Printing Office, Washington, D. C., at the prices quoted:

Farmers' Bulletins:

587–F. Economic Value of North American Skunks_____ 5¢
869–F. The Muskrat as a Fur Bearer with Notes on Its Use as Food_____ 5¢
1247–F. American Moles as Agricultural Pests and as Fur Producers_____ 5¢
1515–F. Fur Laws (annual publication)_____ 5¢
1519–F. Rabbit Skins for Fur____ 5¢

Yearbook Separate:

823–Y. Trapping on the Farm__ 5¢

Department Bulletins:

1078–D. Beaver Habits, Beaver Control, and Possibilities in Beaver Farming_____ 15¢
1151–D. Silver-Fox Farming_____ 15¢
1350–D. Blue-Fox Farming in Alaska_____ 15¢

Department Leaflets:

4–L. Raising Domestic Rabbits__ 5¢
6–L. Experimental Fur Farm of the Biological Survey_____ 5¢

The following leaflets and separates will be furnished free, as long as the supply lasts, if a request is addressed direct to the Biological Survey, United States Department of Agriculture, Washington, D. C.:

Biological Survey Leaflets:

Bi–103. Hints on the Care of Martens and Fishers.
Bi–128. Hints on the Care of Ferrets.
Bi–152. Hints on the Care of Otters.
Bi–180. Hints on the Care of Opossums.
Bi–216. Hints on the Care of Raccoons.
Bi–366. Publications on Fur and Fur Animals.
Bi–442. Breeders of Foxes.
Bi–464. Breeders of Fur Animals.
Bi–526. Hints on Raising Squirrels.
Bi–880. Breeders of Fancy Rabbits.
Bi–881. Breeders of Utility Rabbits.
Bi–889. Publications on Trapping.

Journal of Agricultural Research Separates:

Q–2. Anthelmintic Efficiency of Carbon Tetrachloride in the Treatment of Foxes.
Q–5. Critical Tests of Tetrachlorethylene as an Anthelmintic for Foxes.

U. S. GOVERNMENT PRINTING OFFICE: 1927