

THIS MONTH'S COVER STORY

Veterinarian Visits the Volga Land

What Impressed U. S. Mink Researcher

By DR. JOHN R. GORHAM*

In May, 1972, during the Moscow Summit, President Nixon and Party Leader Brezhnev signed an agreement creating a mechanism for the exchange of scientific information in a wide variety of fields, including agriculture. In efforts to foster a new spirit of detente and establish channels of communication between Soviet and American scientists, teams of veterinary research workers from the U.S.S.R. were to visit the United States.

In return, veterinarians from the U. S. were given the opportunity to inspect various Soviet scientific and agricultural facilities. I was a member of the American team in 1975 and as part of our itinerary, we were taken to Pushkinsky state breeding fur farm, the oldest, largest fur farm in the Soviet Union. Other members of the team were Dr. John Graves, assistant director, Plum Island Animal Disease Center; Dr. George Lambert, assistant director, National Animal Disease Center; Dr. Victor Shille, department of reproduction, school of veterinary medicine, University of California; and Dr. Marvin Twiehaus, head, department of veterinary science, University of Nebraska.

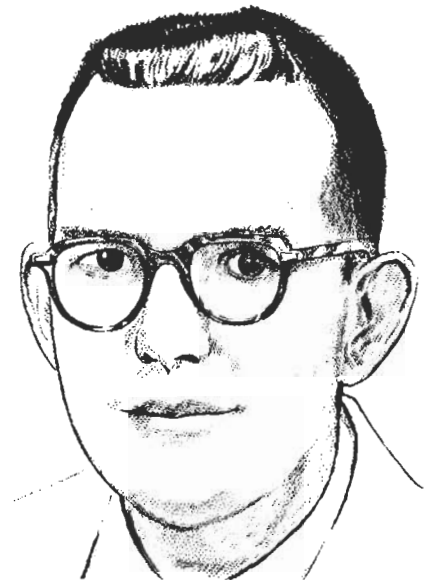
Located about an hour's drive from Moscow, this is an attractive, well-

cared-for, self-contained installation, more like a small town than an ordinary fur farm. The 300 workers and their families live in four-story apartment buildings within a complex that includes a research center, veterinary clinic, hospital, school, day-care center, recreation hall, grocery store, milliner's shop, hairdresser's shop, barbershop, post office, sports field, and stadium.

Among the workers, the esprit de corps is reflected in their proud display of trophies marking sports victories of the farm teams in local competitions. A large monument in a prominent corner of the complex commemorates those farm workers who fought and died in World War II. The entire village is surrounded by a wood of Russian white birch trees; in the summer, the tile-roofed sheds are trimmed with flower boxes. Flowering vines cover the bright-blue facades of each elongate animal unit.

Makeup of Herds

Animals raised on the farm include a variety of foxes (including red, silver, white, and blue breeds), black sables (Soviet veterinarians anticipate having to raise 100,000 before any mutations



GORHAM

appear), and mink (including standard, pearl, pastel, silverblu, black cross, and lavender, among others). Of the more than 125,000 mink, 20,000 are breeding females. The animals are housed in sheds containing two rows of cages supported on planks above dirt floors; only wire mesh covers the lengths of the buildings even though the climate is cold and dry.

[Volga continues on page 6]



This woman fur farm worker cleans waterers with a small brush. Waterers on the big Russian fur farm are cleaned every day.



Ever seen a sable kit? Here are some young sable kits on the vast state fur farm in Russia described in accompanying story.

All workers, many of whom have been a part of the farm for 20 years, are encouraged to take advanced correspondence courses in animal husbandry. Signs around the complex exhort workers to greater individual achievement ("Work hard today, for tomorrow you may not be able!"). There are competitions for the best effort; winners are rewarded by having their photographs placed conspicuously above the entrance to the animal units. Most of the workers are women. Each is responsible for about 300 mink, all of which receive individual attention from birth to pelting.

Feeding, Watering

The mink are fed and watered by hand twice a day; automatic feeders are used only at the peak of the season. Young animals, two to four months old, are encouraged to reach their full growth potentials by being given high levels of nutrients. Older animals are maintained on reduced rations. The handlers know exactly how much each animal will consume; there is seldom any waste, although old or leftover feed may be given to pelters.

Because feed availability is the chief limiting resource of the Soviet fur industry, economy is vital to Soviet production.

The diet consists of 40 per cent fish, 25 per cent meat scraps (including tripe and liver), two per cent horsemeat, and a mixture of supplemental vitamins (i.e., vitamins E and B), wheat and barley cereal, sunflower seeds, cabbage, and potatoes. Silkworm pupae meal, considered by the Soviets to be high in digestible protein, is included whenever it is available from central Asia.

Potatoes are replaced in the spring by raw spinach, lettuce, peas, or annual grasses; milk and cottage cheese are added to the ration in the



Pushkinsky state breeding farm is the oldest and largest fur project in the Soviet Union. It supplies most of the breeding stock for other Russian mink enterprises. A lineup of sheds at Pushkinsky is pictured.

summer. Pregnant females are fed sugar and additional liver. Each animal receives 10 grams of fresh blood each day. Raw pork products never are fed because of the danger of Aujeszky's disease. Technicians in the biochemistry laboratory at the farm monitor feed quality and particularly fat oxidation, which may not exceed 0.3 per cent. A veterinarian supervises feed preparation in the kitchen.

Life Histories

The three veterinarians on the farm keep medical histories of each mink. These are indexed according to dam, sire, and progeny. These indexes are used not only to monitor an individual animal's progress, but also to survey

for epizootics and hereditary characteristics. Animals are culled in the fall if their records indicate any of the following: Abscesses, *Staphylococcus* infections, dystocia, mastitis, pyoderma of nursing kits, fatty liver disease, kidney disease, rhinitis, gray diarrhea, or self mutilation.

Clinically-normal kits are culled if two in the litter have died, as are dams of litters in which more than three have died. If hydrocephalus, alopecia, or bent neck appears in a mink, the entire family is culled.

Potential breeders are chosen each January and are tested for Aleutian disease before breeding begins on March 5. The females are brought in to the males and singly bred for five days, then rebred once after another seven to 10 days. The average litter size is currently 4.5 kits, although first-day losses range from six to 18 per cent. Dr. V. S. Slugin, chief veterinarian at Pushkinsky farm, has noted that this early mortality frequently involves mutation and Chediak Higashi mink and is the main problem on the farm.

Vaccinating Practices

Kits are vaccinated against botulism and mink virus enteritis at 40 to 45 days of age and adults in July and August. Aerosol distemper vaccine from dog kidney cell culture is administered at two months of age and to adults one month before estrus. Kits are screened randomly for anemia; those with low hemoglobin or low red blood cell counts are fed additional liver or placed on a fish-free ration. Animals are tested routinely intradermally for tuberculosis. The farm reportedly has had no acute infectious



Soviet sable and mink kits. Farm employe at left displays young black sable kits; other women, sapphire mink kits.



Most light work on the big fur farm is handled by women employes. The farm is a veritable town complex in itself.



Construction is an ongoing operation on the giant fur farming complex. Here a farm worker builds more pelt pens.

diseases in the last 15 years.

There are occasional cases of wet-belly disease, which usually respond to the replacement of dietary fat by high levels of carbohydrates. Cystitis is treated with streptomycin, nitrofurantoin, and penicillin. Soviet veterinarians have developed an effective formalin-killed vaccine against one strain of *Pseudomonas* as well as an experimental vaccine against pseudorabies for use in mink.

Mink are screened for AD twice a year with the iodine agglutination test. Positive reactors are culled, along with their dams, sires, littermates, and contacts. Mink with gray diarrhea also are culled because the Soviet veterinarians feel that the condition is associated with the Aleutian gene. With this system at Pushkinsky farm, the incidence of AD reactors was reduced from 5.3 per cent in 1971 to 0.9 per cent in 1974. When the veterinarians at this farm recently bought a shipment of jet mink from the U. S., they were horrified to discover that 30 per cent reacted positively to the AD test.

When we arrived at the farm, we met and were impressed by some of the Soviet Union's most highly-trained fur animal research workers, including Dr. Slugin, who is undoubtedly one of the leading fur animal disease experts in the world. Our conversations were stimulating, sincere, and exhaustive; we discussed everything from mutual successes to unsolved problems. Our mission was to determine what cooperative experiments or exchanges could be made. We agreed that we could work together on AD virus in fur animals.

But apart from any concrete, specific projects we may have agreed to undertake, our most-significant finding was that science and scientists are the same the world over. We were treated to the generous hospitality, the vodka, and the openness of spirit of the Soviet scientists.

Because fur animal diseases don't respect national borders, we had no difficulty in finding subjects of common interest about which we talked freely and po dusham — heart-to-heart. We hope that future exchanges will continue to nurture this friendship. After all, the health and well being of all our animals is a common goal that extends beyond the politics and language of either nation.

**John R. Gorham holds both D.V.M. and Ph.D degrees and is research leader in the Agricultural Research Service's pioneering research laboratory. His address is 202 Wegner Hall, Washington State University, Pullman, Wash. 99164.*

Evans profit higher in its third quarter

The big Chicago-based furrier, Evans, Inc., has reported higher earnings for its most-recent quarter and for the first nine months of its fiscal year. In the three-month span, profit was \$709,000, compared to \$583,000 a year previously.

For the nine months, earnings were \$780,000, against \$634,000 for the matching period a year earlier.

Third-quarter sales exceeded 19.6 millions and nine-month revenues were 39.8 million. The comparable figures a year earlier were 16.6 million and 35.4 million dollars.

Evans operates 105 retail fur salons.

Ben Smit Speaks

Guest speaker at a recent meeting of the Mink Breeders Association of Illinois was Ben Smit of Hudson's Bay & Annings, Green Bay, Wis. The event was held at Crystal Lake.

References Cited

MacNeil-Lehrer Report, P.B.S. telecast, Jan. 11, 1977. Medicine & Detente. Library No. 337.

Rice, R. P., Russian Patrol. Part I, in United Kingdom & Ireland Fur Farmers Gazette, Vol. 26, No. 5, October-November, 1977.

Rice, R. P., Russian Patrol. Part III, in United Kingdom & Ireland Fur Farmers Gazette, Vol. 27, No. 2, April-May, 1977.

Slugin, V. S., A Creative Approach, in Veterinariia, November, 1976.

Trip Report of U. S. Veterinary Scientist Team Visit to U.S.S.R., May 15 to June 13, 1975.

Mill show winner on Prince Edward Island

Clayton S. Mill of Kensington captured top-point honors at the recent mink competition sponsored by the Prince Edward Island Fur Breeders association. His entries had a comfortable margin over those of runnerup John MacInnis of Breton Cove, N. S.

Following in order were Bras d'Or Mink Ranch of West Bay, N. S., and Elmer Peters and Allan Gallant, both of St. Charles on PEI. Cabot Trail, MacInnis' farm, showed the heaviest animal.

Grand class championships went to Mill, Bras d'Or, and Cabot Trail. The 180 entries were judged by Leopold Fournier and George Vongas of Hudson's Bay Co.

Concerned Wife

Have you heard about the man whose wife was so concerned about his happiness that she hired three detectives to discover the reason for it?