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Figure 1: Organization of Veterinary Services in Hungary, 1960.

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Hungary

A. General -- Unsettled wartime conditions caused an increase of many serious animal diseases throughout Hungary. Government measures to improve animal health have been only moderately successful. Lack of popular support, political interference and, particularly during post-war years, a shortage of qualified veterinarians, have hindered disease control efforts.

All veterinary activities in Hungary are under strong control of the Ministries of Agriculture and Supply. Private veterinary practice does not exist.

Hungarian veterinarians participate in scientific meetings within the Communist bloc but only rarely are permitted to visit those held in western countries.

- B. Environmental factors affecting health
- 1. Topography and climate -- A temperate continental climate and favorable terrain and soil, particularly in Transdanubia and the Northern Upland are in general well suited to livestock production. However, the assignment of a large proportion of farmland to grain for human consumption leaves Hungary without sufficient pasture area. $\frac{\underline{h}}{\underline{l}6}$
- 2. Socio-economic pattern -- As in other socialist countries, a post-war trend towards industrialization and urbanization has caused a decline in agricultural production while at the same time creating an increased demand for livestock products.

 Government attempts to increase farm output through large-scale collectivization have been largely unsuccessful, since farmers and livestock owners, reluctant to relinquish their individual property, have failed to give their full cooperation.

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- 3. Animal and plant life (of veterinary importance)
 - a. Animal
- (2) Flies -- Cattle warble flies (Hypoderma spp.) are important among the various insect species plaguing Hungary's livestock. They cause severe hide damage and impair milk production and weight gain.
 - (5) Ticks and mites

Ticks -- Many species of ticks, several of them vectors of disease, occur in Hungary. The most important ones and the diseases they transmit, or cause, are:

Dermacentor marginatus	Anaplasmosis, piroplasmosis, tularemia, brucellosis, equine encephalomyelitis, spring- summer encephalitis, Japanese B encephalitis.
D. pictus	Piroplasmosis, tularemia, equine encephalomyelitis, Omsk hemorrhagic fever.
Haemaphysalis concinna	Spring- summer encephalitis
H. inermis	Tick-paralysis
H. otophila	Piroplasmosis
H. punctata	Piroplasmosis, tularemia,

brucellosis, tick-paralysis

Ixodes ricinus Piroplasmosis, tularemia,

<u>Ixodes</u> <u>ricinus</u> <u>Piroplasmosis, tularemia, brucellosis, tick-paralysis</u>

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Mites -- Mite infestations by species of the genera Demodex,

5/ 20/
Psoroptes and Sarcoptes cause debilitating conditions in all classes of livestock.

(7) Mollusks -- Numerous species of snails act as intermediate hosts for liver flukes (fasciolidae) and lung worms (metastrongyles), which widely affect Hungary's livestock. The most important snail species are:

Galba truncatula)	
Radix peregra	Intermediate hosts of liver fluke
Succinea oblonga	Intermediate hosts of liver little
S. hungarica	
Capaea vindobonensis)	
Capaea VIIIIODONENSIS	
Helicella obvis	Intermediate hosts of lung worms
Helix pomatia	Three mediate hoses of Tung worns
Zebrina detrita)	

(8) Worms -- The most important parasitic worms of domestic animals in

Hungary are:

Fasciola hepatica

Avitellina centripunctata

Cysticercus bovis (Taenia saginata)

C. cellulosae (Taenia solium)

Echinococcus granulosus

Moniezia benedeni

M. expansa

Stilesia globipunctata

Thysaniezia giardi

Ascaris lumbricoides

Cystocaulus ocreatus

Dyctyocaulus viviparus

Metastrongylus spp.

Mullerius capillaris

Neostrongylus linearis

Parafilaria multipapillosa

Protostrongylus rufescens

Strongyloides stercoralis

Syngamus spp.

Trichinella spiralis

Trichostrongylus colubriformis

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(11) Wild animals -- Foxes, particularly numerous in the northeastern part of Hungary, serve as reservoir of rabies.

4. Nutrition

- b. Food supply and distribution -- Prior to World War II, the consumption of animal proteins in Hungary was substantially greater than that in other east European countries. The reduction of the livestock population by more than half during the latter part of the war and serious economic and financial problems in the immediate post-war years, resulted in serious deficiencies of meat and dairy products which, despite the effort of agricultural authorities, have not yet been overcome completely. Lack of sufficient roughage and concentrates, collectivization, increased industrialization and the export of slaughter cattle, meat, and poultry products to western European and Communist countries, are major factors responsible for the continued shortage of livestock products.
- c. Food sanitation, storage and technology -- Sanitary supervision of processing of meat, milk and poultry is reasonably adequate, but there is a definite lack of refrigerated storage and transportation facilities. Within the last 10 years refrigeration plants were constructed at Debrecen (47-32 N 21-38-E),

 Gyor (47-41-N--17-38-E), Kaposvar (46-22 N 17-48 E), and Miskolc (48-06-N--20-47 E).

 Yet, even this added capacity is insufficient to meet the ever increasing demand for refrigeration space.

C. Diseases

2. Diseases of animals

a. Prevalent animal diseases -- Unsettled conditions during wartime and immediate post-war years caused a widespread increase of animal diseases. The disease CONFIDENTIAL

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problems are complicated by a frequent lack of feed and by the reluctance of the rural population, resentful of collectivization, to cooperate with veterinary $\frac{13}{14}$ $\frac{22}{}$ authorities.

- (1) Bovine tuberculosis Bovine tuberculosis is Hungary's most significant livestock disease. The national tuberculosis reactor rate is estimated at 18 percent, including a 23 percent infection rate for cows. Mergers of state farms and the establishment of new cooperative farms from small private farms keeping infected cattle, have been major factors in the spread of the disease. In 1962, the Ministry of Agriculture published a decree providing for the slaughter of infected cattle during 3-year periods in certain areas designated each spring by veterinary authorities. Cooperative farms affected by this eradication program will be paid compensation in the form of loan cancellations or bank credit. Effective January 1, 1963, bonuses may be paid for milk or cream from non-infected herds and reductions may be made from the purchase price of infected animals sold for slaughter purposes. Subsequent to January 1, 1964, state, cooperative and private farms keeping infected cows may not sell their milk directly to consumers, but only to state dairy enterprises.
- (2) Bovine brucellosis -- Brucellosis causes substantial economic losses to Hungary's cattle industry. Control efforts presently are confined to Strain 19 vaccination of heifers and mature cows.
- (3) Fascioliasis -- Fascioliasis (liver fluke infection) in cattle, sheep and swine, is one of Hungary's most troublesome livestock diseases, causing an annual production loss of approximately 250 million forints (approximately 20.8 million dollars at the official rate). During years of average precipitation, the CONFIDENTIAL

infection rate of cattle and sheep is believed to be 25-30 percent. In swine the disease causes the condemnation of 5-10 percent of livers in slaughtering plants. Veterinarians, who put more emphasis on the apeutic treatment than on destruction of snails serving as intermediate hosts, claim good results with the intramuscular injection of carbontetrachleride in cattle and sheep.

- (4) Echinococcosis -- Echinococcosis (hydatidosis) in ruminants and swine, aside from its menace to human health, is responsible for considerable losses to the food and pharmaceutical industries by causing the condemnation of many organs and carcass parts. Veterinary and public health authorities are attempting to control echinococcosis through the application of strict sanitary measures at slaughtering sites and through obligatory atabrine treatment of dogs, the principal carriers of the disease.
- (5) Swine diseases -- Transmissible gastroenteritis, chronic salmonellosis, and swine pox, are Hungary's most significant swine diseases. Hog chôlera and erysipelas still exist, but compulsory immunization with crystal violet or lapinized vaccines and erysipelas bacterin respectively have reduced the incidence of these once widespread diseases considerably. Other important swine diseases are edema disease (colibacillosis), tuberculosis and brucellosis.
- (6) Poultry diseases -- Poultry raising, which has a long tradition in Hungary, is threatened by a number of serious diseases. Fowl cholera (pasteurellosis) is the most important disease in terms of economic losses as well as difficulty of control. Until recently, control measures consisted of the administration of sulfonamids and antibiotics in the feed, but the appearance of resistant pasteurella strains has forced the abandonment of this form of treatment. Present control

efforts rely on complete slaughter of heavily infected flocks and on quarantine of those less severely affected. Vaccines and sera are not commonly used, since the resistance they impart is too short-termed to be of major practical value.

The incidence of fowl pox has increased proportionately with the development of large-scale poultry farming. In flocks where the disease reoccurs from year to year, immunization with pigeon pox vaccine in chickens and turkey pox vaccine in turkeys is carried out.

Obligatory vaccination with H and $B_{\rm l}$ vaccines has reduced the high post-war incidence of Newcastle disease.

Other important poultry diseases are fowl typhoid, pullorum disease, tuberculosis $\frac{11}{13}/\frac{15}{20}/$ spirochaetosis, leukosis, encephalitis, coccidiosis, trichomoniasis and gout.

- (7) Anthrax -- Although no serious epizootics have occurred since 1952, anthrax is still a problem in certain parts of Hungary. In enzootic areas annual vaccination with Carbozoo or a spore vaccine is carried out.
- (8) Foot-and-mouth disease -- Outbreaks of type 0 and, to a lesser degree, of type A foot-and-mouth disease periodically occur in Hungary. In the past, the disease has been reasonably well controlled through quarantine, vaccination and slaughter. Foot-and-mouth disease vaccine is prepared by the Foot-and-Mouth Disease Institute in Budapest (47-30N 19-05E), which was established in 9/18/19/20/30/32/
- (9) Rabies -- Strictly enforced vaccination of dogs (Semple type vaccine of ovine origin), has sharply reduced the incidence of this once rampant disease.

 Outbreaks of some magnitude, however, still occur in the mountainous provinces

(megyek) of Borsod and Heves where foxes are the principal carriers of the $\frac{5}{9}$ $\frac{9}{13}$ disease.

- b. Other important animal diseases -- Other important animal diseases in Hungary are Aujeszky's disease, epizootic catarrhal virus pneumonia of cattle, virus abortion in sheep, leptospirosis, listeriosis, ovine enterotoxemia, bovine piroplasmosis, trichomoniasis, ovine globidiosis, cysticercosis, verminous bronchitis, ectoparasitism and deficiency conditions. Dourine and glanders were introduced during the war and some cases of these diseases still occur.
- D. Veterinary organization and administration
 - 1. Civilian
- a. Organization -- The Veterinary Directorate, under the Ministry's of

 Agriculture Chief Directorate of Livestock Breeding and Veterinary Medicine, is the

 principal authority for Hungary's veterinary field services. This Directorate

 directs the Veterinary Divisions of the Provincial (megyek) Peoples' Councils,

 the Veterinary Hospitals, the Diagnostic Laboratories and the Quarantine

 Stations. The Provincial Peoples' Councils' Veterinary Divisions supervise the

 Veterinary Services of the Regional (Jarasok) Peoples' Councils, which in turn direct

 the District and Cooperative Farm Veterinarians.

Veterinary Hospitals and Diagnostic Laboratories have no organizational bonds to provinces, regions or districts but simply provide their services to the geographic area in which they are located.

The Veterinary Council, a body of distinguished veterinarians, acts in an advisory capacity to the Veterinary Directorate.

The chief Directorate of State Farms of the Ministry of Agriculture, has administrative control over State Farm Veterinarians who, however, are professionally responsible to the Veterinary Directorate.

Hungary's major veterinary research institutions, with the exception of the Veterinary Research Institute which is controlled by the Hungarian Academy of Sciences, are directed by the Ministry's of Agriculture General Administration of Agricultural Education and Research. This Administration supervises the Budapest Veterinary College, the National Institute of Veterinary Medicine, the "Phylaxia" National Vaccine Production Institute, the National Institute for the Control of Veterinary Immunological Products, and the Foot-and-Mouth Disease Institute.

The Ministry of Supply's Department of Food Hygiene and Central Administrations for Meat, Dairy, and Poultry Products Industries are responsible for the sanitary control of food products in Hungary. These agencies rely largely on veterinarians for the staffing of their control laboratories and the supervision of their inspection personnel. In a number of small slaughterhouses, operated by Provincial or Regional Peoples' Councils, meat inspection is carried out by provincial or regional veterinarians.

Artificial insemination is entirely a function of animal husbandry agencies under the Chief Directorate of Livestock Breeding and Veterinary Medicine, which employs a number of veterinarians.

Veterinary	ser vi des	in	Hungary	are	completely	nationalized.	Private practice	
does not exist.								

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- b. Legal controls
- (1) Licensure -- Completion of the 5-year course at the Budapest Veterinary

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 College is prerequisite for employment as veterinarian:
- (2) Quarantine -- The Decree No. 5/1962 and the Code of Veterinary

 Hygiene (Allategeszsegugyi Szabalyzat), both published by the Ministry of Agriculture
 in the No. 6/1962 issue of the Ministry's weekly official gazette (Mezogazdasagi

 Ertesito), govern the import of animals and animal products. The Code of Veterinary

 Hygiene is available for 12 forints (approximately 1 dollar) from the Central Bureau
 for Newspapers and Magazines.

In February 1959, Hungary and East Germany signed a special agreement regulating the import and transit of livestock and livestock products. A similar agreement between Hungary and Czechoslovakia was signed in February 1961 (published as Ministry of Agriculture Decree No. 9/1961).

(3) Inspection -- Regulations for the inspection of meat, milk, and dairy products in general are sound and reasonably well enforced. Hungary, through legislation passed in 1938, was the first country to require obligatory poultry inspection. The present poultry inspection plants are usually modern and well equipped.

c. Professional veterinary organization -- Hungary's veterinarians suffer from the absence of a professional organization. They are members of various trade unions that show little interest in veterinary matters. Veterinarians employed in food sanitation and belonging to the Union of Food Industry Workers have a somewhat

better opportunity to guard their professional interests, since they constitute an influential group in that union.

- d. Veterinary research -- Hungary's veterinary research achievements, while among the best within the Soviet bloc, are not comparable to those in the more advanced western countries. Political interference, meager funds and limited scientific contacts with western nations hinder the full utilization of a basically good research potential. (See Section 17)
- f. Emergency veterinary services -- As in other socialist countries, Hungary's veterinarians are under strong central governmental control and can readily be mobilized in case of serious epizootics. $\frac{10}{12}/\frac{13}{22}$
- 2. Military veterinary organization -- Little information on Hungarian military veterinary services is available. One source reports the existence of a group of 30-40 army veterinarians engaged in the care of horses, while another claims the abolition of the Army Veterinary Corps in February 1956.
- E. Veterinary manpower -- Although a post-war shortage has been alleviated considerably, a need for veterinarians still exists. The present veterinary manpower consists of about 2,000 veterinarians aided by a force of veterinary assistants.

The Budapest Veterinary College, with an annual graduating class of 120-150 students, is capable of providing an adequate number of veterinarians. Veterinary education in Hungary, while not on a level with that in England, Scandinavia or Germany, is among the best in the Communist countries.

F. Veterinary facilities -- Hungary's veterinary facilities for treatment, laboratory diagnosis, quarantine, and food sanitation, are adequate in number and reasonably

well distributed. In 1960, there existed about 40 veterinary hospitals, 5 diagnostic laboratories, 13 quarantine stations, 7 meat inspection laboratories and several laboratories for the control of dairy, poultry and other food products.

Testing of animal sera and vaccines, most of which are produced at the "Phylaxia"

National Vaccine Production Institute and the Foot-and-Mouth Disease Institute in

Budapest, are carried out by the National Institute for the Control of Veterinary

Immunological Products, likewise located in Budapest.

The Veterinary Research Institute of the Hungarian Academy of Sciences, and the National Institute of Veterinary Research in Budapest are Hungary's major veterinary research facilities. Additional research is carried out at the "Phylaxia" National Vaccine Production Institute and the Foot-and-Mouth Disease Institute.

The Budapest Veterinary College, aside from its educational activities, maintains clinical and research facilities.

The Budapest Coordination Institute, established and maintained by various East bloc countries, serves as clearing house for the exchange of veterinary information among its sponsors.

G. Veterinary supplies and materials -- Hungary's requirements of animal sera and vaccines is met almost entirely by the "Phylaxia" National Vaccine Production

Institute and the Foot-and-Mouth Disease Institute. Most veterinary pharmaceuticals and antibiotics are produced in government controlled plants that also supply human medicaments. Some veterinary drugs are imported from other East European countries.

Hungary; mext to West Germany, is the leading European country in the development $\frac{5}{9}$, $\frac{11}{27}$, and manufacture of veterinary instruments and equipment.

- H. Reference data -- Not included in this report.
- I. Comments on principal sources
- 1. Evaluation -- The available source material was largely general in nature, providing few detailed data. Information was particularly meager on the distribution, prevalence and control of animal diseases. Reports on military veterinary services were contradictory. Sources 1, 2, 3 and 4 were useful for most sections of this report. Source 5 contributed information on the organization of the civilian veterinary services.
 - 2. List of sources (in order of importance)
 - (1) Magyar Allatorvosok Lapja. Various issues. Budapest. 1958-1962. (Unclassified)
 - (2) U.S. Joint Publications Research Service. "Agriculture, Forestry, and Fishing in Hungary." (Trans.) Various issues. Washington, D.C. 1959-1962. (Unclassified)
 - (3) Hungarian Academy of Sciences. Acta Veterinaria. Various issues. Budapest. 1958-1962. (Unclassified)
 - (4) National Agricultural Library and Centre for Documentation. Hungarian Agricultural Review. Various issues. 1957-1962. (Unclassified)
 - (5) Kocot, M. "The Organization of the Veterinary Service in Hungary."

 /In Polish/ Med. Wet. 16(5):295-296. 1960. (Unclassified)

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