

Activities of Etlik Veterinary Bacteriology and Serology Institute (1964)

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Activities of our Institute in 1964 were carried out by a staff 50 strong consisting of 19 laboratory chiefs (one for each laboratory), 20 specialists, 8 research assistants, 2 veterinary technicians and the director of the Institute. The same staff is now carrying out 1965 programmes.

You will find hereunder the yearly quantities of vaccines produced in and sent to units of veterinary organizations. by laboratories specially desinged for this purpose. Samely, you will find the quantities of samples inspected by laboratories working on methods of diagnos's and doing research. Nevertheless, I still deem it necessary to give a brief summary of main achievements during the year 1964.

A.

I. Modification regarding Max-Sterne Anthracis vaccine production 1963 - 1964 :

1. Better sporulation was obtained by adding, into 1 liter of vaccine medium, 0,3 gr. sodium sulphate, 0,1 gr. calcium chloride,

0,05 gr. magnesium sulphate

0,03 gr. manganese sulphate

0,01 gr. iron sulphate

2. 3-day grown cultures in Roux boxes are washed by 30 - 35 cc serum physiological glass beads. Same are collected through

closed and sterile Buchner conse exposed to fire from Petri boxes of large openings.

3. Concentrated vaccine : is prepared by adding pure, sterile glycerine into salt watered spore suspension to the ratio of one to two.

4. Immunity tests on Guinea-pigs are carried out on 6 Guinea-pigs inoculated 1 cc. of concentrated vaccine diluted to 1/50, 1/100, 1/1000. Immunity tests are also carried out on sheep by diluted vaccine.

5. The diluting of the vaccine is done on the basis of spore count and immunity test carried out on Guinea-pigs. The diluting aims to have at least 10.000.000 spores per 1 cubic cm.

6. The diluent is % 00,1 - 0,5 saponin (depending on its titration) into which equal amounts of glycerine and physiological salt-water are added.

7. Doses subcutaneously inoculated :

Cattle, horses, mules, donkeys, buffaloes and camels 1 cc.

Sheep, goats and pigs 0,5 cc.

Foals, calves and 2 to 6 months old donkeys and buffaloes 0,5 cc.

Lambs and kids (2 to 6 months) 0,25 cc.

8. The foregoing were submitted to the approval of Animal Health Board in a new protocole and prospectus.

II. Sheep pox vaccine :

4.750.000 doses of sheep pox vaccine prepared this year were sent to provinces as per requests by veterinary district officers.

A rather strong immunity against the disease was obtained through the application of this vaccine.

This year the growing of pox viruses in cell cultures and the production of vaccine from this shall be tried. The immunity period provided by the vaccine shall be further tested on pure blood Kivir-cik (non-fat tail sheep) lambs born in 1964 when they will complete their first year of life.

III. Rabies Laboratory :

Lyophilised rabies vaccine tentatively produced with Avianised Kelev strain immunity and safety was tested in 1964 on dogs and the protocol as well as prospectus of the vaccine was submitted to the Ministry's approval for production.

During 1964 vaccine against dog's distemper was produced in rabies laboratory by Dr. Ahmet Özsoy, Mükerrerem Güley (chief of laboratory) and specialist Mediha Şentürk using Lederle Encephalitis virus avianised vaccine and same was tested on dogs for safety. Protocole of the vaccine was drawn up and sent for the Ministry's approval.

IV. Poultry Disease Laboratory :

We can summarize this laboratory's activities as follows :

- a) Vaccine production
- b) Diagnosis of fowl diseases
- c) Research on vaccines to be used against fowl diseases

A. Vaccine Production :

Following principal vaccines are prepared in our laboratory against fowl diseases :

1. Diluted Newcastle vaccine : to be injected subcutaneously (for nearby districts and specially to be applied in Winter)
2. Lyophilized Newcastle vaccine to be used subcutaneously (far away distances and to be applied in worm weather)
3. Newcastle vaccines in the form of nose, eye drops (specially for one-month old chicks)
4. Inactivated Newcastle vaccine (to be applied to eggng hens that had been inoculated when young chicks and broilers)

5. Fowlpox (Diphtheria) vaccine

Production and dispatch of the foregoing vaccines in 1964 are as follows :

<u>Description of the vaccine</u>	<u>Doses produced</u>	<u>Doses dispatched</u>
Diluted Newcastle vaccine	(upon request)	55.000 doz
Lyophilized Newcastle vaccine	2.958.750	2.207.520 »
Nose-eye drop vaccine	(upon request)	209.600 »
Inactivated Newcastle vaccine	60.460	51.360 »
Fowlpox (diphtheria) vaccine	(upon request)	312.960 »

Subjects of Research :

Researches conducted by Fowl Diseases Laboratory can be summed up as follows :

1. From the point of general fowl diseases
2. From the point of preparing some hen vaccines that are more effective and of better use in Turkey.

For the diagnosis of yet unknown fowl diseases encountered among fowl population in Turkey.

As to vaccines; emphasis was placed on Newcastle disease since it is the commonest amongst our fowls with greater losses to poultry farmers. Foregoing methods were used for the preparation of better vaccines against this disease. Yet the infection is still with us. In order to facilitate the breeders campaign against this disease vaccine was mixed in their troughs. This method of inoculation is still under consideration.

V. Tuberculosis Laboratory :

This laboratory has been working as per their protocols since 1962 with PPD Avian and Mammalian tuberculines and on John's disease vaccine.

This laboratory also produces mallein, used in the diagnosis of glanders in horses. Besides, paratuberculosis and tuberculosis inspections are also carried out.

For the first time in Turkey, cold method in tuberculosis staining was used in 1964. Chances of establishing (determining) tuberculosis bacilli by this method are greater as compared with other staining methods.

VI. Foot-and-mouth Vaccine Laboratory :

Satisfactory immunity was obtained in the application of SAT 1 and O vaccines prepared by natural viruses in this laboratory. (A) type foot-and-mouth disease appeared during January 1964 in our Eastern provinces and reached, in short time, our Western provinces. In order to prepare vaccine also against this type this laboratory is trying to get as much material as possible by using all possibilities.

VII. Frankel Culture Laboratory :

Towards the end of 1964 this laboratory started work on producing foot-and-mouth vaccine needed by provincial organizations; by growing, through passages, foot-and-mouth virus on cattle tongue epithelium whereon various types of foot-and-mouth viruses had been adapted.

It is expected that during 1965 satisfactory results shall be obtained by this method and then the organisations using large quantities of vaccine supplies shall be amply provided with.

VIII. Foot-and-Mouth Tissue Culture Laboratory :

In 1964 works were carried out specially on epithelia cells grown on sheep and calf kidneys and by producing SAT 1 and O type foot-and-mouth viruses on monolayer cells tentative trial vaccines were prepared. Field tests of SAT 1 foot-and-mouth vaccine (series 6) were carried out as per ruling of the Ministry's Animal Health Board and satisfactory results were obtained.

Further to the above, works were also done on producing cells from sheep testicles and goat and swine kidneys.

Comparative tests were also conducted using tripsinisation method and with various seria in order to obtain monolayer cells of better quality and were suitable to possibilities and conditions of our laboratory.

IX. Foot-and-mouth Serology Laboratory :

Type identifications of 911 foot-and-mouth samples were made in this laboratory during 1964. 294 (SAT 1), 489 (O) and 17 (A) type viruses were identified. There were 68 samples that went unidentified, while 43 samples were destroyed.

Samples were also sent to Pirbright laboratory to check our laboratory's activities. This laboratory is also charged to obtain hyperimmun sera on Guinea-pigs against foot-and-mouth disease virus types.

Research continues on the preparation of an attenuated foot-and-mouth vaccine adapted on white mice.

X. Alumina Gel :

7130 liters of this material, used as absorbant in sheep pox

foot-and-mouth vaccines, were produced in 1964 by Etlik Bacteriology Institute.

XI. Breeding Diseases Laboratory :

31,019 serological and bacteriological inspections were carried out in this laboratory during 1964. This laboratory is of immense value specially as to inspecting for Brusellosis of all samples sent from state haras and state breeding centers.

In seriological inspection work on complement fixation method in the diagnosis of Brusellosis using antigen made suitable to standard serum was carried out and the superiority of this method to others was definitely proven by the laboratory.

Sheep and goat sera were also comparatively inspected by plate and tube agglutination tests.

In 1870 blood sera taken in January 1964 from cows in Çubuk, Çankaya, Altındağ and Yenimahalle counties of Ankara (these counties supply the capital with milk) and serologically inspected for Brusellosis and percentage of reactors was % 19.49.

X. Food Inspection Laboratory :

Chemical and bacteriological inspections of animal origin food stuff were conducted. Sodium Selenite against white muscle disease and Sitra - Sul for artificial insemination were prepared and sent to places requesting same solution Research was also conducted on food value of Tarhana (pepper dehydrated vegetable soup preparation) samples taken from 67 provinces.

XIII. Parasitology Laboratory :

1. The FAO expert, Dr. Stableforth and Dr. Hüseyin Ergün, chief of Parasitology lab. conducted, in June and July, a series of field researches on unidentified disease that used to cause great losses among lambs in Eskişehir district. For the first time thiapendazol, newest and very Strong medicament was used against intestinal parasites and Covaxin which is a poly - calant against anaerobic parasites was applied with satisfactory results.

2. Dr. Hüseyin Ergün took in his capacity of reporter, in seminar arranged at Samsun with North - east regions' veterinary offices and briefed them on the latest method of inspecting in parasitology and up to date methods of conducting campaigns against

parasites. He also conducted a series of practical demonstrations and showed films.

3. Laboratory specialist, Rifat Coskuner, was sent through a Cento technical assistance scholarship to Onderstepoort in South Africa where he worked on the following :

- a. Production of anaplasmosis vaccine
- b. » » babesiosis »
- c. Spleen operation on animals that are used in vaccine production and for tests.
- d. Method of identifying sheep - tick
- e. Determination of tick - caused bleeding and disease transmitting situation.
- f. Paralysis and toxicose by tests.
- g. Conducting of Haemoagglutination and complement fixation tests with protozoones.

4. Our laboratories normally inspect samples sent from provincial veterinary organisations and report on same.

XIV. Research and Diagnosis Laboratory :

Inspection was done of samples sent from provinces all over Turkey, results were phoned or cabled in emergency cases direct to units concernea. This laboratory is also responsible to search for causes of unidentified cases and reach either a possitive or negative result.

XV. Serology Laboratory :

This laboratory conducts serological inspections and diagnosis of diseases such as durin, paratyphoid and ab - equine that affect the singlehoofed animals. 5457 blood seria that were sent in 1964 from districts were inspected for these three infestions and those concerned were notified of the results.

XVI. Leptospira Lamoratory :

Inspects various animal blood seria sent from districts for leptospira. In serologically positive cases the isolating of leptospire strain and the type identification are endeavoured during 1963 - 1964 in cattle belonging Hasanoglan village and Edirne - Uzunköprü - Malkoç villages leptospira strain was isolated and and type de-

termination was done. These were identified as Grippo - Typhasa type.

Passaged of various serotip leptospira strains are also conducted as per world standards. Domestic animals in the country are leptospira screened serologically and vaccine production shall be possible according to types of local strains.

XVI. Central Doping Laboratory :

430 samples of suspected urine and saliva were sent from Istanbul, Ankara, İzmir and Adana where horse racings are intensive and 31 suspected samples were found positive. Alongside with routine work, two researches shall be conducted in 1965 on doping materials.

B. Training of Technicians :

During the winter semestre of 1963 - 1964 each head of laboratory and specialist conducted teaching programs and practical demonstrations.

Annual scientific lectures continue regularly and documentary films are shown in our Conference Hall.

10 assistant veterinary officers who have completed in October 1964 their 2 years training course were successful in their final examinations to become specialists :

- 2 food specialists
- 1 parasitology specialist
- 7 bacteriology specialists

C. Construction work, equipment and material purchased :

Buildings completed in 1963 - 1964.

1. Director's residence
2. Tap - water at Etlik was softened by a vebolit (coupled with a hyrofort) unit of 20 tons capacity
3. An additional quarantine area was constructed for tests by Rabies Laboratory
4. An electric - generating unit is housed.
5. A sub - station has increased the capacity of electric supply from 100 kw. to 300 kw.
6. 625 - acres land of the institute has been walled off. The

construction of a stone wall started in 1964 shall also continue in 1965.

7. Following facilities have been completed in Beyazıtöđlu farm at Yerköy in order to provide both Etlik Bacteriology Institute and Ankara foot - and - mouth Institute with test animals :

- a) 4 calf barn (each with a capacity of 50 calves).
- 1 Sheep paddock (Capacity : 250 sheep)
- 1 Goat » (» : 250 goats)
- 1 Poultry coop (» : 500 hens)
- 1 Broilers » (» : 1000 chicks)

breeding stations also for sufficient number of white mice, Guinea - pigs and rabbits. Road, water and electricity, needed at this farm were also contracted for in 1964 to be completed in 1965.

D — Chart Indicating samples inspected and vaccines produced at Etlik Veterinary Bacteriology and Serology Institute :

January 1st, 1964 - December 31st, 1964)

	Produced	Shipped
Sauton - Meblül - Mal'ein	34.725 doses	34.725 doses
Tab'et - Mallein	8.030 »	8.030 »
Bouillon - Meblül - Mallein	7.325 »	7.325 »
PPD Mammalian - Tuberculine	33.730 »	33.730 »
PPD Avian Tuberculine	35.440 »	35.440 »
PPD Johnin	2.380 »	2.380 »
Johne's Vaccine	365 »	365 »
Ab. Equine Vaccine	1.000 »	1.000 »
Newcastle Vaccine	2.958.750 »	2.207.500 »
Nose - Eye (Newcastle Vaccine)	295.700 »	209.600 »
Newcastle Inactivated	60.460 »	51.360 »
Fowlpox Vaccine		312.950 »
Foot - and - Mouth Vaccine (0) type	244.516 »	228.400 »
» » » (SATI I) »	268.400 »	268.400 »
Biva'an	— »	1.200.000 »
Sheep pox Vaccine	4.739.280 »	4.739.280 »
Anthraxis Vaccine	9.149.200 »	9.006.600 »
Rabies Vaccine	50.870 »	50.380 »
Pleuro pneumonia		
Contagiosa Capra Vaccine	820 »	624 »
Sperm Diluent Solution	442.500 »	442.500 »

E — Samples Inspected at the Institute :

in the	Number of samples
Diagnosis Laboratory	294
Breeding Diseases Laboratory	31.919
Leptospira Laboratory	555
Parasitology Laboratory	158
Foodstaff Control Laboratory	140
Serology Laboratory	5.457
Tuberculosis Laboratory	229
Fowl Diseases Laboratory	79
Rabies Laboratory	148
Foot and Mouth Disease Laboratory	911
Doping Laboratory	692

F — Apparatii, Equipment and Utensils Purchased in 1964

- 1 — One deepfreeze
- 2 — One Automatic Jar and Bottles Washer
- 3 — Two Ben Maris
- 4 — Two Steamers
- 5 — Two Ultra-violet Lamps
- 6 — One De-ionizer
- 7 — One Electro-foraise
- 8 — One Ph-meter
- 9 — One Incubator
- 10 — Two
- 11 — One florescence microscope
- 12 — One Vaccine Vaccine Drying Machine (Dryer)
- 13 — One Super Sensitive Balance (Precion Type)