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Meeting Report AGA 1971/2

R E P O R T
of the
EIGHTEENTH SESSION OF THE
EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE

held in
Rome, Italy
23-26 March 1971

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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INTRODUCTION

The XVIIIth Session of the European Commission for the Control of Foot-and-Mouth Disease was held from 23-26 March 1971 under the Chairmanship of Dr. Werdelin. Dr. O.E. Fischnich, Assistant Director-General of the Agriculture Department, FAO, welcomed the representatives of member countries, international organizations and institutions, and observers attending the Session. He expressed pleasure at the presence of delegations from three new member countries: Hungary, Malta and Cyprus, which reflected appreciation of the work of the Commission. He hoped too that negotiations in progress with certain other European countries would further increase membership and thus strengthen the Commission and its important work on the control of Foot-and-Mouth Disease in Europe.

The fact that during 1970 no less than 20 countries had succeeded in remaining free of the disease and that others were only affected by sporadic outbreaks was a source of great satisfaction. Although the disease was still fairly extensive on the Iberian Peninsula, continental Europe as a whole had never before been in such a favourable position. The effective control of the disease in a number of the countries exporting live animals and the steady improvement in vaccine production techniques, permitting the intensification of systematic vaccination programmes, had been key factors contributing to this general improvement. Even so, the occurrence of outbreaks in countries where vaccination was regularly carried out drew attention to the risks of disease latency and should discourage any tendency to relax prophylactic campaigns at this stage. Intensification of international trade in animals and meat to supply the increasing European demands for animal proteins was also a constant source of danger and could lead to dramatic set-backs, if sanitary and prophylactic measures were relaxed.

The success of campaigns in south-eastern Europe against exotic strains of Foot-and-Mouth Disease virus and the further efforts made by Turkey to control both Foot-and-Mouth Disease and Rinderpest in the past year deserved full appreciation from member countries. Unfortunately, the disease position in the Near East continued to be very unstable and could give rise to unpredictable problems at any time, especially as a consequence of inadequate control of animal movement. It was therefore of greatest importance to Europe that surveillance should continue in Anatolia.

A valuable feature of the annual sessions was, of course, the opportunity provided for discussion and comparison of situations and programmes and the exchange of experiences not only in Foot-and-Mouth Disease control, but in the wider contexts of animal health, production and trade with other continents. FAO has a keen interest in encouraging the meat export potential of the developing countries in order to strengthen their economies. It was interesting to note in this connection that there was to be discussion of the disease-free area concept. This topic will also be taken up under the Regular Programme of FAO as part of a study on the non-tariff trade barriers against meat.

The Chairman thanked Dr. Fischnich for his welcome to the participants and for his stimulating address. He had set the scene for what should be a very interesting meeting. Its aims must be to consider how to secure the excellent position that had been attained and to examine further steps that could be taken toward the eventual elimination of Foot-and-Mouth Disease. On behalf of the Commission, he also welcomed new member countries, the regular participants at the Session, in particular the Director and representatives of OIE, EEC and other international bodies, and the numerous observers.

The Session followed meetings of the Executive Committee held in Malta from 3-5 February 1971 and in Rome the day before commencement of the present Session. At the meeting in Malta, various problems of considerable importance had been discussed and were reviewed in the Executive Committee Report (Appendix IV). These included developments in south-eastern Europe, the findings of the Secretary and Dr. Nabholz during their visit to East Africa, the Italo-Argentinian cross-immunity trials and a review being made by the Director-General of FAO of the role and structure of the Commission in connection with a general review of all the FAO-sponsored Commissions in Europe.

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I. ADOPTION OF THE AGENDA

The following Agenda was approved without modifications:

1. Adoption of the Agenda.
2. Position of Foot-and-Mouth Disease in Europe since the last Session.
In particular:
 - (a) origin of the outbreaks;
 - (b) strains of virus involved;
 - (c) progress in disease control and prophylaxis;
 - (d) disciplines of imports;
 - (e) campaigns.
3. Position and control of Foot-and-Mouth Disease in the Near East and other regions of epizootiological significance.
4. Report of the Executive Committee on the Commission's activities:
 - (a) general activities;
 - (b) particular activities of the Secretary and travel reports (missions to East Africa and others);
 - (c) Meeting of the Research Group held at the Sap Enstitüsü, Ankara, from 23-26 September 1970;
 - (d) Meeting of the Executive Committee held at Valletta, Malta, from 3-5 February 1971, and future activities.
5. Administrative accounts and budgets.
6. Election of the Chairman, Vice-Chairman and Members.
7. Approval of Draft Report of the Executive Committee.
8. Any other business.

II. THE POSITION OF FOOT-AND-MOUTH DISEASE SINCE THE LAST SESSION

The Chairman drew attention to the Working Paper (Appendix I) which had been prepared by the Secretary to summarize developments in continental Europe and neighbouring regions since the previous Session. It included two tables, one listing number of outbreaks and types of virus and the other giving details of prophylactic measures currently applied by the countries concerned.

A. POSITION OF FOOT-AND-MOUTH DISEASE IN EUROPE

Each country represented was invited to report on developments during 1970 and to offer corrections or additions to the two tables.

Ireland

It was reported that the country had remained free of the disease since 1941 and that there had been no change in the strict Government policies aimed at preventing its introduction.

Ireland imports neither live animals for slaughter nor meat. However, breeding stock is admitted from countries free of Foot-and-Mouth Disease, and from some infected countries under special conditions. For animals from infected countries, these conditions include controls and testing both on the farms of origin and during one month's quarantine in the exporting country. The tests include probang, antibody and other appropriate tests. On arrival in Ireland, the various tests are repeated during a three-month quarantine when susceptible native stock is exposed to imported animals.

Iceland

It was reported that the island has remained free of Foot-and-Mouth Disease and continues to enforce strict import controls to avoid its introduction.

Great Britain and Northern Ireland

The country remained free throughout the year. Regulations introduced in 1969 restrict imports from infected countries to boneless beef. The animals from which it is prepared must have been vaccinated twice in the previous six months and be slaughtered at an approved processing plant. The importation of pig and sheep products is prohibited. Breeding stock from infected countries is admitted under special circumstances, but is subject to rigorous quarantine and tests in the country of origin and on arrival in the United Kingdom.

There has been no change in the satisfactory position of Northern Ireland.

Norway

There was no change to report; the country has been free of Foot-and-Mouth Disease since 1952.

Sweden

The country passed a further year free of Foot-and-Mouth Disease and has made no change in its import controls.

Finland

The country remains free of Foot-and-Mouth Disease; no vaccination is allowed and strict control is maintained over importations.

Denmark

At the previous Session it had been reported that an outbreak was diagnosed in the northern part of Jutland during February 1970. The cause was identified as a type "A" strain that had been used in producing a vaccine that had been applied to animals in the Region. The vaccinated animals were not themselves affected. The infected herd was slaughtered and ring vaccination applied. There was no subsequent spread.

In mid-April a second outbreak occurred, this time in the south-western part of Jutland. A herd comprising 46 cattle and 80 pigs was slaughtered, but no virus could be detected in the lesions. Since this outbreak was eliminated, Denmark has remained free of the disease.

Ring vaccination involved the use of monovalent "A" vaccine on 38 625 head of cattle during the first outbreak and in the second, trivalent A, O and C vaccine was given to 1 908 animals. As usual, all cattle in the zone around the Veterinary Research Institute for Virus Diseases on Lindholm were vaccinated in both the Spring and Autumn with trivalent A, O and C vaccine. Indemnities paid to farmers for the two outbreaks amounted to 190 450 D.Kr.

In response to questions, it was stated that the vaccine connected with the first outbreak had been stored for $1\frac{1}{2}$ years before use and was applied by mistake. The connection with the outbreak was confirmed by the fact that the strain involved was not one currently used in vaccine. It had been brought from the Netherlands because of difficulties in adapting the usual A strain to tissue culture. Other rare instances in which disease had followed the application of vaccine were cited. Vaccinated areas were normally subjected to a 30-day movement restriction to avoid the possibility of such spread. The source of the difficulty remains undetermined and other laboratories using similar production techniques have not experienced similar problems.

The Netherlands

The Netherlands was free of Foot-and-Mouth Disease for the third year running, and is maintaining the nation-wide vaccination programme outlined in Table 2 of Appendix I. It is felt that, due to the increasing trade in animals and animal products, the maintenance of such a programme will be necessary as long as there are no agreed European eradication and import control policies.

Belgium

The country has remained free of Foot-and-Mouth Disease since the last Session of the Commission. The control programme is based on annual obligatory vaccination of cattle and the systematic slaughter of all affected and exposed cloven hooved animals in each outbreak. All importations of fresh, chilled and frozen meat require prior authorization and their acceptability is determined by the situation prevailing in the exporting country.

Luxembourg

It was reported that the country has experienced no new outbreaks and maintains an annual trivalent vaccination programme.

Federal Republic of Germany

It was reported that there had been a series of six outbreaks of type O virus in Schleswig-Holstein between 6 May and mid-June 1970. A second outbreak caused by type C virus occurred near Ulm during November; a young unvaccinated stock was initially affected, but it also spread to pigs. A further outbreak, caused by type O virus, occurred in Hessen during December. The slaughter policy and ring vaccination were applied to all three focuses and there was no subsequent spread. The routine vaccination programme is outlined in Table 2 (Appendix I).

Switzerland

The country has been free of Foot-and-Mouth Disease since April 1969. Annual vaccination continues because of the need to import meats from infected countries. However, these imports are restricted to boneless beefs and to sheep carcasses from the disease-free area of Argentina. No pork products are admitted from Latin America. Live animals are only accepted in exceptional circumstances and then under strictest control. Large numbers of animals still pass in transit through Switzerland.

France

During 1970, two farms were affected in the "Département des Pyrénées atlantiques". The disease involved unvaccinated calves and was caused by type C virus. A further two farms in the "Pyrénées orientales" were affected, type O virus having caused the disease in pigs.

In the first quarter of 1971, pigs on three farms in the "Pyrénées atlantiques" were affected by type O virus. In the same period, one focus on type C Foot-and-Mouth Disease was recorded in the Department of Ain and another, due to type O virus, in pigs in the Department of Lot.

As in previous years, the prophylactic programme has been based on slaughter, sanitary controls and vaccination. In 1970, obligatory vaccination covered 18 million cattle, and 1 200 000 sheep and goats. The numbers of cattle, sheep and goats slaughtered in 1970 and 1971 were 222 and 316 respectively.

In reply to questions, it was stated that vaccinated animals were occasionally affected, but in general these were young animals that had been vaccinated for the first time that were nearing the end of the normal period of immunity.

Italy

In 1970 most of the outbreaks were due to type O virus and occurred in the province of Sicily, Campania and Veneto. The outbreak in Sicily, at the beginning of the year, was connected with the introduction of a large group of calves passed through Northern Italy where there had been Foot-and-Mouth Disease outbreaks during December 1969. A large proportion of the calves affected appeared to have been inadequately protected by vaccination in their home country. The fact that the annual vaccination had not been completed in Sicily, Campania and Veneto contributed to the spread of the disease since it affected only young unvaccinated cattle or those vaccinated only once.

In the course of the 1970 obligatory vaccination campaign, 7 million cattle received trivalent O, A and C vaccine in the period 15 September to 15 December.

During the month of January 1971 three more outbreaks were recorded in the provinces of Asti, Alexandria and Catania. Type C was responsible and epizootiological investigations suggest that the disease was introduced by imported animals incubating the disease. In February, a further outbreak due to type C virus was recorded in the province of Venice and connected with the same sources as those in the other three provinces. In the same month two outbreaks of type O occurred in the province of Bolzano near the route to the Brenner Pass. None of the affected animals in this province had been vaccinated since the annual campaign in this area is not practicable until the Spring.

With respect to virus types, it was stated that the type O virus isolated in the province of Bolzano appeared to be somewhat different from other prevailing strains. However, it appeared to be of no field importance since there was no local spread nor evidence of occurrence elsewhere. It was added that the recently isolated type C virus differed from the C₁ Pirbright strain, but corresponded with the C Loupigne and the current vaccine production strain. Attention was again drawn to the problem of securing adequate immunity in young animals.

Spain

The Foot-and-Mouth Disease situation in Spain has shown some improvement during 1970. The total number of outbreaks was lower, the disease was much reduced in pigs and goats, but continued to affect cattle and sheep. The provinces most heavily affected were Navarra and Santander with 50 outbreaks each, Burgos, Valladolid, Valencia and Zaragoza with between 20 and 30 outbreaks each and other provinces with substantially less. Fifteen remained unaffected.

Types O and C viruses were responsible and most of the cases occurred in young cattle, in previously affected areas or in individual cases inadequately protected by the vaccination campaigns. The problem of pigs was complicated by the difficulties of vaccination and ease of movement.

This relatively favourable situation is attributed to the systematic vaccination programme which has been developing over the past three years. Vaccine is provided free by the Government and is applied twice a year by veterinarians for a small prescribed fee. When an outbreak does occur, it is dealt with by sanitary measures, ring vaccination and, occasionally, the slaughter of sick animals.

Imports of animals and products are very strictly controlled and the measures recommended by the XVth Session of the Commission are followed. Animals must come from disease-free zones in the exporting country and be subject to vaccination, quarantine and transport controls. Meat must come from animals obtained from disease-free zones and slaughtered in approved processing plants. On arrival, samples of the meat are tested for the presence of Foot-and-Mouth Disease virus.

It was added that up to the end of 1970 the systematic vaccination campaign was carried out with trivalent vaccine on all cattle of over six months of age. In the present campaign, bivalent O and C vaccine is being used on animals of two months and over. In addition, sheep - especially those in transhumance - are submitted to vaccination and the programme is also being extended to pigs. A considerable reduction in the economic losses in pigs has resulted from the vaccination of breeding stock three or four times a year and this policy will be continued until improved vaccines are available for this species.

Portugal

The country remained free until September 1970 when the disease reappeared in the North and spread South along the coast to Lisbon. Incidence increased toward the end of the year, 71 outbreaks being recorded in December and further increased to 235 outbreaks in January 1971 and 290 outbreaks in February. During March, the disease appears to have declined. It should be noted that each outbreak represents a single affected farm which explains the relatively large numbers of outbreaks. Only type O virus has been identified. Voluntary vaccination has been carried out during 1970 using 30 000 doses of trivalent OAC vaccine imported from France. In 1971, approximately a quarter of the cattle population has already been included. No slaughter policy is yet applicable.

It was stated, in response to questions, that close cooperation is maintained with Spain and it is hoped that buffer zones may be developed in due course.

Austria

There have been no outbreaks of Foot-and-Mouth Disease and vaccination is only applied routinely in the area around the National Institute and to stock for export or being moved to mountain pastures along the German and Italian borders.

German Democratic Republic

It was reported that there had been 2 outbreaks in April 1971 due to virus C.

Poland

It was reported that there had been one outbreak due to type C virus.

Czechoslovakia

The country has been free of Foot-and-Mouth Disease since December 1969. Prophylactic vaccination against A and O virus is carried out in a 10 - 20 km strip along the frontiers and against type O virus around cities with meat processing plants. Animals destined to markets and shows are also vaccinated. In 1970 a total of 2 million doses of vaccine was used for these purposes.

Hungary

The country has remained free of Foot-and-Mouth Disease since the end of 1968. Routine vaccination of cattle continued in May and November each year, but not throughout the country because vaccine production is based on the Waldmann method. A small supplementary amount of Frenkel vaccine has been imported from France. A number of allergic reactions have been noted with the Waldmann vaccine. Vaccination is carried out free of charge.

Imports of animals and animal products from severely infected countries are prohibited and from others, only sporadically infected, are strictly controlled with the object of ensuring that the animals concerned could not have been exposed to disease.

Yugoslavia

There have been no outbreaks since 1968 and no area vaccination has been carried out since the last Session because of the greatly improved epizootiological situation in neighbouring countries and in view of the fact that there are no meat imports. Vaccination is, however, applied on request to animals for export.

Romania

The country has continued to enjoy freedom from the disease. Vaccination is carried out among cattle and sheep in the western border area using monovalent type C vaccine. Trivalent vaccination is carried out in the case of animals for export. For these purposes more than 3 million doses of vaccine with a minimum potency of 8 PD₅₀ were produced.

Bulgaria

There have been no outbreaks of Foot-and-Mouth Disease in Bulgaria in the past five years. A buffer zone of vaccination has been consistently maintained along the Greek and Turkish borders to a depth of from 10 to 20 km. Animals imported from European countries are placed in quarantine for 30 to 45 days at the frontier and subjected to various tests before passing to their destination. Imported meats are subjected to heat treatment and an emergency epizootiological team is maintained at all times, in case a Foot-and-Mouth Disease outbreak should arise. Limited amounts of vaccines are produced by tissue culture. Excellent cooperation is maintained with all the neighbouring countries.

Albania

Albania was reported to have remained free of the disease.

Malta

It was reported that Malta had also remained free.

Greece

Since January 1970 the occurrence of Foot-and-Mouth Disease in Greece has been characterized by the appearance of small isolated outbreaks of short duration with few animals affected. Imported frozen meat was the suspected cause since all but one of the primary outbreaks occurred in pigs fed on kitchen waste.

1970

Type A: The first group of outbreaks in January 1970 was caused by type A Greece 1969 and affected 8 farms near the town of Serrès, but involved only 30 bovines and 12 lambs. A slaughter policy coupled with disinfection and an extended zone of vaccination in departments bordering Yugoslavia, Bulgaria and Turkey quickly brought this series of outbreaks to an end.

The A Greece 1969 appeared markedly different from known European type A strains. New laboratory tests showed:

- (a) that normal doses of A₅ (A₇), A₁₀ and A₂₂ vaccines failed to protect against a strong challenge with A Greece 1969;
- (b) A Greece 1969 vaccine did not protect against challenge with A₂₂ virus; but
- (c) revaccination with a normal dose of A₅, A₁₀ or A₂₂ vaccine 21 days after a first dose did protect against an A Greece 1969 challenge.

Type C: After about two months of complete freedom from Foot-and-Mouth Disease six further outbreaks, this time of type C virus, occurred near Athens. The series affected pigs, sheep and cattle and lasted from the end of April to the beginning of May. Since the normal type C vaccine strain (Holland C Odoorn) proved very different immunologically, a new homologous vaccine was prepared from the field strain to reinforce the ring vaccination.

IFFA reported that it was also different from the C Vosges 1960 and C Kabul strains, but appeared to be the same as C Belgium. The World Reference Laboratory has concluded from its work that the C Belgium 1969 and the C Argentina 1969 should be regarded as a new sub-type and has designated them C₅. It was, therefore, concluded that the new Greek C strain was probably of South American origin.

Type O: An isolated outbreak, caused by type O virus, was encountered in cattle in the city of Lamia in the centre of Greece during the month of August. Slaughter and sanitary measures eliminated the focus. The outbreak in Lamia was attributed to imported calves, but this could not be confirmed as they had already been slaughtered by the time the disease appeared. This type of virus did not reappear until December when there were 7 outbreaks in the vicinity of Athens, which originated in pigs and spread to 5 neighbouring piggeries, as well as to a cattle unit.

1971

An outbreak occurred in Heraklion on the island of Crete during February. It affected only pigs and these had received kitchen waste from a nearby air force base, implicating imported meat. The persistence of the type A virus isolated since its last isolation more than 16 months previously seemed highly unlikely. The slaughter policy was again applied to good effect and an extensive area vaccination with type A Greece 1969 vaccine gave additional protection. Serological tests on the virus indicated that it was close to, if not identical with, A Greece 1969 and was markedly different from the A₁₀, and particularly A₂₂ strains.

A buffer zone vaccination in the department of Evros was maintained during 1970. Campaigns were conducted as usual, in Spring and Autumn, with bivalent O₁ and A Greece 1969 produced in Greece and A Greece vaccine produced by IFFA, France.

Cyprus

During the year under review, Cyprus continued to remain free of Foot-and-Mouth Disease. The last outbreak of Foot-and-Mouth Disease in Cyprus was in the Summer of 1964. The Veterinary Services continued to apply an intensive programme to prevent its entry to the island. The measures include vaccination twice a year, using imported trivalent vaccine (A, O, C) for all cattle on the island, and for all sheep and goats within a radius of twelve miles of ports and Nicosia airport.

The importation of cloven hoofed animals is allowed only from countries free of Foot-and-Mouth Disease and, on arrival, they are placed under quarantine for a period of three weeks. Frozen meat is still imported into the island, but exporting countries are required to fulfill a series of sanitary conditions.

In view of the fact that pigs do not respond well to Foot-and-Mouth Disease vaccine, they are not vaccinated but, as an extra safeguard, the feeding of swill to pigs has in recent years been discouraged.

U.S.S.R.

Only a few sporadic outbreaks have occurred mainly in central Asia and the Transcaucasus. They were dealt with by a policy of quarantine and slaughter of all infected and exposed animals. Extensive vaccination is carried out with monovalent lapinized and tissue culture vaccines. Constant veterinary surveillance is maintained to detect the possible appearance of the disease in free areas. The Baltic States have been completely free of Foot-and-Mouth Disease for the past five years and White Russia, the Ukraine, Moldavia have not been affected by A₂₂ virus for the past two years.

Turkey

No Foot-and-Mouth Disease has been encountered in Thrace for more than three years thanks to the systematic annual vaccination programme and to the prohibition of movements of stock from Anatolia into this area which has been designated as a buffer zone since 1962.

A total of 740 outbreaks occurred in Anatolia during 1970, a substantial reduction from the number recorded in the previous year. They were caused by types O₁ and A₂₂ and reached a peak in the months of May, June and July. The disease was mild in character and appeared mainly in unvaccinated animals. The outbreaks, which occurred in south-western, central and eastern Anatolia, were brought under control by vaccination and sanitary measures.

In the first months of 1971 there have been only 3 in January and 1 in February and none to date in March.

There has been no recurrence of type A virus since December, but from the virus typing results it appeared that the incidence of A₂₂ increased temporarily in 1970 as compared with 1969. A total of 2 908 000 cattle doses of vaccine comprising 2 350 000 of type O and 558 000 of type A were prepared by the Ankara Institute. The O₁ was a Turkish strain and the type A strain was A₂₈ (Polatli). In addition, 70 000 doses of type C monovalent vaccine were supplied by the Federal Republic of Germany for use in southern and eastern border areas.

About two-thirds of all the vaccines produced were used in the buffer zones of Thrace, the Marmara region and the southern and eastern borders. It is hoped that, while the present buffer zones will be maintained in 1971, it will be possible to extend the one in the Marmara sea area beyond the limits of the 1970 programme. In fact, the buffer zone campaign has already been started in Thrace. To do this and to provide for ring vaccinations, a further increase in vaccine production will be needed. With this in view, the production capacity of the tissue culture laboratory is being expanded. Steps will also be taken to strengthen the control of animal movements.

With respect to laboratory work on sub-types, differences have been noted between the A type isolated in south-west Anatolia and the A₂₂ and A₂₈ sub-types. The differences, however, proved insufficient to cause breakdowns among vaccinated animals. It was questionable whether the new strain was sufficiently different to be regarded as a new sub-type. The World Reference Laboratory and the Ankara Institute were in agreement over these findings. The position of the virus A strains from this area was summarized to the effect that the older A Mahmatli and the Russian and Iranian strains corresponded to the A₂₂ sub-types. The more recent A₂₈ (Polatli) and the Iran strains of 1970 differed from A₂₂, but not sufficiently to justify a change in vaccine production strains if the vaccine was performing satisfactorily in the field. It was also noted that the A₂₂ and A₅ were markedly different immunologically, as well as serologically.

B. TYPES AND SUB-TYPES

The Chairman noted that most of the relevant material had been discussed in connection with reports from individual countries.

The findings with respect to the O Bolzano strain in Italy, the A Greece 1969 and C Torhout strains in Greece and the A₂₂ and A₂₈ relationships with other strains in Turkey and neighbouring countries were of particular interest. The statements on Kenya and the Near East also contained information on sub-types.

Table 1B, Appendix I, indicates the sub-types position in some South American countries during 1970 (Argentina, Uruguay, Paraguay, Brazil, Chile and Colombia).

The Director of the World Reference Laboratory (W.R.L.) added that there had been no new striking developments.

However, a new strain of type A virus had been received from Venezuela which differed sufficiently from the known sub-types to justify its designation as a sub-type. Sheets 9 and 10 referring to new sub-types in South America are included as Appendices II and III.

The European laboratories are cooperating well in supplying vaccine production strains to the W.R.L., so that a comparison may be made as agreed by the Research Group. A report on this work should be available for the next Research Group Meeting.

Stocks of Seed Strains of Exotic Viruses

Considerable progress has been made in the establishment at the W.R.L. of the seed strains of exotic viruses for possible emergency vaccine production. The full stocks of A₂₂ (USSR), SAT₂ (Uganda), Asia₁ (Israel 3/63) and SAT₁ (RHO 5/66) have been prepared. Small volumes of the SAT₁ (Turkish 323) and SAT₃ (RV 7) strains are also available and stocks are being built up to the required levels. Thus the agreed stocks should shortly be complete.

C. PROGRESS IN DISEASE CONTROL AND PROPHYLAXIS

The tables on vaccines and vaccination contained in Appendix I (Table 2) were reviewed. No major changes were reported. The Chairman referred to the concern expressed by the Executive Committee over the possibility that countries might discontinue their regular vaccination programmes for reasons of economy or pressures from the farming community.

The Commission felt that it would be dangerous to reduce regular vaccination programmes at the present stage and agreed that the appropriate paragraph of the Report of the meeting in Malta should be restated in the text of this Report as a resolution of the Commission. The resolution reads as follows:

"The Commission expressed satisfaction with the present situation, but stressed the need for continued vaccination in countries where this measure was practised because of continuing occurrence of the disease or because of risks of infection associated with such factors as their geographical position, the importation of animals or meat from countries where Foot-and-Mouth Disease still persists and the absence of a stamping-out policy."

The Commission also discussed the present position of vaccine potency testing and the need for standardization. Recognizing that there are still considerable variations in the efficacy of current vaccines from different sources, it was agreed that the matter should again be referred to the Research Group.

D. CONTROL OF IMPORTS

The document prepared by the Secretariat from the information supplied by the Directors of Veterinary Services of 20 European countries was reviewed. It contains an analysis of the policies adopted towards movements within Europe, as well as towards trade in animals and meat from other continents. No changes or additions were proposed and this document appears as Appendix IV.

E. CAMPAIGNS AGAINST EXOTIC VIRUSES

Attention was drawn to the review of developments in the report of the Executive Committee (Appendix V) and the commentary of the Executive Committee in the same document. Since the question of campaigns to protect south-eastern Europe against exotic strains of virus had already been covered in connection with the individual country statements, there was no further discussion.

III. THE POSITION OF FOOT-AND-MOUTH DISEASE IN THE NEAR EAST AND NORTHERN AFRICA

The information summarized in the Working Paper which appears as Appendix VI was discussed. It was concluded that there was certainly no ground for optimism with regard to the future of Foot-and-Mouth Disease in the Near East Region. Indiscriminate importation of live animals into some countries which could well afford supplies from safe sources continued to endanger the countries of the Near East and, through them, Europe. Turkey was in a continuous state of alert because of the uncertain position in neighbouring countries and the general deficiency in the collection and transmission of epizootiological data. Attention was also drawn to the Table 1A of Appendix I giving an indication of the number of outbreaks and, in some cases, the types of virus identified. Some improvement had resulted through the efforts of the Near East Animal Health Institute, but coverage of information was still very incomplete. Satisfaction was, however, expressed at the way in which some countries had dealt with the outbreaks of type C virus in 1970. The assistance of the German Federal Republic and Hungary in donating vaccine which was used for ring vaccination in the Near East and for frontier area vaccinations in southern Turkey was much appreciated.

It was reported that the World Reference Laboratory had received a rather larger number of samples during the year, but the flow was far from satisfactory and did not correlate with the numbers of outbreaks reported. Among the strains identified were A₂₂ in Israel, O₁ from the UAR and O₁ from Tunisia. The delegation from the USSR expressed interest in cooperating in the investigation and comparison of virus strains in the Near East and both the OIE and the World Reference Laboratory indicated their willingness to facilitate the exchange of strains of virus. Once again it was pointed out that, while substantial serological differences had been noted amongst the type A strains, the variations did not appear of great significance in relation to the success of the field vaccination campaigns.

IV. REPORT OF THE EXECUTIVE COMMITTEE (Appendix V)

The report was considered section by section. Those concerning general activities, the campaigns in south-eastern Europe, assistance to other institutes in eastern Europe and the Near East were considered, along with the comments of the Executive Committee, and approved without comment. Reference was made to the following sections of the report:

Israel Mission (App. V, Sect. II.3)

With respect to the Secretary's travel report, the authorities of Israel were complimented on the efficient way in which they had dealt with the SAT₁ infection and the other outbreaks of Foot-and-Mouth Disease that had occurred during the year despite the hardships which these measures had imposed on their export trade.

Kenya Mission (App. V, Sect. II.4A)

Professor Nabholz, the co-author of the report, introduced it with a commentary on the favourable impressions that he and Dr. Boldrini had obtained. Their aim had not been to make specific recommendations on the feasibility of importations from Kenya into Europe, but to guide the authorities on how to approach the problem of providing importing countries with the assurance that their animal products could be recognized as free from Foot-and-Mouth Disease and exotic health problems. Since the Director of Veterinary Services of Kenya was present as an observer at the Session, he was invited to comment and expand on the report.

Dr. Muriithi expressed appreciation for the positive and constructive attitude of the Commission. His aims were to stimulate greater beef production by improving the health position, facilitating internal movement of stock and building up confidence in consumer markets. He confirmed the favourable trend in animal health and showed how a series of Foot-and-Mouth Disease control areas should be linked from July onwards into a large unit approaching the size of Denmark or Switzerland and encompassing the best production areas of the country. Within these areas cattle are being vaccinated twice a year with bivalent O_A vaccine and the programme will be extended as they are linked together. Sheep and goats are not included since they have not been implicated in the Foot-and-Mouth Disease problem. Strict controls through a permit system are implemented for all livestock movements into and within the area. Within one controlled area the feedlot unit serves as a quarantine area and guarantees freedom of animals from Foot-and-Mouth Disease. There is potential for other such units. They can be adequately isolated by cultivated land and fencing.

The Veterinary Service can maintain effective control over major diseases. It has a diagnostic service, well-known research facilities and vaccine production units, and good communications favour its operations. The principal slaughterhouses have veterinary inspection arrangements which meet high hygiene requirements.

The current livestock development programme provides eleven million Kenyan pounds for further improvements and encouragement of livestock production. What is needed, is real incentives in the form of prospects that these new investments in sanitary controls and improved facilities will show a reasonable return in the course of the next few years.

In response to questions, Dr. Muriithi indicated that the controlled area was defined in relation to natural barriers and the possibilities of reliable surveillance. Evidence of the success of the programme was clearly available in the form of the steep decline in numbers of outbreaks in areas where the programme had already been introduced. This was largely due to the excellent quality of vaccine. Although there was considerable concern over the possibility of wildlife reservoirs, these had not yet caused difficulty. Furthermore, the Director of the World Reference Laboratory cited studies in Botswana which had indicated that, as the incidence of Foot-and-Mouth Disease in domestic stock declined, the incidence in wildlife population was correspondingly reduced. Cape buffaloes were an exception, but even with this species, there was no evidence of transmission to vaccinated domestic stock.

With regard to virus sub-types, Dr. Brooksby reported that the type O viruses isolated in East Africa were fairly closely related to those existing in Europe, but wider differences had been encountered in the A strains; these showed affinity to the A₂₂ sub-type.

The Director of the Animal Production and Health Division of FAO commented on the proposal from the Executive Committee for an expert group to review the recommendations of the joint meeting between the OIE and the FAO Foot-and-Mouth Disease Commission, held in Brussels in 1960, in the light of the Nabholz/Boldrini report. He pointed out that FAO was now deeply involved in this problem in connection with its study of the "non-tariff barriers to trade in meat" and its broad policy to foster animal production. Preparations were in hand for a meeting of experts on the question of disease-free zones to be held in 1972, probably in Latin America.

The Director of OIE reviewed the extensive programme of its African Commission and general services to member countries. He stated that a Conference of the Regional Commission of the OIE for Africa was to be held in Khartoum in December 1971, at which the subject of disease-free areas in Africa would be discussed. OIE had been active in this field for many years and would therefore welcome a cooperative effort to follow-up the Brussels' recommendations.

In view of these developments, the Commission agreed that the meeting proposed by the Executive Committee should become a joint FAO/OIE activity and form part of the FAO programme. It is expected to take place later in the year before the FAO Conference. OIE will designate an agreed number of participants and representatives of the EEC will also be invited.

Tanzania Mission (App. V, Sect. II.4B)

The Chairman gave a brief review of the Tanzania report and cited the various recommendations which could pave the way to the development of a programme similar to that of Kenya. No additional comments were made.

Other travel (App. V, Sect. II.5,6,7,8)

The Secretary's findings during his visits to France, to the institutes in Brescia and Padua, Italy, to various German institutes and to Iran were noted.

Activities connected with the Italo-Argentine cross immunity trials (App. IV, Sect. II.9)

The purpose of the trials was reviewed; they are designed to establish the degree of immunological relationship between the most prevalent European and South American strains of Foot-and-Mouth Disease virus with a view to the possibilities of importing live animals from selected areas of regions of South America into Italy and perhaps other European countries. The Italian Government is sponsoring the trials, the first of which is to establish the PD₅₀ value of current vaccines against selected South American viruses. The challenge strains have been chosen in consultation with the Pan American Foot-and-Mouth Disease Centre. They are O₁, A₂₄, A₂₆ and C₃. It is understood that the Uruguyan Government has agreed to the conduct of similar tests with the Italian vaccine against local strains of virus.

Upon receipt of an invitation to nominate an observer for the trials, the Chairman and, subsequently, the Executive Committee asked the Secretary to serve in this capacity. The Commission approved these actions and agreed that the results of these investigations should represent an important contribution to current knowledge. The Commission also expressed its gratitude to the Italian Government for the initiatives it had taken.

Meeting of the Research Group (App. V, Sect. III.A)

The report of the Research Group was reviewed and the Commission's thanks were expressed to the Turkish authorities for having generously acted as host for the meeting and for the excellent arrangements which had been made. The Group had noted good progress in the work of the new institute in Turkey and the high technical levels reached by its staff. The Group's report has already been distributed and contains 26 scientific papers. Attention was drawn to the conclusions, one of which concerned the use of BHK cells in vaccine production and was of special practical importance to the administrators of veterinary services. The plan to study and review the classification of current vaccine production strains used in Europe was approved and it was noted that the World Reference Laboratory had already received most of the necessary material. In this connection the Commission agreed to recommend that it should become a routine practice to send all new strains appearing in Europe to the World Reference Laboratory for examination.

The invitation to hold the next meeting at the Federal Institute for Virus Diseases in Tübingen was welcomed, but the proposed Agenda was revised in the light of developments during the Commission's Session. An item on "the epizootiological status of wildlife" that had been added by the Executive Committee was withdrawn, but was replaced by the question of "standardization of vaccines". These changes met with the approval of representatives of the Research Group and the revised Agenda was adopted as follows:

1. Vaccination of pigs
2. Virus purification and vaccine production
3. Special presentations from the Institute
4. Review of virus sub-types used in vaccine production in Europe
5. Study of methods for measuring the potency of vaccines
6. Any other business.

Report of the Executive Committee Meeting held in Valletta, Malta, 3-5 February 1971

The report of the Executive Committee Meeting (App. IV, Sect. IIIB) was considered and the Commission expressed its deep appreciation to the Government of Malta for its kind invitation and for all the excellent help and hospitality provided.

The topics requiring further comment and discussions were:

1. Review of the scale of contributions and problems related to payments in non-convertible currencies (App. V, Sect. III.5B)

The question of payment of contributions in non-convertible currencies had been submitted to the FAO Administration. It had been agreed that Hungary could continue to pay its contribution in local currency as long as FAO was able to make use of the relevant amount in Hungary and credit the Commission with convertible currency. However, the Administration had informed the Commission that similar arrangements could not be made for other countries for technical reasons. Consequently, the Executive Committee felt that future member countries would have to accept that their contributions be payable in convertible currencies, unless there was an unexpected change in the position.

In reviewing the position of all FAO member countries which are already or could become member countries of the Commission, the Executive Committee agreed that the contributions established in 1953, subsequently adjusted for two countries and subjected to an overall increase of 20 percent, was still equitable. The lists of contributions as shown in Table I of the Committee's report was approved. (Appendix VII). It was also agreed that the criteria given in Appendix I of the Constitution, calculating the scale of contributions would remain valid. Appropriate notes to these effects should be appended to the Constitution, reflecting these decisions, when the Constitution is next reprinted.

2. Transfer of US\$ 10 000 from the Campaign Funds to the FAO Regular Programme

This transfer from Trust Fund 111 was formally approved by the Commission in the terms specified in the Executive Committee's report.

3. Review of Structure and Activities of the European Commission

The Executive Committee's statement on this matter (App. IV, Sect. III.7B) and the objectives of the review were examined. Members were in sympathy with the FAO Regional Conference's aim of forging closer links between seemingly independent bodies and avoiding duplication. They were especially anxious to ensure that the Commission makes information and advice available to all interested European bodies and to cooperate with them to the fullest possible extent. They questioned, however, the advisability of making major changes in the structure, role and relationships of the Commission which had proved so satisfactory to date.

The Commission had been established under Article XIV of the FAO Constitution by international agreement. Any proposals for changes would therefore have to come from the Commission itself. The Commission's purpose was to sponsor and encourage national efforts directed towards the eventual eradication of Foot-and-Mouth Disease in Europe. Many countries have, in recent years, brought the disease under control, but the goal of eradication is far from achieved. Further efforts are needed to help consolidate the present position and design measures aimed at eradication. To these activities the Commission must add more work on the possibilities of avoiding new introductions of disease from other continents. This need has been accentuated by the rapidly increasing demand for animal protein from overseas, especially for the industrialized areas of Europe.

The structure of the Commission has proved eminently suited to the many, and often urgent, tasks it has been called upon to perform. The conduct of the SAT₁/A₂₂ campaigns in south-eastern Europe over the past eight years has clearly identified it as an operating agency. There is no duplication with activities of any other international body. Reference has been made, for example, to the Permanent Commission of the "Office international des Epizooties". The OIE convenes a very important meeting every two years in Paris to review progress in Foot-and-Mouth Disease control and prophylaxis throughout the world and make recommendations for further work. It is the Commission's function to help member countries to put such recommendations into effect through day-to-day work while implementing its own technical findings, and the conclusions of the annual sessions. The availability of a full-time Secretariat at the FAO Headquarters has proved invaluable on many occasions and gives member countries access to continuing advice and assistance at all times.

Furthermore, the position of the Commission within the framework of FAO is an important feature. This relationship makes it possible for the Commission to utilize the Organization's network, contacts, services in implementing many of its tasks. The conduct of surveys outside Europe would, for example, be much more difficult without FAO's facilities. By way of compensation, the Organization has constant access to the expert advice of the many European scientific and technical institutions with which the Commission works.

In research, too, there is no overlap of activities into the fields covered by other commissions, institutes or agencies. The Research Group of the European Commission meets at a different laboratory each year and is concerned with solving current practical problems and with demonstration of new techniques which may contribute to the overall improvement of European laboratory operations.

Finally, from a financial point of view, as well, the provisions have proved satisfactory in giving the Commission a large measure of autonomy and flexibility, plus the advantages of the FAO framework. Obviously, the Commission's efficiency could be further improved if all countries in western and eastern Europe could be prevailed upon to join, thus increasing our resources and range of contacts and our ability to deal with emergencies. Even so, with existing resources it has been possible to take such important preparatory actions as providing support (amounting to US\$ 16 679) for the maintenance of seed stocks of exotic Foot-and-Mouth Disease viruses at the World Reference Laboratory, Pirbright.

The consensus among members was, therefore, that the Commission's role was complementary to, and did not duplicate, that of other organizations, and that it would be unwise to modify the Commission's structure at the present critical stage in the fight against Foot-and-Mouth Disease.

Future Activities

The future activities of the Commission and the Secretariat as outlined in the Executive Committee's report (Appendix V, Section IV) were approved without change.

V. ADMINISTRATIVE BUDGETS AND ACCOUNTS

The budgets and accounts as shown in Appendices VIII and IX were approved.

It was requested that in the budget of the Special Fund for 1971, the amount of US\$ 2 500 should be set aside to finance travel and per diem of experts attending the Joint FAO/OIE/EEC Meeting to review the Brussels recommendations, which will be held later in the year before the FAO Conference.

It was noted that contributions totalling US\$ 11 136.61 due in respect of 1969 were paid during 1970 in addition to contributions for 1970 amounting to US\$ 42 070. In addition, interest of US\$ 577 had been credited to the general account for the first time. The difference of US\$ 18 904 between the total income and expenditures had been transferred to the special account and this account had also been credited with interest amounting to US\$ 1 344. This left a balance in the special account of US\$ 47 432. It was noted that the accounts were still subject to auditing. Attention was also drawn to the fact that the estimated value of services given by FAO to the Commission without charge was placed at US\$ 24 000 for 1970.

VI. ELECTIONS

Mr. A.G. Beynon, United Kingdom, proposed by the delegation of Switzerland and seconded by that of Austria, was unanimously elected as the new Chairman. Prof. A. Nabholz, Switzerland and Dr. Christian Werdelin, Denmark, were unanimously elected Vice-Chairman and Prof. L. Bellani, Italy, and Dr. J.M. van den Born, Netherlands, re-elected as members of the Executive Committee. Dr. R. Gaier was also unanimously elected as the third member of the Executive Committee.

Dr. R. Vollan, Norway, expressed the sincere thanks of the Commission for the outstanding contributions made by Dr. Werdelin during his four years' term as Chairman and for the efficient way in which he had handled the many, often arduous, tasks.

VII. ADOPTION OF REPORT

The draft report of the XVIIIth Session was approved as presented, subject to the amendments made at the meeting and to any necessary editorial changes.

VIII. ANY OTHER BUSINESS

The dates agreed for the next Session were 11-14 April 1972.

APPENDIX I

POSITION OF FOOT-AND-MOUTH DISEASE IN EUROPE SINCE THE LAST SESSION

Introduction

1970 has marked a further step forward in the control of foot-and-mouth disease in Europe. Twenty countries enjoyed complete freedom from the disease throughout the year which is a new record for this continent. Other countries had single isolated foci which were rapidly eliminated by stamping-out measures supplemented by ring-vaccination.

The position in the Danube region and in other European areas important for animal production and trade and as channels for export towards western and southern Europe, was the most favourable so far recorded.

Of particular note were: (1) the sporadic outbreaks in Italy of which most occurred during the period January to March 1970 (covered by the previous report) with young stock and especially imported animals being affected; (2) the persistence of the disease throughout the year in several provinces of Spain with an extension to Portugal and also France; and, (3) the persistence of the disease in Turkey. While the European part of Turkey had no outbreak for the third consecutive year, Anatolia has reported outbreaks every month, and in May 1970 after an eclipse of almost one year the return of A₂₂ virus was noted in several provinces of this region.

The USSR consolidated the satisfactory position of the previous year; the Ukraine, Bielorussia and Moldavia had no A₂₂ outbreaks on record for the second year running.

The evolution of Foot-and-mouth disease in Greece deserves special attention. In October 1969, the country had been involved in an outbreak due to a sub-type of A virus which was markedly different both from A₅ and A₂₂. According to immunological investigations carried out by Greek research workers, a single vaccination against A₂₂ would not protect against A Greece 1969. French workers (IFFA) came to the same conclusion regarding the protection conferred by A₅ vaccine, but found subsequently that a second vaccination 3 weeks later with a trivalent vaccine containing the A₅ valence, would reinforce immunity to a satisfactory level against A Greece 1969. Fortunately this virus

has not appeared again since January 1970. However, in January a strain of type C virus appeared in Greece; it corresponded to the C strain found in Belgium (December 1969) and to one of the Latin American sub-types. In November and December other sporadic outbreaks were caused by type O in August and December.

Most of these episodes are supposed to have had some link with imports of meat and live animals.

Table I indicates the outbreaks reported in 1970, the types observed and the dates of the last outbreak, were appropriate. Table Ia gives the outbreaks recorded in the Near East (and Tunisia) and Table Ib gives the outbreaks recorded in some Latin American countries of particular interest for exportation towards Europe.

In many of the western European countries (the Netherlands, Belgium, Luxembourg, France, the Federal Republic of Germany, Italy and Switzerland) the annual systematic trivalent vaccination of the entire cattle population has continued; large areas in Spain, Hungary and frontier areas in Czechoslovakia, Greece, Turkey and in other countries have been covered with bivalent or monovalent vaccination according to local needs.

Table II shows the position of FMD prophylaxis in Europe. The global success so far achieved in disease control seems to be mainly the result of improved vaccines and their repeated application, but this should on no account be allowed to induce premature relaxation of control measures such as cessation or slackening vaccination campaigns in Europe.

In fact, the few but significant foci of infection recorded among the vaccinated animal populations in 1970 and those attributable to importation in southern Europe also serve as a warning. A loss of immunity at this stage might well result in great damage once again, especially to the unprotected pig population of the continent.

T A B L E I

Outbreaks of foot-and-mouth disease and virus types recorded in Europe, the Near East and North Africa during 1970.
Date in brackets relates to the last outbreak recorded.

EUROPE	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Iceland (never had FMD)												
Norway (1952), Finland (1960), Sweden (1966)												
Ireland (1941)												
U.K. [Great Britain (1968) North. Ireland (1941)]		1 A		1								
Denmark												
Luxembourg (1963)												
Belgium	0 2											
Netherlands (1967)												
France		1	1									2 0
Federal Rep. of Germany						0 5	0 1				1 C	0 1
German Democratic Republic				2 C								
Poland				1 C								
Czechoslovakia (Dec. 1969)												
Hungary (Nov. 1968)												
Austria (May 1966)												
Switzerland (Apr. 1969)												

Notes: A blank indicates no outbreak recorded.
A indicates A₅ (A₇) - O indicates O₁.

T A B L E I

EUROPE contd.	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Italy	41 0	41 0	42 0	8	2	6	1			4 0	3 0	
Spain	145 0	56 0	27 0	40 0	26 0	9	14 0	6	10	29 0	60 0	48 0
Portugal									5	10	17 0	71 0
Malta (1946)												
Cyprus (1964)												
Albania (1959)												
Yugoslavia (Nov. 1968)												
Bulgaria (June 1966)												
Romania (Jan 1969)												
Greece	8 A**			6 C**	3 C**			0 1				0 7
Turkey	15 0	19 0	17 0	48 0	140 0	138 0	97 0	64 0	33 0	44 0	28 0	7 0
U.S.S.R. (including Asiatic Sov. Republics)	29 0	40 0	31 0	25 0	47 0	62 0	47 0	30 0	49 0	51 0	95 0	67 0

Notes: 0 indicates O₁ A* indicates A₂₂ A** indicates "A Greece 1969" C* = C₅ (Torhout)

Turkey: Type 0 dominant; last records of SAT1: Thrace - October 1963, Anatolia - June 1965. Last record of A₂₂: Thrace - November 1965

U.S.S.R.: Soviet Republics of Lithuania, Lettonia, Estonia - disease free since 1966. Last record of A₂₂: Ukraine, April 1969; Bielorussia and Moldavia - March 1969.

TABLE Ia Outbreaks of foot-and-mouth disease and virus types recorded in 1970

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
NEAR EAST - NORTHERN AFRICA												
Syria	18	14	25	42	39	141	43	16	5			
Jordan	3 0	-	1 0	2 0	4 0	7 0	4 0	-	-		-	-
Lebanon	19	21	17	43	42 0	72 0	32	19	4	10	9	8
Iraq		5 0 A*	7 0 A	7	13	27	20	9	7		4	4
Iran	11 0 A*	17 0					38 0	46 0	29 0	15 0 A*	11 0 A*	11 0 A*
Kuwait-Bahrain-Saudi Arabia			(Ku)2 SAT1	(S.A.)1 SAT1	(S.A.)1 SAT1							
Israel (including occupied territories)	2 0	2 0 C	3(1) SAT1	-	-	4 0	5 0	7 0	-	-	-	-
UAR (2)	-	-	-	1 0	0	0	0	0	1 0		-	1 0
Tunisia	6	2	4	0 9	0 13	9	4	1	1	2	-	-

Notes: A dash indicates no outbreak; a blank indicates no information received.

(1) all in the controlled territories (Nablus district).

(2) several samples received by the W.R.L.; all typed O.

TABLE Ib Outbreaks of foot-and-mouth disease and virus types in some Latin American Countries recorded in 1970

LATIN AMERICA	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Argentina	84 O A C	33 O A C	38 O A C	22 O A C	71 O A C	106 O A C	80 O A C	50 O A C	113 O A C	105 O A C	53 O A C	93 O A
Uruguay	8 A	5 A C	4 A C	2 A	2 A	7 A C	4 O A	8 O A	15 O A	31 O C	25 O A	14 O
Paraguay	7	17	6	6	1	2	-	-	1	1	-	-
Brazil (Rio Grande do Sul)	7	22	8	75	182	117	195	226	217			

Note: A dash indicates no outbreak; a blank indicates no information received.

Type and subtype position in some South American countries during 1970 (information obtained from the Pan American Center for Foot-and-Mouth Disease, Rio de Janeiro, Brazil).

Argentina	O ₁	A ₂₄ , A ₂₆ , Arg. 68*	C ₅ (Arg 69)
Uruguay	O ₁	A ₃₀ (Úru 69)	
Paraguay	O ₁	A ₂₄	
Brazil	O ₁		C ₃ , C Par 69*
Chile	O ₁	A ₂₆	C ₅ (Arg 69)
Colombia		A ₂₇ , A ₃₁ (Col 69)	

* not classified, as yet, by the W.R.L., Pirbright.

TABLE II

Position of Foot-and-Mouth Disease Prophylaxis in Europe 1969-1970

Country	VACCINATION PROGRAMMES				VACCINES	
	Species vaccinated and age	Period of vaccination	Territory covered by vaccination	Valencies cattle dose cost	Potency required and results	
Netherlands	A. All cattle above four months	From 1 Feb. to 15 April	The entire country since 1953	Triv. OAC (1) 15 cc: 1 D fl. (2)	At least 5 cattle PD ₅₀ . Resistance is measured as resistance to generalization after idl challenge with 10,000 cattle ID ₅₀ . PD ₅₀ 's are calculated from three groups of 5 cattle. Average results of state controls: between 6 and 10 cattle PD ₅₀	
	B. All cattle born after 1 Oct. of previous year	From 1 Sept. to 15 Dec.	The entire country since 1967			
Belgium	All cattle above three months of age	From 1 Nov. to 31 March	The entire country since 1962	Triv. OAC (O ₁ A ₅ C ₂) cattle: 10cc sheep: 5cc 20 B. Fr.	More than 5 cattle PD ₅₀ the challenge being 10,000 ID ₅₀ intralingually (pigs: twice the cattle dose)	
Luxembourg	All domestic ruminants	From 1 Dec. to 31 Jan.	The entire country since 1966	Triv. OAC (O ₁ A ₅ C ₂) cattle: 5 cc sheep: 3 cc 25 B. Fr. incl. injection	More than 5 cattle PD ₅₀ the challenge being 10,000 ID ₅₀ intralingually	

Notes: (1) The A strain, probably of subtype A₁₀, protects against A₅; (2) Vaccine and injection (D.fl. 2.75-3.00) borne by owner.

TABLE II (contd.)
Position of foot-and-mouth disease prophylaxis in Europe (1969-1970)

Country	VACCINATION PROGRAMMES				VACCINES	
	Species vaccinated and age	Period of vaccination	Territory covered by vaccination	Valencies cattle dose cost	Potency required and results	
France	A. All cattle above six months	All the year round but mainly from Nov. to May	A. The entire country since 1962	Triv. OAC (0 A11ier 1960, 01 Lau-sanne, A5, C Vosges 1960) cattle 5 cc sheep 1.7 cc 2,08 F (1)	Principle: 85% protection rate in cattle against generalisation by intralingual challenge. Methods and minimums: Index K (Lucam) = 1.2 Index C = 10 ² Index S = 10 ^{1.5}	
	B. sheep and goats	Before transhumance	B. The frontier departements of the Pyrenees from which transhumance takes place towards other departements (2)			
Switzerland	All cattle above six weeks	From 15 Feb. to 15 May	the entire country since 1966	Trivalent O1A5C Sw.Fr. 1.6 (3)	Vaccines almost entirely imported from France and Italy	
Federal Republic of Germany	All cattle above 4 months	Late in winter before admission to pasture	The entire country since 1965	Triv. OAC (01A5C) 5 cc. DM. 3 (4)	Three cattle per type are challenged by rubbing a virus suspension on the tongue. No generalization admitted.	
German Democratic Republic	All cattle above 5 months	From 1 Oct. to 31 Dec.	The entire country	Triv. OAC		

Notes: (1) The Government pays for the vaccine; the owner for the injection; (2) Compulsory vaccination of all sheep and goats of the "departement Pyrenees Atlantiques"; (3) Vaccine and injection (Sw. Fr. 3.30); cost: free of charge to owner; (4) In some "Länder" vaccination is free of charge, in others the owner is charged 50% of the cost.

TABLE II (contd.)

Position of foot-and-mouth disease prophylaxis in Europe (1969-1970)

Country	VACCINATION PROGRAMMES			VACCINES	
	Species vaccinated and age	Period of vaccination	Territory covered by vaccination	Valencies cattle dose cost	Potency required and results
Italy	All cattle above three months	From 15 Sept to 15 Dec.	The entire country since 1968, the Po Valley since 1964	Triv. OAC (O ₁ A ₇ C) 5 cc. Lit. 180 (1)	Principle: 80% protection in cattle by intralingual challenge
Czechoslovakia	Cattle above three months, sheep, goats and pigs	In Spring and Autumn	The frontier areas in a depth of 15-20 km; around FMD Institute and meat processing plants	Biv. O A (O ₁ A ₅) occasionally C 10 cc. Cz.Kr. 4.15 (2)	Five cattle per type are challenged by rubbing a virus suspension on the tongue. One generalization admitted
Austria	Cattle, sheep and goats	A. Autumn B. Spring	Around the FMD Institute (Vienna and part of Lower Austria.) Animals to be sent to mountain pastures at the border areas with Italy and Germany	OAC cattle 25 cc sheep 12 cc 15 Aust. Sh. (2)	6 cattle are vaccinated with 8 cc of 1:8 dilution of monovalent vaccine and challenged intradermally with 10,000 ID ₅₀ . Maximum number of generalizations admitted: 3.
U.S.S.R.	All cattle above three months. (85 million) sheep, goats, pigs	Any time of the year according to local situations	Frontier areas and all other territories of the Union exposed to infection.	Monovalent O or A ₂₂ or A ₇ cattle=5 cc. sheep=5 cc. 33 Kop. (3)	5 cc has to protect at least 5 out of 6 cattle against generalization. (The PT ₅₀ for guinea-pig has to be lower than cc=0.35)

Notes: (1) Vaccine free of charge vaccination costs (between 200-400 Lit.) borne by owner; (2) Vaccine and vaccination free of charge to owner; (3) Vaccination programme paid by Government.

TABLE II (contd.)

Position of foot-and-mouth disease prophylaxis in Europe (1969-1970)

VACCINATION PROGRAMMES				VACCINES	
Country	Species vaccinated and age	Period of vaccination	Territory covered by vaccination	Valencies cattle dose cost	Potency required and results
Turkey	All cattle, sheep and goats	From April to July	A. The entire Turk. Thrace including Istanbul province (since 1962)	Biv. O, A ₂₂ cattle= 50C 30 Kurus (1)	3 cattle per type are challenged intralingually (2 controls).
			B. Frontier areas in eastern and southern Anatolia (since 1968)		
Greece	All cattle, sheep and pigs	Two campaigns in April and October	A buffer zone 180km long, 30 km wide in Greek Thrace (since 1962)	Biv. O, A Greece cattle: 5cc. sheep: 2cc. (1)	3-4 cattle challenged intralingually with 10,000 ID ₅₀ . No generalization admitted.
Spain	A. Cattle above six months of age, sheep goats B. Figs above 30 kg (experimental programme)	Spring and autumn	The entire country	Triv. O, A, C 5 cc. (2)	Willems method.
			80% of the territory covered	Biv. O, C concentrated 8 cc. (first vacc.) 4 cc. (revaccination)	

Notes: (1) Vaccine and vaccination free of charge to owner; (2) Vaccine free of charge; vaccination costs borne by owner.

TABLE II (contd.)
Position of foot-and-mouth disease prophylaxis in Europe (1969-1970)

VACCINATION PROGRAMMES				VACCINES	
Country	Species vaccinated and age	Period of vaccination	Territory covered by vaccination	Valencies cattle dose cost	Potency required and results
Denmark	All cattle, sheep and goats	Autumn and Spring	Within a 25 km radius around the FMD Institute (Lindholm)	Triv. O, A, C 30 cc (1)	2 cattle challenged intralingually with 20,000 mice ID ₅₀ and 2 cattle challenged by friction on the tongue. Neutralization test (1/32 or higher) Serum protection in mice and tubes.
Hungary	Cattle above six months of age	Two programmes 1 March to 30 Apr. and 1 Oct. to 30 November	60% of the national territory	Triv. O, A, C (1)	80 - 85% protection rate in cattle against generalization by intralingual challenge.
Yugoslavia	Cattle above three months, sheep, pigs	Varies according to the epizootiological situation	The frontier areas with Hungary and Romania and ring vaccination between August and Dec. 1968. Frontier areas with Hungary and Romania in 1969	Monov. or biv. O/C cattle dose 15 cc. 3.70 Yug. Din. for vaccine 5 Din. for injection. (1)	Potency is tested on 2-4 adult cattle per valence, the challenge being 5,000 ID ₅₀ , at least intralingually.

Notes: (1) Vaccine and vaccination free of charge to owner.

APPENDIX II

THE ANIMAL VIRUS RESEARCH INSTITUTE

W.R.L. INFORMATION SHEET NO. 9

FURTHER DATA ON SOUTH AMERICAN STRAINS OF TYPES A AND C

The relationships of new strains of foot-and-mouth disease virus by complement fixation (R values) have been given previously (W.R.L. Information Sheets Nos. 7 and 8, 1970). Subtype numbers have now been assigned to such strains and further data (r values) are given herewith.

A STRAINS

A-Peru/69: Assigned subtype No. A₂₉.
This strain was isolated from field outbreaks among vaccinated cattle from the Arequipa and Puno Departments in southern Peru.

A-Uruguay
8188/69 Assigned subtype No. A₃₀.
This strain was originally isolated in 1950 in the Cerro Largo Department of Uruguay Republic and is used as the official vaccine production and control strain. It is also used as a reference strain in the State Laboratory at Pando, Montevideo.

A-Colombia/69: Assigned subtype No. A₃₁. Isolated from field outbreaks in vaccinated cattle in the Sabana of Bogota, Colombia, in 1969.

r values

Virus Serum	r values								
	A-Peru	A-Uruguay	A-Colombia	A ₅	A ₂₂	A ₂₄	A ₂₅	A ₂₆	A ₂₇
A-Peru/69	1.0	0.08	0.01	1.60		0.59	0.33		
A-Uruguay/69	0.59	1.0	0.22	2.23	0.43	0.59	0.37	0.73	1.29
A-Colombia/69	2.16	0.14	1.0	1.11	0.50	0.85	0.84	0.50	0.84
A ₅ Westerwald	0.06	0.06	0.19						
A ₂₂ Iraq		0.03	0.10						
A ₂₄ Cruzeira	0.21	0.10	0.21						
A ₂₅ Arg/59	0.19	0.10	0.25						
A ₂₆ Arg/66		0.22	0.15						
A ₂₇ Colom/67		0.12	0.29						

Note: The R value for A-Uruguay/69 and A₂₄ was given incorrectly as 7 in Information Sheet No. 7, 1970. This should have read 24.

APPENDIX II
(continued)

W.R.L. INFORMATION SHEET NO.9 (continued)

C. STRAINS

C-Argentina/69: Assigned subtype No. C₅,
This strain was isolated from field outbreaks in vaccinated
cattle from different provinces of Argentina.

r values

Virus Serum	C-Arg/69	C-Para/69	C _{GC}	C-997	C-Resende	C-T del F
C-Arg/69	1.0	0.56	1.03	1.06	0.79	0.51
C-Para/69	0.56	1.0	1.0	1.33	1.0	0.51
C _{GC}	0.20	0.42				
C-997	0.06	0.05				
C-Resende	0.51	0.47				
C-T del F	0.51	0.50				

August 1970

J.H.DARBYSHIRE

THE ANIMAL VIRUS RESEARCH INSTITUTE

W.R.L. INFORMATION SHEET NO. 10

SOUTH AMERICAN STRAINS OF TYPE A

A strain of type A foot-and-mouth disease virus was received from the Pan American Foot-and-Mouth Disease Center, Brazil, in 1970. The relationship of this strain to existing subtypes of type A have been compared by complement fixation (R values).

Ven. 1/70 This strain (A Venezuela 1970) was first isolated from cattle involved in disease outbreaks in the state of Bolivar, Venezuela, in 1970.

Virus	<u>R values</u>									
	Ven. 1/70	A ₂₄	A ₂₅	A ₂₆	A ₂₇	A ₂₉	A ₃₀	A ₃₁	A ₅	A ₂₂
Ven. 1/70	100	36	17	25	32	35	10	14	24	49
A ₂₄ Cruzeiro		100	(40)	(53)	—	(35)	(24)	(42)	(21)	(29)
A ₂₅ Arg./59			100	(25)	—	(25)	(20)	(46)	(21)	(18)
A ₂₆ Arg./66				100	—	—	(40)	(27)	(16)	(15)
A ₂₇ Colom./67					100	—	(39)	(49)	(36)	(45)
A ₂₉ Peru/69						100	(22)	(14)	(31)	—
A ₃₀ Uruguay/69							100	(17)	(36)	(10)
A ₃₁ Colom./69								100	(46)	(22)
A ₅ Westerwald									100	(16)
A ₂₂ Iraq 24/64										100

Note: Values which have been issued previously are shown in brackets for comparison.

Serum	Virus	<u>r values</u>									
		Ven. 1/70	A ₂₄	A ₂₅	A ₂₆	A ₂₇	A ₂₉	A ₃₀	A ₃₁	A ₅	A ₂₂
Ven 1/70		1.0	0.22	0.21	0.45	0.28	0.43	1.17	1.15	0.38	1.28
A ₂₄ Cruzeiro		0.61	1.0								
A ₂₅ Arg./59		0.19		1.0							
A ₂₆ Arg./66		0.14			1.0						
A ₂₇ Colom./67		0.39				1.0					
A ₂₉ Peru/69		0.29					1.0				
A ₃₀ Uruguay/69		0.01						1.0			
A ₃₁ Colom./69		0.02							1.0		
A ₅ Westerwald		0.17								1.0	
A ₂₂ Iraq 24/64		0.19									1.0

The foregoing data indicates that the strain Ven. 1/70 is a different subtype to the existing subtype strains of type A examined and it is assigned the subtype No. A₃₂.

APPENDIX IV

Review of the replies received concerning the import of live animals,
meat and meat products into Europe

During its XVIIth Session the European Commission suggested that the Secretary should gather detailed information on the policies adopted in all European countries toward imports of meat and livestock into Europe, so that the risks in regard to foot-and mouth disease connected with such imports could be better understood.

Letters were sent to this effect to the directors of veterinary services of European countries and the exhaustive replies have been received, especially from the major importing countries. Some of these have also supplied the texts of the regulations governing their imports, thus permitting the Commission to improve the already available documentation.

The study of the replies received indicates a general preoccupation of the veterinary services of the continent with the risks connected with the importation from dangerous sources within the continent and from abroad.

It is interesting to note that, while formerly the interruption in Europe of live animals used to take place only when major waves occurred now even the sporadic incidence of the disease can be sufficient reason to suspend traffic.

This does not only reflect the determination but also the practical ability of many European countries to maintain a position of disease freedom.

Interstate exchange in Europe

In the six countries of the European Economic Community the exchange of animals is subject to the following main conditions: (1) a favourable disease position in the country of origin as a whole; (2) the animals must originate from herds which have been disease free for the previous three months; (3) the herds of origin are situated in an area of a diameter of 20 km which has to be disease free for at least 30 days; (4) the animals must have received trivalent FMD vaccine between 15 days and 4 months before shipment (pigs excluded); (5) identification of the animals and despatch direct to the slaughterhouse in the case of slaughter animals. For cattle from countries applying annual mass vaccination rule No. 4 is dispensed with.

In the other continental countries conditions tend to conform with those of the EEC. In Austria, Switzerland and other countries quarantine is imposed on arrival and special conditions regulate transit, excluding animals from regions affected by extensive outbreaks or exotic subtypes of the virus.

Some countries (Iceland, Republic of Ireland, Scandinavian countries) are able to maintain disease freedom because of their geographic position and self-sufficiency in meat production or because they import from disease-free countries only. Denmark is in fact the supplier of meat to other Scandinavian countries. The Scandinavian countries only admit breeding animals which have not been vaccinated from disease-free countries.

Countries which largely depend on importation receive animals and meat from all over Europe. The bulk of animal movements are in general regulated by bilateral agreements, a policy which is increasingly being adopted especially by the major importers. Train or sea transport is still preferred for long distances, since this permits the permanent control of transit by border services.

The possibility of recognizing disease-free areas in countries not completely free of A₂₂ virus is implicitly contemplated in the agreements regulating the import of meat from the Western Republics of the USSR and in the decision under which the Greek Government has imported, as a trial, animals from disease-free areas in Turkey.

Importation from overseas countries

Most countries prohibit importation from the Asiatic continent; the same applies to much of the African continent, with the exception of South Africa.

Meat is admitted, without restrictions, from Australia and New Zealand. Some countries put restrictions on meat from North America, but not because of foot-and-mouth disease.

Meat from South America

Iceland, the Republic of Ireland, Northern Ireland, Finland, Sweden, Norway and Yugoslavia do not import fresh or frozen meat from the Latin American Continent. Austria imports occasionally from approved slaughterhouses in Uruguay only. Italy, Germany, Greece, Switzerland, Great Britain, Spain, Portugal, France, the Netherlands, Belgium, Israel and possibly other countries admit fresh (or frozen) meat from Latin America.

Some of these countries, in particular Italy, the Federal Republic of Germany, the Netherlands, Switzerland and Great Britain, import from specially approved abattoirs (frigorificos) in Argentina, Uruguay, southern Brazil and Colombia. (1)

The tendency for the EEC countries is to agree to a common list of approved abattoirs; another tendency within the Community already adopted by the Netherlands, is to restrict imports to boneless meat only.

Switzerland imports only boneless beef from Argentina, Uruguay, Paraguay, Brazil and Colombia. Whole sheep carcasses are admitted from the disease-free area in Patagonia and boneless sheep meat also from other regions of Argentina.

Greece imports frozen beef (in 1969: 82% was boneless) and sheep carcasses from Argentina, Uruguay and Brazil.

Israel imports carcass meat from approved abattoirs in Argentina, Uruguay and Brazil.

Great Britain has modified her import policy several times to date within the framework of the Bledisloe agreement, in an attempt to further reduce the chances of introducing FMD virus from Latin America. A ban on pig meat and pig offal a few years ago was followed at the time of the 1967/68 UK epizootic by a ban on all fresh and frozen beef, lamb and mutton; later in 1968, imports of beef recommenced but only in boneless form. At present only Argentina and Brazil are supplying Great Britain with refrigerated boneless meat cuts.

Animals from Latin America

Imports of breeding animals occur very seldom; in general, it is required that the country of origin, or at least the district of origin, has been free of foot-and-mouth disease for the last 6 months. On arrival, the animals are subject to an observation period of 2 weeks at least.

The importation of store cattle for immediate slaughter or rearing and fattening purposes is an open problem in several countries, especially in southern Europe. The German legislation admits slaughter animals but they have to be slaughtered at the port of entry.

Italy has been envisaging the importation of animals intended for further fattening at destinations, prior to slaughter. To this end research is being carried out and trials are under way to establish the degree of immunological relationship existing between Italian and South American strains of foot-and-mouth disease virus.

Greece and Spain and other countries are also interested in such studies, with a view to similar importations.

(1) France. Only meat of animals from farms free of foot-and-mouth disease and at least 15 km distant from any foot-and-mouth disease outbreak is admitted; such animals are transported to an approved abattoir (either directly or through an approved market); from the moment these animals enter the abattoir boundaries until the meat has left, the above-mentioned conditions shall be applicable to all animals present in the plant.

APPENDIX V

REPORT OF THE EXECUTIVE COMMITTEE

I. GENERAL ACTIVITIES

The activities of the Commission since the 17th Session did not differ substantially from the pattern of work carried out in the previous year.

Following the lines suggested by the Executive Committee and approved by the Commission at its last session (18-20 March 1970), contacts were maintained with Member and non-Member Governments in Europe in order to follow as closely as possible any new occurrence of the disease and the measures taken for its control. Problems connected with the subtyping and classification of FMD virus were tackled whenever the introduction of a new strain of virus into the continent could be suspected as, for instance, in the case of Greece. Invaluable cooperation in this particular connection, and with other problems concerning the prevention of exotic infection, the maintenance of seed virus stocks and of specific antisera as well as technical assistance for developing laboratories, was given by the Animal Virus Research Laboratory, Pirbright.

Correspondence was exchanged with and visits were paid to veterinary services and specialized institutes in several European countries (see later) to collect up-to-date information on technical developments in the field of vaccine production, on the solution of problems relating to allergies and anaphylactic reactions following vaccination, and on epizootiological investigations and cross immunity studies, as well as to discuss arrangements for participation in technical assistance and training activities.

The impressive achievements in disease control and prophylaxis in almost all European countries were reflected by a substantial improvement in the overall disease position and permitted more direct investigation and involvement than in the past in connection with preventing the entrance of foot-and-mouth disease into Europe, from actual or potential sources in other continents. To this end surveillance of disease in several important regions of Asia and South America was intensified, and was extended to areas in Africa where new programmes of disease control are being developed, which contemplate the establishment of disease-free areas.

Much preoccupation was caused by the spread of type C virus, and the return of SATI to the Near East. The situation became even more critical with the westward spread of rinderpest virus to several countries including, marginally, Turkey, thus challenging the defence systems against exotic infections set up through years of effort. Information was collected through the Near East Animal Health Institute on the position in various countries and assistance was given in promoting diagnostic activities and disease control. The strategic importance for Europe of the barrier areas established in south eastern Anatolia has never been demonstrated more clearly than in 1970.

The Chairman of the Commission has regularly been informed of all these developments and consulted for guidance.

The participation of the Commission, through its Secretariat, in the general activities of FAO was increased during 1970, in connection with expanding programmes of the Organization in the field of foot-and-mouth disease control. Reports from experts working in various laboratories under the UNDP Special Fund projects were received and commented on; assistance was given in the procurement of equipment, in placing trainees in European laboratories and in guiding visitors to the best sources of advice and information. Most difficult, time-consuming and often insoluble were the problems connected with the recruitment of personnel sufficiently qualified to initiate FMD vaccine production in countries setting up laboratories for the first time.

Further efforts are being made to increase the membership of the Commission. As announced at the XVIIth Session, Malta became a full member of the Commission on 13 March 1970. Hungary became a Member on 7 April 1970 and Cyprus on 11 January 1971.

II. PARTICULAR ACTIVITIES AND TRAVEL REPORTS OF THE SECRETARIAT

1. Campaigns in South Eastern Europe

As in previous years, action was taken to ensure the continuation of all operations in south-eastern Europe to consolidate the satisfactory position achieved in controlling indigenous and exotic strains of foot-and-mouth disease virus.

The Veterinary Services of Greece and Turkey generously agreed to maintain the buffer zones in Thrace with their own resources, since they are considered essential for the protection of Europe as long as the A₂₂ virus persists in Anatolia, and in fact extended vaccination to cover large areas of their respective territories as well as the frontier areas in Thrace.

More particularly, Greece took effective action to conclude the campaign started in October 1969 against the new A Greece 1969 strain (see report of the XVIIth Session) of the virus which affected both the island of Crete and the environs of Serres not far from the borders with Yugoslavia, Bulgaria and Turkey. Homologous vaccine produced in Athens was used in the north of the country early in 1970, together with that (also homologous) purchased by FAO from the IFFA laboratories, to protect the most exposed areas in a region extending from Salonica to Kilkis (eastern Macedonia). The same vaccine, together with O₁ vaccine, was applied in May 1970 to ruminants in the Evros region (Greek Thrace) to coincide, as in previous years, with the action taken by Turkey on the other side of their common frontier. The production of A Greece 1969 vaccine was then discontinued; however, production was resumed again in 1971 to reconstitute a stock of 100,000 doses of this vaccine. In the meantime, trials carried out on the degree of protection against A Greece 1969 which could be expected in animals vaccinated against A₂₂, seemed to indicate a very low degree of immunological relationship between the two strains.

In Turkey, vaccination was carried out in Spring 1970 with bivalent vaccine (A₂₂/O₁) in Thrace and in some adjoining provinces of the Marmara sea region. The maintenance of a buffer zone in this area is of particular importance for the strategy of foot-and-mouth disease control in Europe and it proved to have been very opportune when A₂₂ virus started to spread again in Anatolia after an absence of several months.

Turkey was not only concerned with setting up buffer zones in the west. Because of the C virus infection still present in Syria and Lebanon, the danger of an invasion persisted in the south and, in addition, the country had to make preparations to meet new possible emergency situations when the recurrence of the SATI virus was recorded in Kuwait, Saudi Arabia and Israel.

Assistance in the form of shipments of vaccine was requested by FAO from European government laboratories to help Turkey and other Near Eastern countries to control the C infection which was new to the region. Favourable replies came from the Federal Republic of Germany and Hungary, which donated 70,000 and 50,000 doses, respectively, of monovalent C vaccine. The vaccine from the Federal Republic of Germany was sent to Turkey and that from Hungary to the Near East Animal Health Institute at Beirut for distribution to the countries affected by type C virus according to the needs and possibilities of application. The Commission met the cost of freight.

In collaboration with other officers of the Animal Production and Health Division, the Secretary was engaged in developing the UN Special Fund Project TUR 33 designed to assist in the further expansion of vaccine production, diagnostic services and research on foot-and-mouth disease in Turkey. The project is an extension of the activities initiated in 1962 under the SATI/A₂₂ campaigns and became operational in 1969 when the campaign funds (TF 111) were exhausted.

In 1970, the activities were mainly directed towards (a) improving the techniques of tissue culture, in particular in cell suspension, (b) establishing parameters, through the study of physical and chemical properties of the virus components to be used in the evaluation of the immunogenic power of vaccines, and (c) conducting surveys on antibody levels of selected groups of animals to assess both the response to vaccination in cattle and sheep and residual antibody levels attributable to former vaccinations against SATI in Thrace.

Furthermore, the local staff was trained in the use of "Technicon" autoanalysers for the automatic titration of antigens (vaccine components) and of antibodies. This latter application is expected to prove very helpful in the conduct of epizootiological investigations and possibly in the evaluation of vaccination programmes.

A further expansion of vaccine production is envisaged by the Turkish Government; the objective is to extend vaccination to the whole livestock population in the country which means the availability of 60,000,000 monovalent doses per year. Plans have already been prepared with the assistance of the Project Manager for the construction of new installations in the existing institute. The plans have been reviewed by experts of the Brescia Institute and arrangements have been made for a mission of Turkish engineers, architects and laboratory workers to visit the Institutes of Brescia and Lyons to study in more detail the techniques most appropriate for the large scale production in Ankara.

2. Assistance to other institutes in Eastern Europe and Near East

Further assistance has been given to the Institute at Athens in the form of spare parts and some pieces of equipment to complement items supplied previously under the SATI/A₂₂ campaigns.

Close contact was also maintained with the foot-and-mouth disease laboratory of the Abassia Institute in Cairo and assistance was given in solving several problems, connected with the supply and installation of equipment for the UN Special Fund Project UAR/67. Dr. Frederiks, the Consultant, working under very difficult conditions, has been able to organize and equip a new laboratory which has already produced small batches of experimental vaccines. Semi-industrial methods of antigen production, based on cell suspension, are being developed with cell lines obtained from the Padua Institute through the Secretariat of the Commission.

3. Visit to Israel

On his way to East Africa, the Secretary stopped over in Israel for two days to obtain first-hand information on the campaign undertaken against the introduction of SATI virus from the west bank of the Jordan river, where an outbreak had occurred in the middle of March 1970. The Italian Government was particularly interested in this visit, since 250 cattle held in quarantine in Haifa at that time were awaiting shipment to Italy. The survey made it possible to confirm the effectiveness of the actions taken by the Israeli authorities to hold the infection within the limits of the original foci.

Strictest sanitary measures had been applied in the affected area and inactivated vaccine had been applied to the entire cattle population including, unfortunately, the "breeding animals" intended for export. However, considering the efficiency of the veterinary services, including the officers of the West Bank, the period of time (4 weeks) which had elapsed without secondary outbreaks outside the original foci at Nablus, the fact that Israel itself had not been affected, and the continued good health of both the animals kept in quarantine and those in the farms of origin, the Secretary suggested that in this particular case the rule proposed by the Research Group of the Commission regarding the shipment of vaccinated animals (inactivated exotic vaccines) from disease free countries (XVIth Session, Appendix VI) should become applicable also to the breeding stock in this case.

4. Duty trips to Eastern Africa

The following are abstracts of two reports on duty travel to Kenya and Tanzania. The former is a joint report by the Secretary and the Director of Veterinary Services of Switzerland.

Both reports should merely be regarded as an attempt to draw attention to and stimulate discussion on ways in which African countries could gain access to the expanding beef and veal markets of the high-income countries. This is in line with the "concentration areas" recommended by the XVth Session of FAO Conference and the wish frequently expressed by governmental authorities in the assisted countries to receive technical guidance or at least suggestions on ways and means to achieve the position of a qualified exporter.

4A. Mission to Kenya

1. Background and Purpose

In the spring of 1969 the Ministry of Agriculture of Kenya invited the Directors of Veterinary Services of several European countries to visit Kenya to study local conditions in relation to the possibility of importing meat from Kenya and to advise the Ministry on the development of a relevant animal health programme. Switzerland was the only country which gave a positive reply to this invitation. Since invitations to visit Eastern Africa

had been favourably considered by the European Commission at its last Session (see future activities), a joint visit by the Secretary to the European Commission and Dr. Nabholz, Director of the Federal Veterinary Services, Switzerland was arranged.

2. Programme of the Visit

The country was visited during the period 19 April - 3 May 1970. Contacts were made with all national and international authorities and institutes interested in FMD control, cattle production, and the preparation and export of meat. Central and regional veterinary offices, holding grounds, and the feed lot at Nakuru were also visited. Throughout its stay the mission enjoyed the valuable assistance of the Swiss Ambassador and the UNDP and FAO representatives in Kenya.

3. The Mission focussed particular attention on:-

- 3.1 veterinary services and the organization and implementation of sanitary measures in the field;
- 3.2 the sanitary position of Kenya with respect to infectious diseases transmissible through meat and parasitic diseases of significance in meat hygiene;
- 3.3 measures to prevent the introduction of disease;
- 3.4 current meat production and possibilities for further development; and
- 3.5 meat hygiene and techniques of meat inspection at the Athi River abattoir, one of the three main export abattoirs.

The visits to laboratories and institutes, to ranches and holding-grounds, to areas at various stages of development for agriculture and animal production and to the "Lanet feed-lot project" provided invaluable impressions. At every point the Mission was freely given whatever information or data it required.

4. Veterinary Services

For the implementation of their tasks the Veterinary Services have at their disposal -

90 veterinarians of whom 20 work in laboratories (the total number of veterinarians in the country is about 150);

200 livestock officers with three years' training; and

600 animal health assistants with two years' training, who supervise or carry out prophylactic measures such as dipping and vaccination;

More than 2,500 veterinary scouts also participate in vaccinations, control of animal movement and the reporting of disease outbreaks.

(The cattle population is 7.2 million).

With this extensive staff, and efficient organization the veterinary service is able to maintain effective control over animal health problems in the agriculturally developed regions. In several under-developed regions, however, the structure of the veterinary service requires further consolidation to improve disease surveillance and intensify the application of prophylactic measures.

5. Disease Position

5.1 Rinderpest

The last recorded case was in 1966. The entire cattle population is subject to

preventive vaccination with tissue culture vaccine and after two vaccinations young animals are branded. The Institute at Muguga has been examining blood samples from wildlife for evidence but has found none for several years.

5.2 Contagious Bovine Pleuropneumonia (CBPP)

Sporadic cases of CBPP occur in the north-eastern Province and are controlled by vaccination. Vaccination programmes are carried out regularly with T1 vaccine. The well developed "Highlands" region in the interior of the country is free of CBPP.

5.3 Foot-and-Mouth Disease

Although impressive progress has been made in certain areas, the country, as a whole, must still be considered as enzootically infected. The disease usually manifests itself in a mild form with little tendency to spread; virus types A and O predominate. Sporadic cases of SAT₂ (two in 1969) type C (one in 1969) were rapidly brought under control.

In the agriculturally developed regions of the highlands, where large ranches predominate, obligatory preventive vaccination against FMD was introduced in 1968; bivalent vaccine is administered twice a year. Up to now the vaccinated zone comprises four separate areas with a total cattle population of about 500,000 head. The number of foci has decreased dramatically in these areas, from 50 (1967) to 40 (1968) and to 9 (1969). The 9 foci of 1969 in fact represented only three outbreaks, all caused by the introduction of animals from nearby areas in which vaccination was not compulsory. Samples from every new outbreak are sent for typing to the FMD Institute. The differentiation of subtypes has, so far, been carried out by the World Reference Laboratory in Pirbright.

Stamping-out measures for the control of FMD cannot yet be applied. The cases which occur are controlled by rigorous sanitary measures and, in the vaccinated areas, also by ring vaccination.

The necessary vaccine is produced at the Wellcome Foundation Laboratory which forms part of the FMD Institute in Nairobi and is run jointly by the Kenya Government and the Foundation. Wellcome testing standards (minimum potency: 6 cattle PD₅₀) are applied. Modified live-virus vaccines against FMD have not been used for several years.

5.4 Other Infectious Diseases

Tick-borne diseases, particularly East Coast Fever and trypanosomiasis, are serious problems and are, economically, of much greater importance than FMD.

African swine fever virus is prevalent in wart hogs. In domestic pigs, the number of which is comparatively very small, no cases have been found for some considerable time.

5.5 Wildlife and FMD Control

Game is abundant everywhere in Kenya; all the recorded species of ruminants can easily be observed in the "controlled areas" of the highlands. In the less developed areas wild animals are found in large herds, numbering into hundreds, for such species as buffaloes, elands and wildebeests. They are known to be susceptible and can serve as reservoirs but their significance in the transmission of infectious diseases is still a controversial subject. As far as rinderpest dissemination is concerned, even the research workers of Muguga accept that wild animals play a very minor epizootiological role, if any, is evidenced by the disappearance of all serological evidence among such wild animals once the disease has been brought under control in the domestic species.

In the case of FMD, the role wild ruminants may still play in the transmission of the disease and as virus reservoirs is recognized.

Outside the areas of obligatory vaccination ("controlled areas"), the main control measure against FMD is prohibition of stock movement out of a district, supplemented, in some instances, by Government aided voluntary vaccination. Consequently, the disease can smoulder over long periods of time among the domestic ruminants and these often share their pasture with large herds of susceptible wild species. The possibilities of contamination of wildlife and transmission of the disease to other domestic herds, both within and outside the affected districts, cannot, therefore, be ignored. The adoption of a nationwide policy of systematic ring vaccination around outbreaks would undoubtedly be of great value; it would shorten the course of each episode, give the sanitary measures better chance of success and build up confidence in them among livestock owners.

6. Prophylactic measures

6.1 Control of animal movements

Animal movements are directed mainly towards the abattoirs at Athi-River and Mombasa.

The control of animal movement is organized as follows:-

- (a) In the vaccinated zone and other areas of the highlands, any movement of animals from one farm to another is subject to a veterinary "permit".
- (b) In the other regions, animals can only be moved if the district of origin is free of FMD and a permit is granted by the District Veterinary Officer; movement within districts is free.
- (c) To facilitate supervision of the movement of animals, especially from the outlying regions, a system of so called "stock routes" has been developed. Transit over these stock routes on which watering facilities, resting places and a veterinary control points have to be provided, has been organized mainly by the Livestock Marketing Division of the Ministry of Agriculture, but they may also be used by licensed traders. Animals have the possibility of grazing on both sides of the stock route on a strip of land which, in the "controlled areas", is separated by fencing from the ranches or common pastures.
- (d) From the stock routes animals go to "holding grounds" and are held in separated groups (the holding ground of Isiolo, for instance, covers an area of about 70 x 30 kms). Vaccine against rinderpest has generally been applied before the animals are moved on to the stock routes. In the holding ground all are vaccinated against FMD and tested twice, at an interval of six weeks, against CBPP. The minimum stay in the holding ground is three months. Groups in which positive reactors to CBPP have been identified must proceed directly to the abattoir. Healthy animals not ready for slaughter can be sold for further rearing in the vaccinated area; in this case, they undergo further quarantine in another holding ground in that area.

7. Feed-lots

In the development of meat production and the full realization of the great potential for animal production in Kenya, fattening in feed-lots could become a very significant factor from both economic and sanitary points of view. Suitably organized, the feed-lot

system could assure additional quarantine for animals intended to provide meat for export. To achieve this, the feed-lots would have to be located in the disease-free zone, kept completely isolated, and animals would also be required to avoid exposure to infection in route from the feed-lot to the abattoir.

The results obtained up to now with the pilot feed-lot project in Nakuru are very encouraging indeed.

8. Techniques of meat inspection and meat hygiene in the Athi-River Abattoir

The Athi River, Mombasa and Upland (for pigs) abattoirs are the only industrial scale slaughterhouses. The Athi River plant has a unit for the production of canned meat; it also prepares frozen cuts for the local market.

The capacity of this abattoir is 400 - 500 animals per day. Up to 90 percent of the animals arrive by rail and all must be accompanied by certificates of origin and health issued by District Veterinarians. Ante-mortem inspection takes place after the animals arrive. Stunning is carried out by captive bolt pistol in a special chamber, after which the animals are hung on a rail and bled by the usual cut in the throat. Dressing of the carcass commences on the floor with the removal of the distal parts of the limbs and partial skinning. Further preparation is carried out in the hanging position on a power-driven rail system. Meat inspection and plant hygiene surveillance are carried out by three veterinarians and 23 inspectors.

8.1 Inspection

Heads, organs and meat are inspected at appropriate stages in the course of the dressing process and the inspection technique appeared satisfactory although there was some doubt about the efficiency of coordination among inspectors, and between inspectors and the veterinarians on the line. The main reason for rejection of carcasses is the finding of cysticercosis.

Meat inspection services have at their disposal a small laboratory where bacteriological examinations can be carried out.

8.2 Meat hygiene, premises and installations

By the regular bacteriological examination of samples from all premises, the state of hygiene is kept under continuous observation. Water is also regularly checked.

The existing plant does not fully meet all the requirements for a modern slaughterhouse and meat packing plant. Some of the installations and equipment are also old and worn. The arrangements for cleaning, disinfection (e.g. of knives, etc.) washing facilities, toilets etc., need renewal or modernization.

The room for trimming and cutting is sufficiently well equipped (transport of the meat on a conveyer belt); however, here too improvements are necessary.

Cold rooms and freezing facilities are inadequate; the same applies to the facilities where organs and by-products are prepared.

To sum up, certain improvements and re-modelling will be needed if the plant is to conform to EEC requirements and, in any event would be desirable.

9. Conclusions and recommendations

The mission felt that the supply of boneless meat to European markets could be favourably considered provided the following requirements are fulfilled as pre-requisites to any further negotiation:

9.1 Approved disease-free area

An area could be accepted i.e. "approved" as being disease-free for export purposes provided:

- (a) No cases of rinderpest and contagious bovine pleuropneumonia have occurred in it during the last two years, no outbreaks of FMD are occurring and the cattle population is protected by systematic control measures against FMD, including mass vaccination programmes. Should sporadic, isolated cases of FMD occur within the already approved area or surrounding zones, all animals of ranches situated within a radius of 20 miles of the foci would be automatically excluded for six months at least, from admission to the feedlots.
- (b) The disease-free area should be a closed one, well delimited and clearly separated from the rest of the country either by natural barriers, fencing or buffer zones (as in the case of the "Isiolo" holding ground). The present vaccination areas could be recognized if they were merged into one single zone by including the, as yet, non-vaccinated intermediate areas (maps are attached to the original report).
- (c) All cattle in the disease-free area should be vaccinated twice annually against FMD, i.e. against the prevailing virus types.
- (d) Animal movement within the disease free area should be subject to strict surveillance.
- (e) The introduction of animals from other regions into the disease-free area will have to be effected through quarantine stations (holding grounds) after a quarantine of at least three months and after double vaccination against FMD.
- (f) The control of FMD in the areas surrounding the disease-free area should include ring vaccination around outbreaks.

9.2 Feed-lots

Until the position in the country as a whole is satisfactory only meat from animals coming directly from feed-lots situated within the disease-free zone should be admitted for export. In addition:

- (a) The feed-lots should be open only to animals which have been kept for at least six months in the "approved" disease-free area and have been vaccinated at least twice against FMD. They should be brought directly from their respective farms to the feed-lot or, prior to the feed-lot, to a quarantine farm of the same enterprise. Market animals would thus be excluded.

- (b) The establishment in which the feed-lot is situated must be strongly fenced and free of wildlife. The same applies to the quarantine farm. A special section has to be provided in the feed-lot or in the aforesaid quarantine farm where the newly introduced animals will have to undergo veterinary observation, in separated pens or enclosures, for a period of at least four weeks.
- (c) Vaccination against FMD will be carried out on all introduced animals at the beginning of the observation period.
- (d) In addition to the observation period, all animals will have to be kept enclosed in the feed-lot for three months at least, before being eligible for slaughter for export.
- (e) Animals must move directly from feed-lots to the slaughterhouse which must be effected only through the disease-free areas under escort and in vans which have previously been cleaned and disinfected.
- (f) Slaughter must be carried out within 48 hours of the animals leaving the feed-lot.
- (g) Feed-lots must be placed under the direct supervision of the district veterinary officer.

Traffic of persons to and from the feed-lot must be strictly controlled and kept to the minimum.

9.3 Slaughterhouse

- (a) The provision of modern facilities within the approved area for the slaughter of animals and the preparation and storage of bone-boneless meat for export should be the aim.

In the meantime the Athi River abattoir could be used for these export purposes, provided the essential requirements established by the European Economic Community regarding premises, main installations and equipment for slaughter, meat inspection procedures, preparation and storage of boneless meat, are met.

- (b) The slaughter of animals intended for export should be carried out at special times and after appropriate cleaning (and disinfection if necessary) of the holding pens, slaughtering and boning facilities of the abattoir. Cutting and freezing of the carcasses must not be carried out less than 48 hours after slaughter.

4B. Mission to Tanzania

Purpose of travel

The Tanzanian Government had expressed the desire to FAO to obtain advice on foot-and-mouth disease control programmes and welcomed the extension to Tanzania of the mission initially only intended for Kenya. The Director of the Swiss Veterinary Services agreed to accompany the Secretary on the mission which took place from 4 to 10 May 1970.

The purpose of the trip was to study the veterinary organization, in particular the field services engaged in foot-and-mouth disease control, to objectively assess the prospects for the production of meat for export and to advise the Tanzanian Government accordingly.

Contacts and travel within the country

At Dar-es-Salaam the Mission was received by the Minister of Agriculture, the Director of Agriculture, Food and Advisory Services, the Chief Veterinary officer, and various officers of his staff.

At the Central Veterinary Laboratory in Dar-es-Salaam, Dr. E. Wiesenhütten described the general organization of the Institute and Dr. Rweyemamu discussed the epizootiology, diagnosis and control of foot-and-mouth disease in the country.

The abattoir of the Tanganyika Packers Company was also visited and particular attention was paid to the techniques of meat inspection used in Tanzania.

The Government made available an aeroplane for field trips, so that visits could be made to large ranches (West Kilimanjaro and Kongwa) as well as to various projects for the improvement of cattle ranching and management (Arusha, Shinyanga and Dodoma), to holding grounds where animals intended for transport over long distances are collected together, and to the Veterinary Investigation Centres at Arusha and Tobora. In the regions visited (Arusha, Shinyanga, Tobora and Dodoma) local problems connected with the prevention and control of infectious diseases were discussed with the regional veterinary officers.

Summary of visits

1. Veterinary Organization

The country is divided into 17 regions and 67 districts. There is a Central Office of the Veterinary Services with the Veterinary Research Laboratory in Dar-es-Salaam, a network of Regional and District Veterinary Offices, and five Veterinary Investigation Centres, at Arusha, Mwanza, Tobora, Mpwapwa and Iringa.

About 40 veterinarians are employed in the field offices and 12 in the Investigation Centres. In many districts, therefore, the veterinary service is carried out by field officers (as assistant veterinary officers).

Altogether there are about 100 field officers, 600 assistant field officers and 1,000 field assistants. In order to become an assistant field officer (or meat inspector), two years' formal training is required after completion of secondary school.

The cattle population of Tanzania amounts to 13 million head. The number of local veterinary personnel is still far too small in relation to the vastness of the country and the animal population. The deficiencies are gradually being overcome; meanwhile help is forthcoming from many sources, including expatriate veterinarians from several European countries whose work in Tanzania is giving very encouraging results.

2. Disease Position and Prophylactic Schemes

2.1 No rinderpest cases have been reported since 1965. Intensive vaccination continues in areas (ex Masai land) where there is a risk that the disease might be re-introduced from neighbouring infected countries (e.g. Somalia).

Tick-borne diseases are of outstanding importance and East Coast Fever occupies the first place as a killer of young cattle. As in other East African countries, systematic dipping is carried out every week (1,000 dips are in operation and 500 more are being built). It is the responsibility of the Veterinary Investigation Centres to check the strength of the dipping solutions (texaphene) twice a month, at least in the more developed areas. Dipping is now free of charge throughout Tanzania.

Contagious bovine pleuropneumonia (CBPP) has not been encountered in recent years but reservoirs of the infection may still persist in the less developed areas. For this reason intensive testing is still under way in many areas and vaccination campaigns are carried out both against rinderpest and CBPP. T₁ strain is used as a vaccine. At the time of the visit, the J.P. 15 campaign (joint vaccination programme against rinderpest and CBPP in East Africa) was in operation.

Rabies is widespread but not in all regions of the country.

While tuberculosis is not prevalent, brucellosis is occupying more and more of the Government's attention as a disease of potentially great importance for the future of the country. In the Veterinary Investigation Centre at Arusha, Dr. Protz and Dr. Staak (both from the Federal Republic of Germany) are conducting very interesting investigations on brucellosis in wild animals.

Salmonellosis is also being investigated together with other diseases, mainly in the Veterinary Investigation Centre at Tabora by a team of East German veterinarians (Dr. and Mrs. Bauer; Dr. and Mrs. I.E. Cudat).

The network of Veterinary Investigation Centres, still expanding, provides a sound basis for future development of the veterinary infrastructure in the country.

2.2 Foot-and-Mouth Disease and the Control of Animal Movements

The outbreaks officially reported in recent years comprised: 30 in 1964, 83 in 1965, 26 in 1966, 106 in 1967, 86 in 1968, 66 in 1969 and 10 in the period January to April 1970. An outbreak may consist of several foci of infection.

The virus types prevalent in Tanzania are types O, A and SAT2. Type differentiation is carried out at the Central Veterinary Laboratory by Dr. Rweyemamu and subtyping is undertaken at Pirbright by the World Reference Laboratory. SAT2 virus is of the subtype TAN 5/1968 and was noted for the first time in 1968 when the virus invaded the country.

Since three virus types are present in the country, as a rule trivalent vaccine is used.

Preventive vaccination schemes are limited to some governmental farms and to dairy farms; vaccine is applied twice a year, mainly in breeding stock. However, vaccination is compulsory for all animals being transported from one district to another by rail or along one of the stock routes. So far the high cost of the vaccine, which has to be imported, has prevented the extension of vaccination schemes to large ranches or areas.

Consequently, the control of FMD has had to be limited to quarantine only; it is imposed on infected areas within a radius of at least 10 miles of a focus, or to a whole district in case of widespread infection.

No animal can be moved without a "permit" and imported animals are subject to (a) c.f. test to exclude Johne's Disease, (b) trivalent vaccination against FMD and (c) spraying with an organophosphorous acaricide.

Animals are moved over long distances mainly by rail or along the stock routes from one holding ground to the next. As a rule the ramps of the railway station are reached on the hoof, from holding grounds.

The holding grounds are provided with facilities where animals have to be dipped twice a week. An area where auctions can be held is also to be found at the entrance of several of them. Some of these holding grounds could very well serve as quarantine stations but fencing, appropriate separations and other facilities would have to be provided or improved.

For the time being the holding grounds do not offer adequate security against contamination by FMD virus. Vaccination alone is not nearly sufficient to protect animals in major centres of infection such as markets or auctions on the holding grounds, gathering areas where animals from various origins mix, and dipping points, etc. It is not surprising therefore that from time to time disease is found at the abattoir, prior to slaughter.

Intensive cattle movement over short distances takes place, apart from the holding ground and stock route system, mainly with the purpose of supplying meat to local markets within districts. Field officers inspect local markets and do their best to discover FMD and stop movement of infected groups of animals.

The present system serves to reduce the incidence of the disease but does not result in effective control. Only with the introduction of systematic area and/or ring vaccination could more concrete results be obtained.

3. Central Veterinary Laboratory

As in Kabete and Entebbe, the Central Veterinary Laboratory at Dar-es-Salaam functions as a Government Institute for diagnosis and research on problems of national interest. (Research on rinderpest and CBPP, including the preparation of vaccines, african swine fever and other problems of "regional interest" for Eastern Africa are carried out at Muguga, Kenya.)

The Department of Virology is concerned among other problems with the typing of FMD virus. The five Veterinary Investigation Centres constitute a good basis for decentralized diagnostic activities in the field.

4. Slaughterhouse Installation and Meat Inspection Techniques

The Tanganyika Packers Company owns a large slaughterhouse in Dar-es-Salaam, which includes canned meat plants. It has two floors and all slaughter operations, preparation of carcasses and processing of meat are carried out on the first floor. This is highly advantageous from a hygienic point of view, since all inedible material and waste can be dealt with separately. There is sufficient space available and the installations, although old, are still efficient. The slaughter equipment is being modernized. At present the establishment is equipped for two operations only: canning for export (corned beef) or distribution of fresh meat to local market. Refrigeration and storage facilities are, therefore, limited.

After a stay of at least 12 hours in the observation pens the cattle are slaughtered by stunning and bleeding from the jugular vein. They can be handled at a rate of about one animal every two minutes. The dressing process is done on the rail. Meat inspectors are present in sufficient numbers along the line; they examine all abdominal and thoracic organs, making a good number of incisions, especially into the liver. The examination of lymph nodes is regularly carried out with incisors, except for the lymph nodes of the hind quarter, because the rail system does not allow them to be reached by the inspector.

The search for cysticerci is systematic with many incisions being made into the external masseters, tongue and triceps.

The incidence of cysticercosis varies according to the origin of the animal and is reported to average less than five percent.

There is only one veterinarian in service in the plant: he has to supervise ante- and post-mortem inspections as well as inspecting the meat processing operations.

The slaughterhouse has a modern laboratory which is very well equipped and staffed to ensure efficient services of bacteriological meat examination as well as physico-chemical and bacteriological controls of the processed products. The laboratory is directed by an expatriate veterinarian.

5. Game for Export

The Central Authorities of Tanzania showed interest in the possibility of exporting fresh game meat, recognizing the large potential, especially within the game reserves. It was the opinion of the mission that a discussion on such problems would be premature until disease free areas were established. As to the specific problem of meat from game reserves, the difficulties seem insurmountable, for the time being, bearing in mind the sanitary position in the country as a whole and the risks of FMD and other virus transmission by meat.

6. Conclusions

6.1 Tanzania has great potential for animal production and the prospect of eventually exporting should be considered. Toward this end a programme of livestock improvement and disease control should be developed which emphasizes:

- 6.2 (a) the establishment of a sufficiently large and protected area for the country to guarantee that the animals to be slaughtered are neither infected with, nor carriers of FMD or other dangerous viruses;
- (b) within this area it would be advantageous to set up solidly fenced and isolated fattening units (e.g. feed-lots) to which only disease free animals would be admitted. These would provide an additional safeguard for animals to be slaughtered for export;
- (c) installation of a modern abattoir within the area to slaughter, prepare and handle meat, in particular boneless meat, in accordance with the minimum hygienic requirements of the EEC and other importing countries.

6.3 As a prelude to this programme a strengthened FMD control policy is advisable and existing measures should be augmented by:-

- (a) identification of one or more regions with potential for FMD control and adequate natural barriers or other means of isolation to prevent reinfection by domestic or wild animals;
- (b) systematic vaccination of these regions against FMD twice a year;
- (c) admission of animals to the area only after vaccination and a period of quarantine in a holding ground;
- (d) improvement of the sanitary control of the stock routes system.

6.4 Systematic FMD control should be gradually extended to the rest of the country. It should begin with ring vaccination around outbreaks near the controlled region and be extended to generalized vaccination as soon as resources permit. In due course arrangements will have to be made for the provision of FMD vaccines, necessary for the implementation of regular programmes in Tanzania.

5. Travel to France

The Secretary attended the XXXVIIIth Session of the Office International des Epizooties (OIE) held from 25 to 30 May 1970 in Paris.

On his return to Headquarters he stopped over in Lyons to visit the IFFA Laboratories and the Institut de Virologie Animale.

At the IFFA Laboratories, Dr. Mackowiak and Dr. Peterman acquainted the Secretary with the current organization of the Institute, and the main developments in the preparation of various vaccines. The layout of the new building in which the production of various viruses will be located was seen and discussed.

The technical solutions found for various problems encountered in the organization of the different laboratories such as security requirements in air conditioning, decontamination of air and disposal of waste, including carcasses, and effluents, were noted with great interest.

At the Institut de Virologie Animale Drs. Lucam and Fedida explained the function of the institute, and the methods and results obtained in the official testing of the FMD vaccines produced in France.

From 1960 to 1969 the percentage of tested vaccine batches rose from 52 percent to 100 percent and the average quality of the product also improved notably.

In fact, the great majority of vaccine batches submitted for testing, had shown a potency corresponding to index $K = 3$ or higher, a satisfactory result, indeed.

The institute has an experimental farm where, in addition to laboratory animals, about 2,000 head of cattle are used annually in testing operations of research.

6. Visits to the Institutes at Brescia and Padua

In the period 19 July to 2 August, the Secretary visited the above institutes. The purpose was to get up-to-date information on recent developments in epizootiology, research and vaccine production techniques. A special topic was the feasibility of planning standardized installations for shipment to countries interested in going into the industrial production of vaccines.

7. Visit to German Institutes

At the beginning of July 1970, the Secretary visited the Federal Institute for the Research of Animal Virus Diseases at Tübingen and the Institute for Microbiology and Infectious Diseases of the Veterinary Faculty in Munich.

Progress in the investigation of anaphylactic-allergic reactions following vaccination against foot-and-mouth disease and the encouraging results obtained in Germany in identifying and largely eliminating these adverse effects using BHK cells in vaccine production, was the main object of both visits.

Both Prof. Mussgay and Prof. Mayr agreed to report on this important subject to the meeting of the Research Group of the Commission which was to be held in Ankara from 23 to 26 September 1970.

8. Visit to Iran

After the conclusion of the Ankara meeting on 26 September 1970, Dr. Brooksby, the Director of the FMD World Reference Laboratory, Pirbright, and the Secretary of the Commission proceeded to Iran for the purpose of reviewing the position and prospects of the foot-and-mouth disease laboratories of the Razi Institute (Hessarek) in relation to

the collection and examination of virus samples from neighbouring countries. It was noted that the foot-and-mouth disease laboratories will soon be rebuilt under the technical assistance programme of the French Government with guidance from specialists from IFFA. The new laboratory will be securely isolated from the rest of the Institute so that regional activities such as typing and subtyping could more easily and safely be carried out. In the meantime, the neighbouring countries should continue to submit their specimens to the World Reference Laboratory, Pirbright, England.

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9. Activities connected with the Italo-Argentine cross immunity trials

Background

The need for further supplies of animals to satisfy the growing demand for young slaughter stock led the Italian Government to explore the possibility of importing such animals from Latin American countries. The intention is to fatten at least part of the stock purchased overseas, in Italy.

The main obstacle to this operation is the epizootiological situation in Latin America as compared with that in Europe.

To overcome the difficulties connected with the presence and spread of foot-and-mouth disease viruses on the continent, the Italian Government has decided to concentrate its attention on a few areas with a great export potential and to see whether the local disease position and the characteristics of the strains present in those areas, as compared with the European ones, would permit the import of live animals.

The serological relationships existing between European virus strains and those of the most important livestock producing areas in Latin America have been investigated by the Pan American Foot-and-Mouth Disease Centre, Rio de Janeiro and the World Reference Laboratory for Foot-and-Mouth Disease, Pirbright. The results have so far shown a close relationship, and an indication, but not a conclusive demonstration, that a close immunological relationship could also be expected.

For a country where intensive annual vaccination is carried out, further evidence on these immunological relationships could exclude the possibility that, if virus were accidentally introduced with an importation, it would cause extensive outbreaks at least among the local livestock population.

Such an immunological study has been proposed by the Italian Government to several Latin American countries and Argentina was the first to accept.

The Commission and the Pan American Foot-and-Mouth Disease Centre were asked to designate observers for the experiments envisaged in Italy and Latin America. The Chairman authorized the Secretary to act as observer and to report to the Commission. The experiment planned by the Italian Government and agreed to, so far, by Argentina consists of (1) establishing the cattle PD₅₀ of the "ordinary" Italian vaccine (as used for compulsory prophylactic campaigns) against the Italian, i.e. European, strains and (2) challenging Argentine stock, after vaccination with the Italian vaccine, against strains prevalent in the exporting country.

It is, in effect, a "one way" cross immunity trial, and reflects the fact that the envisaged current of traffic is only from Latin America to Europe.

First part of the experiment (Brescia)

It consisted essentially in the titration of potency of the vaccine produced for the 1970 campaign in Italy.

The vaccine had already passed a semi-quarantine potency test, having protected more than 50 percent of the cattle against the three types at 1/8th of the ordinary dose.

To be more accurate in establishing the protective power of the vaccine, it was decided to repeat the test on a large group of susceptible stock using 7 animals for each of 3 dilutions plus 3 controls, i.e. 24 cattle per type which is the maximum capacity of the isolation unit at Brescia. Austrian steers, 20-24 months old, were imported for this purpose.

The Secretary assisted the main operations of the trial, i.e. (1) sampling of the vaccine (25 liters) from the stock of trivalent vaccines stored in cans at the Institute. The sampled vaccine was put into 25 cc bottles which were then provided with official seals; (2) collection of blood samples of all animals under test, before vaccination; (3) dilution of the vaccine to 1:4, 1:16 and 1:64 in buffer solution (no addition of adjuvant) and inoculation of 5 cc doses of these dilutions into the groups of 7 properly identified and numbered animals; (4) challenge by intralingual inoculation of the virus 20 days post vaccination; (5) first and second reading of the challenge results.

Dr. Garcia Pirazzi (SELSA, Buenos Aires) from Argentina and representatives of the Istituto Superiore di Sanità (the laboratory responsible for the State Control of all biological products in Italy) and of the General Directorate of Veterinary Services, Rome, took part at all stages, including post-mortem examinations, and received duplicate samples of pre- and post-vaccination sera to check in their own laboratories.

The results of the potency test at Brescia, were very satisfactory in that the 50 percent protection appeared to be attained with the 1:16 dilutions for all three types O, A and C, whereas all controls clearly generalized. The potency was consequently estimated to be of the order of 14-16 PD₅₀ for all three valencies of the vaccine.

The vaccine is now to be tested in Latin America at the same dilutions; dilutions of 1:1, 1:4 and 1:16 possibly in March 1971; the Pan American Centre is expected to collaborate in the selection of the strains to be used for challenge.

III. MEETINGS OF THE COMMISSION'S COMMITTEES

A. Meeting of the Research Group of the European Commission (Summary)

A meeting of the Research Group was held at the Foot-and-Mouth Disease Institute (Sap), Ankara, Turkey, from 23-26 September 1970. The participants were welcomed by the Turkish authorities in Istanbul on 20 September and were shown the Sheep Disease Laboratories at the Pendik Institute and the Karacebey and Gifteleler State Farms, on their way to Ankara.

The meeting was attended by the members of the Research Group (Dr. J.B. Brooksby, Dr. J. van Bekkum, Dr. M. Jensen representing Dr. Michelsen, Dr. G. Kubin, Dr. J.E.M. Leunen and Dr. L. Nardelli) and by Dr. N. Muntiu in his capacity of Secretary of the OIE Permanent Foot-and-Mouth Disease Committee.

Invited guests included Dr. J. Cardassis (Greece); Dr. M. Borojević (Yugoslavia); Dr. J. Surjan (Hungary); Dr. K.M. Cowan and Dr. W. Moulton (USA); Dr. A. Mayr, Dr. M. Mussgay and Dr. H. Bahnemann (Federal Republic of Germany); Dr. C. Mackowiak and Dr. H. Gilbert (France); Dr. T. Pay and Dr. P. Capstick (UK); Dr. S. Mazhar (UAR); Dr. M. Amighi (Iran) and Dr. K. Kadoi (Japan).

The Veterinary Services of Turkey were represented by Dr. M. Durusoy, Director-General, and his assistant directors, and by Dr. A.G. Karagözüglü, Director of the Sap Institute, and his staff. Dr. H.C. Girard, Project Manager of the UNDP Project (TUR/33) assisting the Institute, members of his international staff and Dr. Moorhead of the Near East Animal Health Institute also participated.

The Secretary of the Commission, Dr. G.M. Boldrini, acted as secretary to the meeting and was assisted by Dr. P.R. Ellis (Consultant) and Miss D. Guarino (Administrative Assistant).

Dr. A.G. Karagözüglü was elected Honorary Chairman and Dr. H.C. Girard, Chairman of the meeting.

The order of the agenda items was rearranged but there were no changes in the substance of any item. It was approved as follows:

1. Potency of vaccines and relationships of the various components of FMD virus (or vaccines) to the development of immunity
2. New information on BHK cells and the corresponding FMD vaccines
3. Vaccination of sheep
4. Factors involved in the epidemiology of FMD in the Near East region
5. Other business

A total of 26 papers was presented covering all items very extensively and stimulating considerable discussion. The full report of the meeting, which includes the original papers prescribed for discussion, will be circulated as a separate issue to Commission members and laboratories and to all interested parties.

Dr. Brooksby indicated the nature of the criteria which will have to be met if biochemical and immunochemical techniques are to become a reliable means of potency testing FMD vaccine and Dr. Cowan discussed the merits of some of the immunochemical techniques tested to date. Dr. Leunen reviewed a detailed comparison of antigenicity and bovine potency tests but found poor correlation. Dr. van Bekkum had found good, but not conclusive, correlation between the results of post vaccination serum antibody determinations by various serological techniques, and those of potency tests on the corresponding vaccines in cattle. Dr. Unfleblebici reported that correlation between arcton treated antigen titres and vaccine potency was satisfactory with one type of virus

they were using but not with another. Various other new approaches under study were also described, namely, a test in mice being developed by Dr. Traub, and one based on the evaluation of viremia following post vaccination challenge which Dr. Muntiu is examining. Dr. Traub drew attention to evidence of the presence of an inhibitor of immunization in bovine cells or tissue used in virus production.

With respect to BHK cells and the corresponding FMD vaccines, Drs. Jensen, Okay, Muntiu and Nardelli had observed no allergic reactions with vaccines of this type. Drs. Mayr, Mussgay and Bahnmann reported that antigen purification techniques had reduced the incidence of allergic reactions in Germany to a sufficiently low level for BHK vaccine to be used again in the 1970 annual vaccination. They also discussed the possible causes of the reactions previously experienced. Drs. Pay and Capstick indicated how the difficulty of immediate type reactions experienced with Wellcome BHK vaccines in Germany and East Africa had been overcome.

The excellent response of sheep to FMD vaccination and revaccination was described by Dr. Girard and confirmed by many other participants.

With respect to the epidemiology of FMD in the Near East Region, serological screening tests were reviewed by Drs. Oral and Larenaudie. Drs. Moorhead and Amighi gave brief reviews of the current limited knowledge of type and subtype distribution and their behaviour in the field. Dr. Nazlioğlu discussed virus typing results over the past seven years and confirmed that recent type A gave no cause for alarm: Dr. Brooksby indicated that although the subtyping had not been completed, A₂₂ and A₂₈ seemed to be fairly closely related. Dr. Cardassis described the Greek experience with A Greece 1969 and the C Greece 1970 virus strains as well as their relationships to other strains found in Europe, and Dr. Mackowiak gave further information on these and other subtypes encountered in Europe. Dr. Pay commented on current SAT2 strains in Africa that could threaten Europe and on their relationship to the vaccine reserve being maintained for use if an emergency arises.

The additional topics included new techniques for determining FMD antibodies and for subtype studies with inactivated antigens described by Dr. Nardelli, a method of conserving bovine tongue epithelium for Frenkel virus culture (Dr. Erol), the possibilities of using locally available bentonites to replace imported aluminium hydroxide as vaccine adjuvant in Turkey (Dr. Bayromoglu). Dr. Mussgay also gave a further promising progress report on EEI-DEAE-Dextran vaccines for pigs.

Participants were given an opportunity to visit all the sections of the Sap Institute and discuss the extensive research work being carried out.

Conclusions of the Research Group

At the end of the plenary sessions the Group held a private meeting and reached the following conclusions:

1. The Group concluded that immunochemical studies were leading to a better understanding of the process of inactivating virus in such a way as to preserve its immunogenicity. The physico-chemical characteristics which can be correlated with immunizing power are being defined more precisely. Some of the methods being developed may soon be applied in the process control of vaccines. In the meantime, work must continue on the perfection of tests utilizing serological techniques and laboratory animals, and the correlation of results with those of potency tests in adequate numbers of cattle.
2. The Group noted the additional evidence presented on the good response of sheep to immunization and on the relatively long duration of immunity that can be expected, especially from revaccination.

3. The use of BHK cells for vaccine antigen production is gaining wide acceptance. The mechanical difficulties of the technique, both in monolayer and cell suspension cultures, have largely been overcome and fully satisfactory levels of antigenicity have been achieved.

Purification of antigen by a variety of methods has contributed to the reduction of allergic reactions following vaccination to acceptable levels. Reports from countries where BHK vaccines had been associated with untoward effects indicated that the introduction of partial purification and other modifications in the methods of production have almost completely eliminated allergic reactions in field programmes.

4. The Group was concerned about the inadequacy of information on the distribution of virus types and subtypes in the Near East as well as on the factors, peculiar to the region, which are responsible for the spread of FMD. Further efforts will be needed to secure closer collaboration between field and laboratory services if the dangers of intercountry spread of new subtypes and types of virus and the consequent threats to Europe are to be avoided.
5. From the miscellaneous contributions the Group was particularly interested to note:
 - (a) the encouraging results in further experiments with DEAE-EEI-FMD vaccine for pigs;
 - (b) the prospect of subtyping of virus using inactivated antigens;
 - (c) the studies on selection of a bentonite which might provide a superior adjuvant for FMD vaccine; and,
 - (d) the new laboratory evidence which supports the view that revaccination may be of value even against a new subtype.

Further discussion also took place on European type C strains and other subtypes. It was agreed that C Loupigne merited recognition as a subtype and the WRL will assign a number to it. It was also agreed that the European Institutes should submit to the WRL their production strains for a general check of their classification. Comment would probably follow at the next meeting of the Group.

Next Meeting

The Research Group was pleased to accept an invitation from Dr. Mussgay to hold the next meeting at the Federal Research Institute for Animal Virus Diseases, Tübingen, West Germany, from 20 to 22 October 1971. The proposed agenda is as follows:

1. Vaccination of pigs
2. Virus purification and vaccine production
3. Special presentations from the Institute
4. Review of virus subtypes used in vaccine production in Europe
5. Study of methods for measuring the potency of vaccines
6. Any other business.

B. Meeting of the Executive Committee, held in Valletta, Malta,
3-5 February 1971

A meeting of the Executive Committee was held in Valletta, Malta, from 3-5 February 1971.

The members who participated were:

Dr. Chr. Werdelin, Denmark (Chairman), Dr. R.P. Gaier, Austria (Vice-Chairman), Dr. J.M. van den Born, Netherlands, Dr. A. Mattioli, representing Dr. L. Bellani, Italy, Dr. A. Nabholz, Switzerland, and Mr. A.G. Beynon, United Kingdom.

The Government of Malta was represented by: Dr. Frank Cassar, A/Principal Veterinary Surgeon, Mr. J. Debattista, Principal Technical Officer (Animal Production), Dr. L. Caruana, Veterinary Surgeon, and Mr. L. Cilia, Liaison Officer.

FAO was represented by Dr. R.B. Griffiths, Chief, Animal Health Service; Dr. G.M. Boldrini and Miss D. Guarino served as the Commission's Secretariat for the session.

The meeting was opened by the Chairman of the European Commission, Dr. Chr. Werdelin, who thanked the Government of Malta for having made this meeting possible. The following agenda was approved: (1) Situation of Foot-and-Mouth Disease in Europe since the last Session; (2) Campaigns in South-Eastern Europe including Anatolia and position and control of the disease in the Near East and Northern Africa; (3) Missions to Kenya, Tanzania and Israel: discussion of travel reports; (4) Cross immunity trials (FMD) in view of the importation of live animals from Latin America into Italy; (5) Administrative problems related to the possible adherence of Eastern European countries to the Commission and determination of the relevant contribution; (6) Other activities of the Secretariat, perusal of the working documents of the XVIIIth session, future activities; (7) Any other business; (8) Approval of the report.

1. Situation of Foot-and-Mouth Disease in Europe in 1970

In introducing the subject, the Secretary stated that 1970 marked a further step forward in the control of Foot-and-Mouth Disease in Europe. Twenty countries enjoyed complete freedom from the disease throughout the year. Each participant reported on the disease position of his own country; and additional information was provided by the Secretariat.

In Italy, there were 147 outbreaks caused by virus type O, mostly in imported young stock. In Spain 333 outbreaks caused by types O and C occurred between January and September 1970. In Portugal the disease started spreading in September 1970. Sporadic cases, only, occurred in France and the Federal Republic of Germany.

In Greece, the outbreaks caused by the strain A Greece 1969 and a new C virus strain were brought under control. Thrace remained free from exotic strains of virus but in Anatolia the return of virus A₂₂ or A₂₈ was noted with concern.

The Committee expressed satisfaction with the present situation but stressed the need for continued vaccination in countries where this measure was practiced either because of continuing occurrence of the disease or because of exposure to risk of infection on account of such factors as their geographical position, the importation of animals or meat from countries where FMD still persists and the absence of a stamping-out policy in some importing countries.

The Committee considered that a number of the sporadic outbreaks recorded in Europe in 1970 may have had their origin in imported meat. Concern was expressed about the lack of epizootiological data on the subtypes occurring in South America where there was an urgent need to improve surveillance.

The delegate of the United Kingdom pointed out that limiting importation to boneless meat from countries where the disease remained endemic, considerably minimized the risk of introducing Foot-and-Mouth Disease virus. In addition, there was a need for importing countries in Europe to adopt uniform veterinary conditions which should apply to imported meat and other animal products. Moreover, there would be considerable advantage if an agreed list of overseas abattoirs and frigorificos were approved as sources of meat for export.

The Executive Committee noted the progress of studies in EEC concerning agreements on requirements for meat export from third countries.

A paper on the policies of European countries in respect of imports of meat and live-stock with reference to Foot-and-Mouth Disease, prepared by the Secretary in response to a suggestion made at the XVIIth Session of the Commission in March 1970, was amended and approved by the Executive Committee for submission to the XVIIIth Session.

2. Campaigns in South-Eastern Europe, including Anatolia and position and control of foot-and-mouth disease in the Near East and Northern Africa

As in previous years, action was taken to ensure the continuation of all operations in South-Eastern Europe to consolidate the satisfactory position achieved in controlling indigenous and exotic strains of FMD virus.

While Thrace remained free from disease throughout the year, the occurrence in Anatolia of subtypes which may be either A₂₂ or A₂₈ (A Polatli) emphasizes the importance of maintaining the buffer zone in South-Eastern Europe and the Executive Committee recognizes the contribution of the countries concerned in this operation. The progress made in the development of vaccine production techniques in Ankara and the contributions of the Commission to this effect were noted.

In Israel, infection with type SAT1 virus in the occupied territories on the west-bank was reported in March 1970 and there is presumptive evidence of the recent occurrence in 1971 of subtype A₂₂ infection.

There were no reports of type C virus infection in the Near East in 1970, but it seems unlikely that it has been eliminated. In this region, type O virus predominated. In Iraq and Iran, some outbreaks were caused by subtype A₂₂.

In noting the continuing widespread occurrence of Foot-and-Mouth Disease in the Near East, the Committee felt that there is considerable under-reporting of the disease in the region. While the difficulties facing certain countries in achieving wider surveillance are recognized, the Committee urged all countries to improve their reporting systems and to notify OIE of all known outbreaks, in accordance with agreed procedures.

3. Kenya travel report

The report on the visit to Kenya undertaken by the Secretary and Dr. Nabholz was reviewed. The Executive Committee was encouraged by the progress being made towards the establishment of a disease-free area in association with the raising of cattle under feedlot conditions which offers the prospect of providing beef suitable in quality and in safety for export to Europe and elsewhere; this is a development which may soon be followed by other African countries. The Executive Committee considers, moreover, that the development of the concept of feedlots in disease-free areas appears to have reached the stage when a re-examination of the recommendations, jointly made at Brussels in 1960 by the Bureau of the OIE Permanent Commission and the European Commission for the Control of Foot-and-Mouth Disease, to prevent the introduction of exotic types of Foot-and-Mouth Disease into Europe, is justified.

Accordingly, the Executive Committee recommends that the subject be studied as soon as possible by a select group of experts from European countries and from the OIE Permanent Commission and EEC. In examining the veterinary aspects of any changes of policy which may be proposed, the group will consider not only the veterinary implications as regards individual countries, but the impact on Europe as a whole including consequences as regards international trade of meat between Europe and other continents.

In the meantime, the Executive Committee considers that no unilateral action in recognizing disease-free areas in African countries where Foot-and-Mouth Disease and rinderpest still exist, should be taken by Member countries.

4. Italo-Argentinian cross immunity trials

The delegate of Italy and the Secretary reported on the progress of the trials. Cattle vaccinated in Argentina with trivalent Italian vaccine prepared with European virus strains will be challenged, towards the end of March, 1971, with South American virus strains selected by the Pan American Foot-and-Mouth Disease Centre, Rio de Janeiro.

Having agreed earlier that the Secretary should act as an observer on behalf of the Commission in the preliminary work undertaken in Italy, the Executive Committee agreed that the Secretary should be present during the challenge experiments in Argentina.

5. Administrative problems of the Commission

5 (a) Review of the scale of contributions and problems related to payments in non-convertible currencies

The scale of contribution of the members and potential members of the European Commission was reviewed by the Executive Committee in the light of the changes occurred since the coming into force of the Constitution and the criteria so far adopted in the assignment of the countries to one or other of the five categories of contributors. The position of other European countries, not members of the Commission, was considered.

The working papers presented by the Secretary on the "Review of contributions" and the "Payment in non-convertible currencies" were discussed.

The Executive Committee considered that there was no need at present to change the scale of contributions established in 1953 and subsequently increased by 20 percent. If revision was required in the future, the Committee would act in accordance with Art. XIII, para. 1 of the Constitution of the European Commission for the Control of Foot-and-Mouth Disease.

The Committee was of the opinion that if and when a revision of the annual contributions became necessary, the system of calculation should remain as defined in Appendix 1 of the Constitution.

The Committee considers that the list of Member countries and potential Member countries should continue to be published as Appendix 1, but if this should prove to be impossible, then the criteria for determining the scale of contributions should be incorporated in the text of the Constitution.

The contributions established by the Executive Committee in 1959 for the European countries not previously listed in Appendix 1 were considered equitable and should be paid in convertible currency except when otherwise authorized by the Finance Department of FAO.

Table I below includes the countries previously listed in Appendix 1 as well as all the other FAO Member countries which either have become members or are potential members of the Commission. This table shows the respective contributions already approved.

Should other European countries, which are not Member countries of FAO, wish to join the Commission, it will be necessary to establish their contribution on an ad hoc basis.

Table I

Scale of contributions applicable to FAO Member countries which either have become members or are potential members of the European Commission for the control of Foot-and-Mouth Disease

	US\$		US\$
Austria	1,800	Luxembourg	300
Belgium	3,000	Malta	300
Bulgaria	900	Netherlands	3,000
Cyprus	300	Norway	900
Czechoslovakia	3,000	Poland	3,000
Denmark	3,000	Portugal	900
Federal Republic of Germany	6,000	Romania	1,800
Finland	1,800	Spain	3,000
France	8,400	Sweden	3,000
Greece	900	Switzerland	3,000
Hungary	1,800	Turkey	1,800
Iceland	300	United Kingdom	8,400
Ireland	900	Yugoslavia	1,800
Italy	6,000		

5 (b) Budgets and accounts

The Administrative budgets for 1971 and 1972, as well as the provisional accounts for the year ended 31 December 1970, were approved. The decision of the Finance Committee of FAO that "as from 1 January 1970 interest should be credited to any Trust Fund with a budgetary expenditure of \$ 50,000 or more" now applies also to the European Commission. The fact that accrued interest has been made available to the Commission for the past year was appreciated.

6. Other activities of the Secretariat and approval of the Working Documents for the XVIIIth Session

6 (a) Meeting of the Research Group of the European Commission

The Executive Committee approved a summary report of the meeting held in Ankara, Turkey, from 23-26 September 1970 and endorsed the action of the Research Group in accepting an invitation from the Federal Republic of Germany to hold the next meeting at the Federal Research Institute for Animal Virus Diseases, Tübingen, Germany, from 20-22 October 1971. The proposed agenda for this year's meeting was approved with the addition of the item "epizootiological status of wildlife in Africa", a subject which has special relevance to the Committee's discussion on trade in meat between Africa and Europe.

6 (b) Attendance of other Meetings

The Executive Committee agreed that the Secretary should attend the Second International Congress of Virology to be held in Budapest in June 1971.

The Committee considered it most desirable that the Secretary should, if possible, attend the World Veterinary Congress to be held in Mexico City in August 1971, in order to deliver a paper on "Foot-and-Mouth Disease as a World Problem".

7. Any other business

7 (a) The transfer of US\$ 10,000 from the Campaign Funds (TF 111) to the FAO Regular Programme funds of the Animal Production and Health Division for reimbursement of the expenditure incurred since 1962 from the Division's funds for operations connected with the SAT1 and A22 campaigns was approved on the understanding that all services so far rendered by the Organization to the Commission in conformity with para. 2 of Art. XII of its Constitution will remain unaffected. This transfer will not have a bearing on TF 42 (fund of the European Commission).

7 (b) Seventh FAO Regional Conference. Review of activities and structure of the European Commission for the Control of Foot-and-Mouth Disease

At the VIIth FAO Regional Conference held at Budapest on 21-25 September 1970 it was recommended to the Director-General of FAO that "he should study particularly the role and functions of the different European Commission's and their subsidiary Bodies". In view of this study, the European Commission for the Control of Foot-and-Mouth Disease was asked to report to the Director-General on the evaluation of its activities.

The Executive Committee has approved the following statement for submission to the Director-General:

"Activities and Structure of the European Commission for the Control of Foot-and-Mouth Disease"

The activities of the European Commission have been reviewed every year both by the Executive Committee and the Commission. Satisfaction regarding these activities has been expressed on several occasions, especially after the Commission initiated the campaigns to protect Europe from exotic forms of Foot-and-Mouth Disease present in the Near East. This implied the carrying out of extended vaccination programmes each year to cover large areas in South-Eastern Europe, the organization of vaccine production and the improvement of the veterinary infrastructure in several countries.

More recently the Commission's activities have also been directed towards important problems connected with imports into Europe from other continents in line with the evolving situation or trends in international trade of meat and live animals.

The Research Group of the Standing Technical Committee of the European Commission has been providing at its annual laboratory meetings invaluable technical information to laboratory workers and highly qualified advice and guidance to the administrators of the veterinary services of Member countries. The proceedings of these meetings are published and are requested by specialized laboratories from all over the world.

The position of the Commission within the framework of the Organization made it possible for the Commission to benefit from the Organization's structure both at Headquarters and in the field in implementing many of its constitutional tasks, especially in connection with the organization of campaigns and the conduct of surveys and studies outside Europe and, for the Organization, to avail itself of the services of the Commission's Secretariat in a number of activities related with Foot-and-Mouth Disease in the world.

Such integrated activities in the context of the Work of FAO, including UN Special Fund Projects, make of the Commission a primarily operational body and clearly differentiate its activities from those of any other institute, agency or commission.

The increasing membership of the Commission - 3 new members in the last year have brought the membership to 20 - seems to reflect the general appreciation of the work carried out.

The adherence of Germany, France and Spain in Western Europe and of other countries in Eastern Europe as recommended also by the Council of Europe (Recommendation No. 544 of 1969) would doubtlessly result in a great benefit for the Commission."

8. Approval of the Report

The above report was approved by the Executive Committee.

IV. FUTURE ACTIVITIES

The consolidation of the results achieved, especially in 1970, in controlling the disease over large areas of the European continent, will continue to be the main objective of the Commission's work. To this end close contacts will be maintained with Government authorities, international organizations and specialized institutes. Visits will be made, if warranted. Special attention will be directed to those areas where the disease still occurs enzootically with a view to recognizing the factors which favour virus persistence and to promoting more determined efforts towards its control.

The epizootiology of foot-and-mouth disease in Europe will be further studied in collaboration with executive authorities and laboratory specialists. Coordination of activities, including research, is still needed to improve the knowledge on immunity levels in vaccinated animal populations and of virus persistence under different systems of control and environmental conditions.

The Secretariat will continue to collect all available information on the timing and application of prophylactic schemes in Europe; the extension of such schemes within Europe will be promoted as much as possible. Vaccine production techniques including testing of vaccines will also be furthered.

The work initiated in collecting and analyzing policies of the European countries towards meat and livestock imports from overseas, in particular from South America, will be continued and the relevant records will be kept at the disposal of Member countries.

The Secretary will continue to request from Member countries all information which could prove useful to him furthering the activities provided for in the Constitution of the Commission.

Efforts will be made to expand the activities of the Commission in central and eastern Europe by promoting more closely coordinated disease reporting and control work and, possibly, by assisting research centres and vaccine production laboratories. The mutual benefits from such action, especially in relation with expanded trade channels between East and West, should be kept in mind. An ad hoc meeting will be convened to discuss problems related to importation from African countries.

Prevention of the introduction of foot-and-mouth disease into Europe will continue to receive fullest attention. In this connection, emphasis will be placed on securing up-to-date information on the disease position and patterns, as well as on control and prophylaxis, in countries and regions from which the disease is most likely to be introduced into Europe through trade or other means.

The distribution of virus types and subtypes throughout the world is a matter for constant surveillance and, whenever possible, for enquiries in collaboration with the World Reference Laboratory, OIE and any other agency engaged in the study of virus strains obtained from the field.

The disease position and its control in South America, especially in the major exporting countries, will be monitored by the Secretariat and new forms of collaboration will be developed with local veterinary authorities and the Pan American Foot-and-Mouth Disease Centre, Rio de Janeiro.

Experiments intended to assess the conditions under which imports of live animals from overseas could take place will be closely followed by the Secretary.

Action against exotic and non-exotic viruses in south-eastern Europe will be maintained by all available means, including the mobilization of the remaining funds of the campaign in case of emergencies. In this connection, the Secretary will assist in

the implementation of projects which constitute a follow-up of technical assistance supplied under the SATI/A₂₂ campaigns such as the UNDP Special Fund Project TUR 33 and UAR 67 in the United Arab Republic.

If feasible, the Secretary will visit other regions of the world which are of particular importance in international trade in livestock and meat.

APPENDIX VI

Position of Foot-and-Mouth Disease in the Near East and Northern Africa

Introduction

This brief account will mainly concern countries, the epizootiological situation of which is of particular importance to the European region.

From the number of outbreaks officially recorded and the information collected on various occasions and meetings, it appears that the disease position in the region as a whole continues to remain unsatisfactory.

The reporting system has been improved but it still does not reflect the exact situation, especially in certain countries.

Four types of the Foot-and-Mouth Disease virus were identified not very far from the Anatolian region during the last year. Fortunately, type C which was new for the region in 1969, and type SAT1 have not been detected since autumn 1970. The prevalent virus has been type O, followed by type A. There are reasons to believe that the prevalent subtype, within the A type, is still A₂₂.

Extensive vaccination programmes are not applied in the region with the exception of Israel and, to a lesser extent, of Iran, Lebanon, Syria and Jordan. In the latter three countries the vaccine donated by Hungary was applied in the summer of 1970 to control the C infection as a follow-up action to the campaigns of the previous year.

Indiscriminate importation of live animals from areas exposed to exotic strains continues to be practised by some countries in the region and the consequences are obvious, as indicated by the reintroduction of SAT1 into the Near East.

As a result, Turkey, and consequently the European continent, remain under a constant threat of infection.

The information available from Northern Africa indicates the position of only two countries: UAR and Tunisia. While the former country was affected by the disease mainly in the delta area during the summer months, Tunisia reported sporadic cases only. From the many specimens submitted to the World Reference Laboratory, Pirbright, especially from UAR, the only virus type identified in Northern Africa is type O throughout the year.

The relative statistics are shown in Table 1 (a) of Appendix I.

APPENDIX VII

SCALE OF CONTRIBUTIONS

The following scale of contributions is applicable to FAO Member countries which either have become members or are potential members of the European Commission for the Control of Foot-and-Mouth Disease.

	US\$		US\$
Austria	1,800	Italy	6,000
Belgium	3,000	Luxembourg	300
Bulgaria	900	Malta	300
Cyprus	300	Netherlands	3,000
Czechoslovakia	3,000	Norway	900
Denmark	3,000	Poland	3,000
Federal Republic of Germany	6,000	Portugal	900
Finland	1,800	Romania	1,800
France	8,400	Spain	3,000
Greece	900	Sweden	3,000
Hungary	1,800	Switzerland	3,000
Iceland	300	Turkey	1,800
Ireland	900	United Kingdom	8,400
		Yugoslavia	1,800

Note: Contributions are calculated on national income of each country, as expressed in the Scale of Contributions to the Organization, the relative position of each country in regard to possible infection with foot-and-mouth disease, and the number of live-stock to be protected in each country.

APPENDIX VIII

BUDGETS FOR 1971 - 1972

(Note by the Director-General of FAC)

1972 Administrative Budget.

1. In accordance with the Constitution of the Commission and with its Financial Regulation III, I present herewith the proposed Annual Administrative Budget for 1972.
2. The budget estimates have been drawn up in the form established in the Financial Regulation.
3. In the absence of "supplementary details", I present the estimates for Chapter II in a single total in accordance with Financial Regulation 3.2. No expenditures have so far been made under this Chapter and in the absence of more accurate information I recommend that an amount of \$ 2,800 be provided here for 1972.
4. The proposed Annual Administrative Budget for 1972 totals \$ 42,900 i.e. the contribution from Member Governments which may be received by the Commission. This time no estimated additional contributions have been included and it is possible to count on the full amount of \$ 42,900.
5. Under Code .001 "Personal Services" of Chapter I, the budget estimates for 1972 allow as in 1971, for one P-5 Secretary to the Commission and one G-6 Administrative Assistant. The increase in salaries as against 1971 is due to mandatory increments. These increases are covered by a decrease of the provision made under Chapter II.

1972 Special Budget.

6. In the Special Budget for the Special Account, 1972, I recommend that the same amount as in 1971, i.e. \$ 5,000, be provided to cover any necessary travel and per diem of the members of the Standing Technical Committee.

Revision to 1971 Administrative Budget

7. The total of possible contributions from Member Governments totals \$ 42,900.
8. The increases under Chapter I, Personal Services, have been partly offset by \$ 2,100 additional contributions from the Member Governments, and partly by a decrease of the funds reserved under Chapter II, where no expenditure has so far been made.
9. Attached are: Table A, the revised Annual Administrative Budget for 1971, together with my proposed budget estimates for 1972; Table B, a Summary showing by item the expenditures in 1970 as presented for audit, the 1971 revised budget and the 1972 proposed budget; and Table C, a note showing the Special Budget for the Special Account.

Assistance given by FAO

10. Besides the above expenditures, there are services provided by the Organization which have not been included. Items not charged to the Commission include part-time services of senior officials of the Organization, the services of the Budget and Finance Units, accommodation, equipment, supplies of stationary, document processing and publication. etc. as well as postal and cable charges.

TABLE A

Annual Administrative Budget for 1971 (Revised)
TRUST FUND No. 42

<p><u>Source of Fund:</u> Member Governments Contribution</p>	<p><u>Purpose of Fund:</u> To support the activities of the Commission whose object is to promote national and international action with respect to central measures against FMD in Europe.</p>	<p>Application of Resources in 1971:</p> <p>Ch. I Administrative Expenditures under Articles IV and XII.2 of the Constitution (1 x P-5 Animal Health Officer - 12 months post No. 6162-660 (1 x G-6 Administrative Assistant - 12 months - post No. 6162-546</p>	<p>Code 91.42.001 <u>Personal Services</u></p> <p>Salaries \$ 24,000 Common Staff Costs \$ 7,200 Consultants \$ 2,000</p>	<p>\$ 42,900</p>	<p>\$ 33,200</p>
<p>Contributions in respect of 1971</p>		<p>91.42.004 <u>Travel and Transportation</u></p>	<p>Salaries \$ 4,000</p>	<p>\$ 4,000</p>	<p>\$ 4,000</p>
<p>GRAND TOTAL:</p>		<p>91.42.005 <u>Contractual Services</u></p> <p>Contractual Services \$ 800 Miscellaneous \$ 1,500 Sub-Total Chapter I</p>	<p>Contractual Services \$ 800 Miscellaneous \$ 1,500 Sub-Total Chapter I</p>	<p>\$ 2,300</p>	<p>\$ 2,300</p>
<p>GRAND TOTAL:</p>		<p>Ch. II Emergency Expenditure under Article V of the Constitution \$3,400</p>	<p>Sub-Total Chapter II</p>	<p>\$ 3,400</p>	<p>\$ 3,400</p>
<p>GRAND TOTAL:</p>		<p>Ch. III Contingencies</p>	<p>Nil</p>	<p>Nil</p>	<p>Nil</p>
<p>GRAND TOTAL:</p>		<p>Sub-Total Chapter III</p>	<p>GRAND TOTAL:</p>	<p>\$ 42,900</p>	<p>\$ 42,900</p>

TABLE A

Annual Administrative Budget for 1972
TRUST FUND No. 42

<p><u>Source of Fund</u> : Member Governments Contribution</p>	<p><u>Purpose of Fund</u>: To support the activities of the Commission whose object is to promote national and international action with respect to control measures against FWD in Europe.</p>	<p><u>Application of Resources in 1972</u>:</p> <p>Ch. I Administrative Expenditure under Articles IV and XII.2 of the Constitution (1 x P-5 Animal Health Officer - 12 months post No. 6162-660 (1 x G-6 Administrative Assistant - 12 months - post No. 6162- 546</p>	<p>\$ 33,800</p>
		<p>Code 91.42.001 <u>Personal Services</u></p> <p>Salaries \$ 24,500 Common Staff Costs \$ 7,300 Consultants \$ 2,000</p>	<p>\$ 33,800</p>
		<p>91.42.004 <u>Travel and Transportation</u></p>	<p>\$ 4,000</p>
		<p>91.42.005 <u>Contractual Services</u></p> <p>Contractual Services \$ 800 Miscellaneous \$ 1,500</p> <p style="padding-left: 40px;">Sub-Total Chapter I</p>	<p>\$ 2,300</p> <hr/> <p>\$ 40,100</p>
		<p>Ch. II Emergency Expenditure under Article V of the Constitution \$ 2,800</p> <p style="padding-left: 40px;">Sub-Total Chapter II</p>	<p>\$ 2,800</p> <hr/>
		<p>Ch. III Contingencies</p> <p style="padding-left: 40px;">Sub-Total Chapter III</p>	<p>nil</p> <hr/> <p>nil</p>
<u>GRAND TOTAL:</u>		<u>GRAND TOTAL:</u>	<p>\$ 42,900</p> <hr/> <hr/>

TABLE B

EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE.

SUMMARY OF THE BUDGETS FOR 1970, 1971 AND 1972.

	<u>1970</u> <u>Expenditures</u> <u>(provisional)</u>	<u>1971</u> <u>Budget</u> <u>(as revised)</u>	<u>1972</u> <u>Budget</u> <u>(as proposed)</u>
	\$	\$	\$
<u>Chapter I</u>			
1. Personal Services	27,761	33,200	33,800
2. Travel	2,389	4,000	4,000
3. Meetings of the Commission	2,787	1,000	1,000
4. Contractual Services and Miscellaneous	1,944	1,300	1,300
Sub-Total Chapter I	34,881	39,500	40,100
<u>Chapter II</u>	nil	3,400	2,800
<u>Chapter III</u>	nil	nil	nil

TABLE C

SPECIAL BUDGET FOR SPECIAL ACCOUNT

Travel and per diem of members of the Standing Technical Committee	16,679*	2,000**	5,000
<u>GRAND TOTAL</u>	<u>51,560</u>	<u>44,900</u>	<u>47,900</u>

*This figure represents an una tantum contribution of the European Commission towards the capital cost of equipment for the stockage of exotic seed virus at the World Reference Laboratory, Pirbright, England.

**This figure will be increased by US\$2,500 as per decision of the Commission indicated on p. 23 under Chapter V, Administrative Budgets and Accounts.

APPENDIX IX

Accounts for the Year ended 31 December 1970

(These accounts are provisional and subject to review by the external auditors)

STATEMENT I

GENERAL ACCOUNT

<u>Administration</u>	\$			\$
Personal Services		27,760.82	Member Governments' Contributions	
Travel		2,389.15	Received in 1970 (as per Schedule I):	
Meeting of the Commission		2,786.70	For 1969	\$11,136.61
Miscellaneous		1,943.72	For 1970	42,070.30
		<u>34,880.39</u>	Received in 1969 for 1970	14.12
Transfer to Special Account		18,918.24		<u>53,221.03</u>
		<u>\$53,798.63</u>	Interest received	577.60
		=====		<u>\$53,798.63</u>
				=====

STATEMENT II

SPECIAL ACCOUNT

	\$			\$
Contribution to capital cost of equipment for the storage of exotic seed virus (a)		16,678.67	Balance at 1 January 1970	43,848.20
Balance at 31 December 1970		47,432.61	Transfer from General Account	18,918.24
		<u>\$64,111.28</u>	Interest received	1,344.84
		=====		<u>\$64,111.28</u>
				=====

(a) Charged to Special Account in accordance with the resolution passed at the 17th Session of the Commission held in Rome 18-20 March 1970

SCHEDULE I

EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE

Statement of Contributions at 31 December 1970

	Contributions received in advance	Amounts due in respect of 1969	Amounts due in respect of 1970	Total amounts due 1970	Receipts 1970	Amounts Outstanding 31.12.1970
	\$	\$	\$	\$	\$	\$
Austria	-	1,800.00	1,800.00	3,600.00	3,600.00	-
Belgium	-	-	3,000.00	3,000.00	3,000.00	-
Denmark	-	3,000.00	3,000.00	6,000.00	6,000.00	-
Finland	-	-	1,800.00	1,800.00	1,800.00	-
Greece	-	-	900.00	900.00	894.70	5.30
Hungary	-	-	1,350.00	1,350.00	1,350.00	-
Iceland	-	-	300.00	300.00	300.00	-
Ireland	-	-	900.00	900.00	900.00	-
Italy	-	32.78	6,000.00	6,032.78	5,995.67	37.11
Luxembourg	-	300.00	300.00	600.00	600.00	-
Malta	-	-	300.00	300.00	-	300.00
Netherlands	-	3,000.00	3,000.00	6,000.00	6,000.00	-
Norway	-	900.00	900.00	1,800.00	1,800.00	-
Portugal	-	-	900.00	900.00	900.00	-
Sweden	-	-	3,000.00	3,000.00	3,000.00	-
Switzerland	-	-	3,000.00	3,000.00	3,000.00	-
Turkey	-	303.83	1,800.00	2,103.83	2,097.11	6.72
United Kingdom	(14.12)	-	8,400.00	8,385.88	8,372.13	13.75
Yugoslavia	-	1,800.00	1,800.00	3,600.00	3,597.30	2.70
	\$ (14.12)	11,136.61	42,450.00	53,572.49	53,206.91	815.58

STATEMENT III

EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE
Accounts for the Year Ended 31 December 1970 (Provisional)

BALANCE SHEET AT 31 DECEMBER 1970

<u>L i a b i l i t i e s</u>	<u>A s s e t s</u>
Special Account	\$ 48,182.61
1970 Unliquidated Obligations	Current Account with the Organization
	48,182.61

	\$48,182.61
	=====

