

EUROPEAN COMMISSION ON FORESTRY AND FOREST PRODUCTS
MEDITERRANEAN SUB-COMMISSION

SECOND SESSION

Algiers, May 1950

GENERAL REPORT

The Mediterranean Sub-Commission, at the invitation of the French Government, held its second session at the Hotel St. Georges, Algiers, from 8 to 13 May 1950.

The countries represented were:

FRANCE AND THE FRENCH UNION (Metropolitan France, Algeria, Tunisia and Morocco), ISRAEL, ITALY, PORTUGAL, SWITZERLAND and UNITED KINGDOM. THE FOOD AND AGRICULTURE ORGANIZATION and the INTERNATIONAL UNION OF FOREST RESEARCH ORGANIZATIONS were also represented. The list of delegates is given in Annex 1.

The session was opened by Mr. DALLIER Director of Forests for Algeria, representing the Governor-General. He greeted the delegates on behalf of the French Government, and referred to the work carried out in Algeria by the Soil Protection and Restoration Department.

Mr. Marcel LELOUP, Director of the Forestry and Forest Products Division of the Food and Agriculture Organization, representing the Director-General of the Organization, pointed out that the Forestry Division had grown out of a concern for soil conservation, and stressed the importance of the part the Sub-Commission could play in the Organization as technical adviser for the execution of the United Nations programme of Technical Assistance to the Mediterranean countries.

The Chairman of the Sub-Commission, Professor PAVARI, outlined and reviewed the various items on the agenda, emphasising the importance of the task facing the Mediterranean forestry experts.

The Sub-Commission then turned to its agenda.

I - ADOPTION OF THE RULES OF PROCEDURE AND ELECTION
OF CHAIRMAN AND VICE-CHAIRMAN

The Sub-Commission adopted the provisional agenda prepared by the Secretariat in consultation with the Chairman, and endorsed the Rules of Procedure approved only provisionally at the first session, altering Rule 7 to read:

"The Sub-Commission shall elect, from among the delegates, a Chairman and a Vice-Chairman, whose term of office shall be two years, and who shall at all events remain in office until the meeting following that at which they were elected. They shall be eligible for re-election."

Mr. PAVARI, and Mr. CHALLOT, the retiring Chairman and Vice-Chairman respectively, were unanimously re-elected.

In accordance with Rule 36 of the Rules of Procedure, French was adopted as the working language for the second session.

II - PROBLEMS ARISING OUT OF "ENDOTHIA PARASITICA" IN THE
MEDITERRANEAN REGION

The Sub-Commission took note of the report drawn up by Professor PAVARI and Mr. BIRAGHI, and presented by Prof. PAVARI, and expressed its thanks to the authors. The Sub-Commission felt that it should await the findings of the International Chestnut Congress to be held in France in September 1950, before taking any decision in the matter. The Secretary was instructed to follow the work of the Congress.

The Sub-Commission also heard statements by the delegates of Portugal and Switzerland on preventive measures taken against this disease in their respective countries.

III - PROBLEMS STUDIED - SETTING UP OF WORKING PARTIES

After further explanations by the authors of the reports on items 3, 4, 5 and 6 of the agenda, there was some general discussion of these items; after which the Sub-Commission referred the study of the various problems to three Working Parties. The membership of these is shown in Annex 2.

These three Working Parties took note of the various studies prepared and discussed the problems thoroughly. Their own subsequent reports, as amended and approved by the Sub-Commission, make up the next three sections of the present document:

IV - DELIMITATION OF THE MEDITERRANEAN REGION AND
ESTABLISHMENT OF ECOLOGICAL AREAS

1. After considering and studying the maps submitted by Mr. de PHILIPPIS and Mr. GAUSSEN, the Sub-Commission felt that the following territories should be

represented on the Sub-Commission:

ALBANIA, BULGARIA, EGYPT, FRANCE and the FRENCH UNION (Metropolitan France, Algeria, Tunisia and Morocco), GREECE, ISLANDS OF THE MEDITERRANEAN (Cyprus etc.), IRAQ, ISRAEL, ITALY, JORDAN, LEBANON, LIBYA, PORTUGAL, SPAIN, SWITZERLAND, SYRIA, TURKEY and YUGOSLAVIA.

Most of these countries have eumediterranean regions; some - Switzerland, Bulgaria, Iraq and Egypt - have only transition regions.

2. In accordance with the decisions of the Rome session a provisional map was drawn up, giving :

- (a) the boundaries of the eumediterranean region;
- (b) the boundaries of the transition regions.

The criteria adopted in the light of reports and discussions will enable another provisional map to be drawn up, which will be reproduced in a number of copies and submitted to all the countries concerned. The criticisms on comments made by these countries will then be used to prepare a map for publication later.

The Sub-Commission drew attention to the need for all countries to define the boundaries of the "transition" regions, taking into account their peculiar agricultural and pastoral economies. As regards the regions of transition to desert, it was suggested that the boundary line be drawn at the steppes of esparto grass and artemisia (Artemisia Herba Alba), thus slightly altering the Rome wording (Section IIB).

The Sub-Commission also requested the countries concerned to supply the Secretariat with documentation to enable it to establish a definitive map which could be regarded as the official map for the purposes of the Sub-Commission.

The documentation asked for is:

- (i) a map defining the boundaries and distribution of the olive tree, if possible setting out separately:
 - the olive cultivated without irrigation (number of trees and density of growth);
 - the wild olive (Oleaster);
 - the olive irrigated systematically;
- (ii) delimitation of Mediterranean forest vegetation, especially a study of the distribution of the following eumediterranean species:
 - Aleppo pine, and Brutia pine,
 - stone pine,

- pinaster pine and its Mediterranean variety,
- cypress,
- Algerian thuja,
- carob,
- cork oak
- green oak
- kermes oak

As regards the transition areas, it would be useful to have data on the distribution of the main forest species, namely:

- laricio pines (Black, Corsican, Calabrian etc.)
- Mediterranean firs,
- cedars,
- junipers,
- deciduous or marcescent oaks,
- chestnuts,
- hophornbeam

Each country might furnish data on other species of economic importance.

3. In order to establish the detailed ecological map as proposed at the Rome session, the Sub-Commission requested each country to provide the Secretariat with the fullest possible information on the following points:

- (i) climate - statistical data, and if possible climatic maps and diagrams covering fairly long periods. The data of most interest to the experts are the following:
 - Rainfall (annual, monthly, or failing these, seasonal);
 - number of days of rain;
 - temperature (actual) for the month, or failing that, for the season;
 - absolute minima and their frequency;
 - mean absolute minima;
 - absolute maxima;
 - mean absolute maxima.

Other information (number of days of frost, i.e. with a minimum temperature below 0°, winds, humidity, luminosity, evaporation, snow) would also be useful and might be furnished as well.

Where no printed documents are available, it would be useful if the data could be given for several typical localities.

- (ii) Soil - Pedological and geological maps

4. So far, Portugal is the only country which has submitted a detailed ecological map covering all its continental territory. Similar maps are being prepared in other countries.

Pending the establishment of the ecological map, the Sub-Commission felt that it would be useful for its work on reforestation, introduction of exotic species etc., to prepare an outline map delimiting the Mediterranean climate and showing its phytoclimatic structure.

5. The Sub-Commission recommended that contact be established with the International Union of Forest Research Organizations on all matters connected with the establishment of the ecological map.

6. The Sub-Commission asked the Working Party set up at the present session to continue to function until the next Session, and to carry on its work by correspondence, through the Secretariat, to establish the various maps proposed.

V - STUDIES ON CORK AND FOREST PRODUCTS OTHER THAN CORK

1. Studies on Cork

Three separate points were raised:

- (i) permanence of markets;
- (ii) production statistics;
- (iii) ways of improving and stabilising productions.

(i) Markets

It would be useful to know before discussion of the question whether in view of the attempts by certain countries to build up cork-producing forests, the countries at present exporting cork were acting wisely in investing considerable capital in the regeneration of their cork oak forests.

Will the world market still be open to the produce of these forests in 30 to 40 years time?

It would appear that they will. In the non-Mediterranean countries, the cork-oak would only have a real chance of success if planted in soil suitable for more economically valuable species. Also, the various vegetable substitutes cannot compete with cork from the cork-oak.

It was further remarked, on the subject of possible investment, that it is impossible to calculate the financial yield since no-one can prophesy future developments in an economic situation which is already very fluid; all that can be done is to assess the yield in material from development schemes undertaken.

Investment, once the risk of an unforeseeable future is accepted, constitutes an insurance.

2. Statistics

The study of statistics is the first item in the Portuguese delegation's report on measures to promote and protect cork production in the Mediterranean area. This report was adopted by the Sub-Commission as a possible guide for its work (see Annex 3).

The future of cork seems to be dependent on the possibility of export at low and stable prices.

The inventory of cork-oak forests and production statistics for natural raw cork are in fact data necessary to show the potentialities of the market and to establish annual production estimates on which a price policy can be based.

The States concerned would do well to provide one another periodically with such inventories and statistics; these should be drawn up in accordance with uniform principles and standards, to be defined by the Sub-Commission.

3. Studies and Improvements

The report already mentioned summarises all the questions likely to arise in respect of cork production. All these questions are of considerable importance; but studies might well be undertaken in an order of priority.

The Sub-Commission felt that in the first instance the technical questions under items 2-"Regeneration"; 5- "Exploitation" and 7a -"Technical Qualities", of the report in question should be given priority.

The co-ordination of these studies would fit in with item 4 of the report.

The Sub-Commission therefore decided to set up a permanent working party under the chairmanship of Mr. NATIVIDADE (Portugal), and with the following members: Mr. GIORDANO (Italy), Mr. DUGELAY (France), Mr. METRO (Morocco), Mr. MONJAUZE (Algeria), and the Chairman of the "National Cork Board" or his deputy (Portugal).

The work of the permanent working party would be concentrated on the points set out above, and would be communicated to the Sub-Commission at each of its periodical sessions.

This working party would also draw up the necessary statistical questionnaires and requests for information, to be sent to the States concerned by the Sub-Commission's Secretariat (Forestry and Forest Products Division of FAO)

2. Studies on Forest Products other than cork

In view of the importance of exotic species and secondary forest products for the whole Mediterranean Basin, the Sub-Commission recommended an intensification of technological research on such species and products, and exchange of information on results achieved.

The following products in particular call for attention:

Acacia and eucalyptus tannins,
 Briar roots,
 Pine resin,
 Ash osiers:,
 Pine-cones, Oak apples, etc.

Special mention should be made of pine resin. The problem of resins comprises the following factors:

- Competition of "white spirit" with turpentine;
- Abandonment of tapping as a result of this competition,
- Social and economic consequence of abandoning tapping.

It was therefore recommended that technological studies should be directed in particular to research on chemical compounds obtained from resin and more valuable than turpentine.

VI - REFORESTATION - SOIL CONSERVATION AND UTILIZATION-MEASURES TAKEN OR TO BE TAKEN FOR ESTABLISHMENT OF DEMONSTRATION AREAS

The Sub-Commission listened to the various reports on the problems of reforestation, soil conservation and land use, and confirmed the conclusions reached at its previous session in Rome in December 1948.

It laid special stress on the importance of paragraph 2 of the above-mentioned conclusions, recommending Governments "to limit reforestation properly so-called to purely forestland, and to apply to land suitable for other uses soil restoration practices based on the same principles of protecting slopes and regulating stream-flow".

In view of the fact that reforestation involves the prohibition of cutting, and the eviction and resettlement of forest-dwellers, and also that when employed alone, its effect on stream-flow is a long-term matter, the Sub-Commission decided that it would be advisable to apply some method of soil restoration on sloping ground which would:

- (1) have an effect comparable to that of forests on soil conservation and regulation of stream-flow;
- (2) make full use of the soil, and so improve the standard of living of the hill-folk.

After visiting the extensive work undertaken in Algeria by the Soil Protection and Restoration Department, the Sub-Commission agreed that for this purpose the technique of infiltration terraces ("banquettes d'infiltration") developed and successfully applied on an enormous scale (to date about 20,000 hectares) would appear to be one of the best methods of solving the problem employed so far.

This technique also helps to improve the livelihood of the inhabitants by making fuller and more scientific use of the soil. This fact itself means that forest pasturage no longer being a social necessity, the development of forests and the reforestation of zones not amenable to better use becomes politically and economically feasible.

The Sub-Commission drew the attention of governments to the value of this technique, which had been tried out and deserved to be quoted as an example; and it recommended them to publicise as widely as possible throughout their administrative and technical departments the valuable reports it had received, so that the experience gained might be made available as quickly as possible to all the Mediterranean countries.

Since conservation of the existing forest areas is essential to the physical and economical stability of the Mediterranean countries, and since it is vital that vast stretches of mountainous territory at present denuded should be restored with the utmost urgency, the Sub-Commission called the attention of the governments to the danger of a policy of exploitation involving further clearing of forest soil on the grounds that it can be cultivated again by means of restoration methods; and it recommended them:

- (1) to follow a firm policy of conservation and development of existing forests;
- (2) to limit restoration operations to soil in which the forest cover has disappeared, and to agricultural land suffering from or threatened with erosion;
- (3) to adopt reforestation and restoration methods combined, in areas where the state of the soil calls for such action.

The Sub-Commission also noted with satisfaction that this interplay of agricultural, pastoral and forestry problems in mountainous country had been realized by most countries, and that in many cases the forestry services, with their long and expert experience in combating erosion, had been entrusted with the co-ordination of research and the technical control of operations. In view of the magnificent social results obtained in Algeria, the Sub-Commission warmly recommended that the system be applied more generally.

The interplay of these factors and their impact on the economic and social fields seemed to the Sub-Commission to justify the need for countries benefiting by the technical assistance programme of ECA, to give priority to operations of this kind.

The Sub-Commission also stressed the importance of the consequences of erosion on the utilisation and regulation of streams; and recommended that soil restoration in the catchment areas should precede or at least accompany the construction of dams.

Finally, believing that the work it had seen in Algeria was of such international interest that a far wider publicity should be given to it, the Sub-Commission recommended:

- (1) that other countries faced with similar erosion problems should send technicians to study the techniques of soil conservation in use in Algeria, and that the French Government should be invited to grant every facility to choose technicians in order that they may visit Algeria and study the technique on site;
- (2) that the French Government be invited to make available advisers on this problem to other interested countries, should it be invited to do so.

REMARKS:

At the final meeting, following a speech by Mr. LELOUP and a proposal by Mr. TAYLOR (United Kingdom) regarding the agenda for the next session, there was some discussion as to the definition of the term "purely forest land" and the proper relationship between pasturage and forest. The Sub-Commission decided to maintain the original text as it stood, and to take up the discussion at its next session. It also instructed the Secretary to submit a report on the question at that session.

VII - THE POPLAR IN THE MEDITERRANEAN COUNTRIES

The Sub-commission listened to a report on the poplar in Italy presented by Professor PICCAROLO, and thanked him for his contribution, placing upon record the fact that he was willing to place at the disposal of delegates who might be interested the experience already acquired at his Institute.

VIII - DATE AND PLACE OF THE NEXT SESSION - AGENDA

The Secretariat informed the Sub-Commission of the invitation from Lebanon and Israel, and the Sub-Commission took note of these and expressed its thanks, instructing the Secretariat, in collaboration with the Chairman, to carry on conversations with the countries mentioned, in connection with the organisation of subsequent sessions.

The Sub-Commission also requested that the following topic be put on the agenda of the next session:

"The study of the necessity for the controlling of grazing in order to establish a balance between pasturage and forestry which would allow the restoration of forests and the eventual maximum yield of production from the land".

IX - DISTRIBUTION OF THE REPORT AND DOCUMENTS

In his closing speech, the Chairman requested the Food and Agriculture Organization to consider the possibility of printing the final report and the various technical reports submitted, so that these documents, which constituted a valuable source of information, might go along with the documents from previous sessions to form a compact and easily accessible collection.

GENERAL REPORT - ANNEX 1LIST OF DELEGATES

Chairman : Professor PAVARI (Italy)
 Vice Chairman : Mr. CHALLOT Conservateur des Eaux et
 Forêts (France)
 Secretary : Mr. R.G.FONTAINE (F.A.O.)

FRANCE AND THE FRENCH UNION

Mr. F. MERVEILLEUX du VIGNAUX, Directeur Général des Eaux et
 Forêts
 Mr. DALLIER, Inspecteur Général - Directeur des Forêts
 (Algeria)
 Mr. SACCARDY, Conservateur des Eaux et Forêts - Chef du
 Service Central de la Défense et de la
 Restauration des Sols (Algeria)
 Mr. CHALLOT, Conservateur des Eaux et Forêts - Chef du
 Service de Défense et de Restauration des Sols
 (Morocco)
 Mr. DUGELAY, Conservateur des Eaux et Forêts (Metropolitan
 France)
 Mr. de CARMANTRAND de la ROUSSILLE, Conservateur des Eaux et
 Forêts (Metropolitan France)
 Mr. H. GAUSSEN, Professeur à la Faculté des Sciences de
 Toulouse.
 Mr. PUTOD, Conservateur des Eaux et Forêts (Algeria)
 Mr. MONJAUZE, Conservateur des Eaux et Forêts (Algeria)
 Mr. LACOURLY, Inspecteur des Eaux et Forêts (Tunisia)
 Mr. DUCHAUFOR, Inspecteur des Eaux et Forêts (Métropolitan
 France)
 Mr. LEBRUN, Inspecteur des Eaux et Forêts (Métropolitan
 France)

STATE OF ISRAEL -

Mr. A. GOOR, Director of the Forestry Division.

ITALY -

Mr. G. SACCHI, Directeur Général des Forêts.
 Mr. Aldo PAVARI, Directeur de la Station Expérimentale de
 Sylviculture, à Florence.
 Mr. A.DE PHILIPPIS, Professeur de Sylviculture à
 l'Université de Florence.
 Mr. G. GIORDANO, Professeur à la Faculté Agronomique et
 Forestière de l'Université de Florence.

ITALY -

Mr. G. PICCAROLO, Directeur de l'Institut pour la Culture du Peuplier à Casale Monferrato.
Mr. L. FUNICIELLO, Inspecteur Supérieur Forestier
Mr. C. FRIEDMANN, Directeur du "Centre Studi Fertirrigazione".
Mr. V. BASSI, Inspecteur Supérieur Forestier.
Mr. F. SCALAMBRETTI, Inspecteur Supérieur Forestier.

PORTUGAL

Mr. Joaquim Vieira NATIVIDADE, Investigateur de la "Estação Agronomica Nacional" -Ingénieur forestier, Directeur de la "Estação de Experimentação Florestal do Sobreiro" (Alcobaça)

Mr. José ALVES, Ingénieur forestier - Chef de Division de la Direction Générale des Eaux et Forêts du Portugal, Représentant de la Sylviculture au Comité National FAO du Portugal.
Mr. José MANIQUE E ALBUQUERQUE, Ingénieur agronome et forestier de la "Estação Agronomica Nacional" (Sacaréni).

Mr. Fernando ARAUJO, Secrétaire de la "Junta National da Cortica" Lisbonne.

UNITED KINGDOM -

Mr. W.J. TAYLOR, Controller of Agriculture, Tripolitania.

SWITZERLAND -

Mr. KUNZ, Assistant à l'Institut de Sylviculture de l'E.P.F. à Zurich.

International Organizations :

F.A.O.: Mr. Marcel LELOUP, Director of the Forestry and Forest Products Division

INTERNATIONAL UNION OF FOREST RESEARCH ORGANIZATION :

Professor PAVARI, Vice-Chairman of the Union.

GENERAL REPORT - ANNEX 2MEMBERSHIP OF THE WORKING PARTIESI - DELIMITATION OF THE MEDITERRANEAN REGION AND ESTABLISHMENT OF ECOLOGICAL MAPS

Chairman: Mr DE PHILIPPIS (Italy)

Rapporteur: Mr. GAUSSEN (France)

Members: Mr. ALBUQUERQUE (Portugal)
Mr. De CARMANTRAND (France)
Mr. PUTOD (France)

II - STUDIES ON CORK AND FOREST PRODUCTS OTHER THAN CORK

Chairman: Mr. NATIVIDADE (Portugal)

Rapporteur: Mr. MONJAUZE (France)

Members: Mr. ARAUJO (Portugal)
Mr. DALLIER (France)
Mr. GIORDANO (Italy)
Mr. MERVEILLEUX du VIGNAUX (France)

III - REFORESTATION - SOIL CONSERVATION AND UTILISATION - MEASURES TAKEN OR TO BE TAKEN FOR THE ESTABLISHMENT OF DEMONSTRATION AREAS

Chairman: Mr. CHALLOT (France)

Rapporteur: Mr. LACOURLY (France)

Members: Mr. ALVES (Portugal)
Mr. BASSI (Italy)
Mr. DUCHAFOUR (France)
Mr. DUGELAY (France)
Mr. FUNICIELLO (Italy)
Mr. SACCARDY (France)
Mr. SACCHI (Italy)
Mr. W.J.TAYLOR (United Kingdom)

GENERAL REPORT - ANNEX 3

REFORM ON MEASURES TO PROMOTE AND PROTECT CORK PRODUCTION
IN THE MEDITERRANEAN AREA

Presented by the delegation of Portugal.

The cultivation of the cork-oak (*Quercus suber*) constitutes the basis of one of the prime sources of forest wealth in the Mediterranean area, its importance being enhanced by the fact that it grows under the edapho-climatic conditions to which only very few species of silvicultural value are capable of adapting themselves. It renders exploitable vast areas which, in its absence and exposed to the depredations caused by man and beast, would otherwise be condemned to the dire poverty peculiar to certain arid regions.

Many factors have played their part in the course of time in reducing the area occupied by the cork-oak; all signs point to the fact that the limits of its true habitat have suffered contraction.

Although the commercial value of cork, during the past 50 years, has led to the intensive exploitation of cork-oak forests and the application of protective measures, it is nevertheless true that the prospects for cork production cannot be regarded at the moment as being very brilliant. Yet the rather unstable position occupied by the Mediterranean cork-oak cultivation is hardly discernible from the statistics.

The cork-oak stands handed down to us still, of course, cover a vast area and are of great value. Nevertheless, the occasional intensive exploitation - or even over exploitation - of both the soil and the trees, the inadequate regeneration of groves which have reached the limit of economic exploitation, the growing difficulties due to the advanced stage of deterioration of cork-producing areas which often impede recourse to natural regeneration and finally the owners' reluctance to devote capital to the task of artificial regeneration - a reluctance partly justified by uncertainty as to the future of cork-growing or the discouragement caused by the failure of the prices of cork and other cork-forest products to fall in line with currency devaluation - constitute factors which at present dim the prospects of Mediterranean cork-production and call for the far-sighted attention of the countries concerned.

In the matter of legislation for the conservation of the cork-oak, technical assistance, research, action against pests and diseases, measures to promote cork-oak cultivation, the publication of improved cultivation standards and the protection and popularization of commercial cork products, Portugal, conscious of her responsibility as the leading producer country, has done extensive work of outstanding importance.

Nevertheless, there is felt to be a growing need for securing the co-operation of all countries concerned in cultivating the cork-oak with a view to safeguarding cork-oak forests throughout the entire Mediterranean area and applying improved methods for their conservation and exploitation.

We indicate below, in general terms, the principles whereby such co-operation may become truly fruitful:

1) Intensification of survey work in areas occupied by the cork-oak and the taking of an inventory of present forest stocks so as to permit annual harvest estimates on the basis of possibilities; and the introduction of "aménagement" in all forestry undertakings. The organization of production statistics with a high standard of accuracy.

2) The natural and artificial regeneration of stands. The co-ordination of current research work in the various countries. Exchange of information between the countries concerned as to the results obtained.

3) Conservation of soil bearing cork-oak stands with a view to:

- (a) mitigating the effects of soil exhaustion brought about by agricultural cropping in the cork-oak forests in areas where this type of farming is economically linked up with their exploitation;
- (b) combating erosion in cork-oak forests in mountainous areas;
- (c) examining the possibility, with a view to soil conservation in particular, of re-introducing some of the constructive features of natural forests into the groves:
 - (i) the re-establishment of suitable climax associations less vulnerable to fire than Cistus, Erica, Lavandula and Rosmarinus coppice;
 - (ii) a study of methods of reducing fire risks in cases where the coppice is retained.

4) Co-ordination of past and prospective studies, and closer co-operation between the Research Stations of the various countries in scientific investigations in the following fields:

- (a) intensification of research work on the physiology of the cork-oak and on the biology of the groves.

- (b) extension of studies on genetics and of work on selecting and improving the cork-oak.
 - (c) intensification of studies on the biology of the pests and diseases attacking the cork-oak, and the formulation of a rational plan for protecting forest masses;
 - (d) development of studies on aspects of phyto-sociology primarily concerning cork-oak forests;
 - (e) intensification of technological investigations into the technical and economic possibilities of exploiting the timber of the cork-oak, and the cork itself, as well as into methods for utilising, exploiting and conserving the fruit, particularly in countries where stock-raising is practised in conjunction with cork-growing.
- (5) Exploitation, Cultivation technique:
- (a) formulation of intensive measures for cultivating the cork-oak without harming the forest reserves and without entailing impoverishment of the soil;
 - (b) studies on the optimum density of stands under different growing conditions, and the technique of thinning.
 - (c) advantages and disadvantages, in the Mediterranean area, of mixed and unmixed stands; stands consisting of trees of the same or different age-groups.
 - (d) determination of scientific standards for the technique and intensity of cork-harvesting;
 - (e) control of grazing in cork-oak forests or uncultivated lands suitable for cork-growing, with a view to obviating any action which might impede natural regeneration of stands or produce further deterioration of the soil.
- (6) encouragement of cork-oak cultivation:
- (a) survey of new terrain for the expansion of cork-oak cultivation in each country, with due regard for optimum ecological conditions for that species;
 - (b) adoption of various methods for providing technical assistance and financial aid to owners.
- (7) Co-ordination of efforts to protect cork production:

- (a) intensification of studies on improving the quality of cork, with a view to endowing that raw material with the technical qualities required for industrial purposes;
- (b) intensification of research work on the chemical composition of cork and new uses to which it may be put;
- (c) the methodical organization of publicity in favour of cork and its manufactured products;
- (d) formulation of plans for cork production, distribution and consumption.

With a view to ensuring closer co-operation and freer interchange between the countries interested in cork-oak cultivation, we also suggest the establishment of a Mediterranean Commission (or Centre) for the Study of the Cork-Oak for the purpose of co-ordinating, collating and publishing the results of the researches carried out in the various countries and of establishing closer contact between the technical experts engaged on experimental and research work in connection with cork production.