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CO-OPERATIVE ACTION PROGRAMME
JOINT ACTIVITY ON RESEARCH AND DEVELOPMENT
IN SHEEP PRODUCTION

Improvement of sheep flock management

STEERING COMMITTEE MEETING
(Paris: 19th - 22nd March, 1979)

ECONOMIC ASPECTS OF SHEEP
PRODUCTION IN SOME
MEMBER COUNTRIES

by Mr. E. REGAN
(Draft Report)

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INTRODUCTION

1. The suggestion of a joint OECD activity to develop sheep production was first discussed at a meeting held in Paris on the 3rd and 4th October, 1977. Twenty-four experts from eleven Member countries, as well as representatives of the Food and Agricultural Organisation of the United Nations (FAO), and the Commission of the European Communities took part in the meeting.

2. The purpose of this meeting was to examine the possibility of undertaking an activity to develop sheep production. This activity would be based on international co-operation and devoted to a limited and specific theme. The experts agreed that such an activity could be of interest in their countries.

3. Three themes for a joint activity were examined at the meeting [TECO(77)18 AGR(77)427].

Theme 1: Improvement of sheep flock husbandry and management at farm level;

Theme 2: Increasing the fertility rate through genetic improvement;

Theme 3: Increasing the average weight through genetic improvement of lambs at slaughter.

It should be noted that, although the three themes were considered important for the development of sheep production in most countries and worthy of further examination, theme 1, i.e. improvement of sheep flock husbandry and management at farm level, was retained by all of the experts of the countries.

4. It was decided at the meeting that Member states should provide further information by replying to a questionnaire(1) on the situation of sheep production and consumption, and particularly, on the factors which inhibit the development of production in their respective countries. Governments were also asked to give their opinion on the research and development activity which they considered to be a priority.

This report is based upon the information submitted by the Member countries. Where necessary, however, use is made of official publications which relate to sheep production (See Bibliography).

(1) Fifteen countries responded to the Questionnaire prepared by the Secretariat: Australia, Denmark, France, Germany, Greece, Ireland, Luxembourg, the Netherlands, Portugal, Spain, Sweden, Switzerland, United Kingdom, Turkey, Yugoslavia. The notes submitted by Member states are summarised in Annex I.

5. The report is designed to fulfil the first phase of the joint OECD activity to develop sheep production by:

- (i) Giving a general outline of developments in the sheep economy in the OECD.
- (ii) Identifying the major inhibiting factors to developing sheep production and
- (iii) By suggesting, on the basis of the above analysis and of the replies to the Questionnaire, a theme for a "joint activity" by the OECD Member countries.

For a general statistical review of the situation of sheep production, consumption and trade in the world as a whole, see Annex II.

I. CONSUMPTION

6. The overall consumption of sheepmeat in the OECD fell by 9 per cent between 1966 and 1976. During this period, however, total meat consumption increased by over 30 per cent and thus the proportion of meat consumption accounted for by sheepmeat declined from 5.4 per cent to 3.7 per cent.

The following table illustrates the change in the pattern of meat consumption:

	<u>1966</u>	<u>1976</u>
	%	%
Beef and Veal	39.6	39.9
Pigmeat	30.9	30.3
Mutton/lamb/goatmeat	5.4	3.7
Poultry	15.8	18.0
Other meats	8.3	8.1

7. The decline in the consumption of mutton and lamb is more than compensated by the increased consumption of poultry meat. Much of the fall in consumption is due, therefore, to product substitution.

The consumption of sheepmeat as a percentage of total meat consumed has declined in all areas.

Countries \ Sheepmeat as percentage of total meat	1966	1976
Total	5.4	3.7
North America	1.8	0.75
Japan	6.4	4.7
Australia	37.1	14.7
New Zealand	34.4	29.0
<u>Europe</u>		
<u>EEC</u>	5.0	3.6
<u>Non-EEC</u>	14.5	11.5
Yugoslavia	7.9	4.5

8. The only individual countries which show an increase are Belgium/Luxembourg, France, Germany, Sweden and Switzerland. In these countries lamb is generally considered a luxury product.

The trend in consumption may be explained by a combination of three main factors - incomes, prices and changing tastes or the image of product.

Rising demand for meat in the past has been closely linked to the rise in disposable incomes. In some OECD countries increases in sheepmeat consumption, although declining in relative importance, are associated with rising income trends, e.g. Mediterranean countries such as Greece, Spain and Turkey.

9. However, even in a period of rising incomes, the consumer's preference for the different types of meat are distinctly influenced by the price ratios between them. In the United Kingdom, the index of the deflated retail meat prices show the following trends:

1966 = 100

	<u>Beef</u>	<u>Lamb</u>	<u>Pork</u>	<u>Bacon</u>	<u>Poultry</u>
	<u>home killed</u>	<u>Imported</u>			
1975	109.9	109.2	112.9	115.8	127.2
1976	118.3	116.5	121.1	115.0	128.0
1977	115.1	119.9	122.7	104.9	113.9

Source: M.L.C. Economic Information Service, October 1978 - Meat Demand Trends

10. It is clear that lamb has not been price competitive and consequently consumption lamb has fallen relative to other meats.

The consumption pattern has developed as follows:

	<u>1966</u>	<u>1976</u>
Beef and Veal	30.7	35.1
Pigmeat	36.2	22.9
Mutton/Lamb	14.7	10.9
Poultry meat	10.6	16.3
Other meats	7.8	6.8
	<u>100%</u>	<u>100%</u>

In 1966 the United Kingdom accounted for 42 per cent of the total consumption of mutton and lamb within Europe as a whole. However, in 1976, this figure had fallen to 28 per cent.

11. On the other hand, in France and some other European countries such as Belgium and Luxembourg etc., lamb is considered a "luxury product" and this price does not have a direct effect on

market demand. The price of lamb in France may be as much as 50 per cent higher than the beef price, yet consumption has continued to increase. In the following countries lamb is considered a luxury product and consumption has developed as follows between 1966 and 1976.

France	+ 60,000 tonnes
Belgium/Luxembourg	+ 10,000 tonnes
Germany	+ 24,000 tonnes
Sweden	+ 3,000 tonnes

In Germany, consumption of mutton and lamb is confined to urban centres, where it is consumed in restaurants in the form of lamb (luxury image) or sold through the supermarket to the immigrant worker population in the form of mutton.

12. In areas of traditionally very high consumption, such as Australia, consumption has fallen very much - by 195,000 tonnes or 44 per cent between 1966 and 1976. Mutton and lamb as a proportion of all meat consumed is now less than 15 per cent as compared to 37 per cent in 1966.

In Australia, mutton is considered an inferior good with per capita consumption falling as real incomes rise. Thus, most of the decline in sheepmeat consumption is accounted for by mutton.

Because Australia is an exporting country there may be greater variation in market prices for the different meats reflecting the variations in export possibilities and world market prices. Thus, the very low beef prices in real terms particularly in the 1970s resulted in its substitution in the consumption patterns for other meats.

<u>Kg. Per capita consumption</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
<u>Lamb</u>	24.4	24.0	22.6	17.0	17.1	16.4	15.6
<u>Mutton</u>	24.2	29.2	26.5	13.0	8.2	7.9	7.0

Source: Meat Situation and Outlook - Bureau of Agricultural Economics - Canberra - Australia.

13. In the Mediterranean region, consumption of sheepmeat has increased considerably in all countries, except Portugal. But there has been a much more dramatic increase in overall meat consumption.

X = Sheepmeat as a percentage of all meat consumed

Country	Meat	1966		1976		Variation % 1976/1966
		'000 tonnes	X	'000 tonnes	X	
Turkey	all meat	537	50	975	40	82
	sheep meat	268		394		47
Spain	all meat	1,227	11	2,293	7	87
	sheep meat	133		150		13
Portugal	all meat	255	11	437	5	71
	sheep meat	27		20		26
Greece	all meat	346	34	601	22	74
	sheep meat	116		129		11

14. It is clear that sheepmeat only shares, to some extent in the considerable increases in overall meat consumption. In Greece, however, it appears that the declining share of meat consumption going to sheepmeat is due more to a simple price effect. Prices of mutton and lamb have risen because of the abolition of the ceiling price which existed until mid-1975, the maintenance of price restrictions on other meats and a parallel prohibition on the importation of fresh sheepmeat.

In Turkey, the main reason why such a large proportion of total meat is consumed in the form of sheepmeat - 40 per cent in 1976 - is due to the fact that very little pork is consumed in that country.

Forecast Consumption Levels

15. According to the FAO Commodity forecasts 1978, world consumption is expected to show a slight decline. This is mainly accounted for by the projected increase in sheepmeat prices relative to those of pigmeat and poultry-meat.

Mutton and Lamb Consumption

	1972-74	1985	% change 1985/ 1972-74	As a % of Total Meat	
	kg per head			1972-74	1985
World	1.8	1.7	- 6	6	6
Developing Countries	1.3	1.3	-	10	9
Latin America	1.2	1.1	- 8	4	3
Africa	2.1	2.0	- 5	23	20
Near East	6.4	7.2	+ 13	45	40
Far East	0.6	0.5	- 17	16	12
China	0.7	0.8	+ 14	4	4
Developed Countries	3.2	2.9	- 9	5	4
North America	1.2	1.1	- 8	1	1
Western Europe	3.3	3.1	- 6	5	4
of which: EEC	3.1	2.9	- 6	4	4
of which: U.K.	8.5	6.6	- 22	12	10
Eastern Europe	2.1	2.0	- 5	4	3
USSR	3.9	3.8	- 3	8	6
Oceania	36.0	20.3	- 44	33	18
Japan	1.2	1.4	+ 17	6	4

16. The most significant decline is expected in Australia, New Zealand and the United Kingdom. In 1972-74, these three countries together consumed almost 20 per cent of the world's mutton and lamb. By 1985, it is projected that consumption in these countries will account for only 12 per cent of the world total.

II. SHEEP POPULATION

(a) Structure and Development

Australia and New Zealand account for 62 per cent of the total sheep population in the OECD, followed by Europe and North America with 34 per cent and 4 per cent respectively.

	<u>1966</u> <u>'000</u> <u>head</u>	<u>1976</u> <u>'000</u> <u>head</u>	<u>% of to-</u> <u>tal Nos.</u> <u>- 1976</u>	<u>Total</u> <u>vari-</u> <u>ation</u> <u>in Nos.</u>	<u>% vari-</u> <u>ation</u> <u>in</u> <u>Nos.</u>
<u>Total</u>	349,112	331,802	100	-17,310	- 5
<u>North America</u>	24,627	13,172	4.0	-11,455	- 46.5
<u>United States</u>	23,953	12,710	3.8	212	- 46.0
<u>Japan</u>	113	11	-	102	- 90
<u>Oceania</u>	214,906	205,043	62	- 9,863	- 4.6
<u>Australia</u>	157,563	148,643	45	- 8,920	- 5.7
<u>New Zealand</u>	57,343	56,400	17	943	- 1.6
<u>Europe</u>	109,466	113,576	34	4,110	+ 3.75
<u>EEC</u>	44,669	43,752	13	917	- 2.0
<u>Non-EEC</u>	64,797	69,824	21	5,027	+ 7.8
<u>Yugoslavia</u>	10,329	7,484		- 2,845	- 27.8

17. Sheep numbers totalled 332 million head in 1976, following a decline of 17 million, or 5 per cent, since 1966. Many regions have witnessed a severe drop in numbers during this period. In the United States for example, the total flock fell by 11.5 million, or 46 per cent and in Australia by 9 million, or almost 6 per cent.

In Europe, overall numbers have increased by over 4 million head. This figure hides some major variations among the different European countries. In Spain, a reduction of 3 million took place. In Ireland, there was a drop of 2.2 million and in the United Kingdom, almost 1.2 million head.

18. Most other European countries show significant increases in their sheep population. This is particularly true for Turkey, France and Greece, where numbers increased by 6.8 million, 1.7 million and a half a million respectively in the 10-year period 1966 to 1976.

Although not major producers of sheep, numbers have increased considerably in some other European countries. For example, in Germany, numbers went up by 279,000 head or 34 per cent; in the Netherlands by 220,000 head or 40 per cent; Sweden, 139,000 head or 5 per cent; finally, Switzerland, 124,000 head or 47 per cent. Thus Europe has increased its share of the total sheep population in the OECD from 31 per cent in 1966 to 34 per cent in 1976.

(b) Types of breeds

19. In most OECD countries there is a great variety of local breeds and crosses (see Annex IIC) the geographical distribution of these breeds depends upon a number of factors:

- (1) The climatical and geological conditions of different regions;
- (2) The purpose of sheep production;
- (3) Production systems and farm practice;
- (4) The general development of the sheep sector.

(1) The climatic and geological environment influences greatly the type of breeds which are used in sheep farming. The general conclusion of the FAO study (see Bibliography) on cattle and sheep breeds in the Mediterranean region clearly illustrate this. "In 'marginal areas' there is no alternative to the use of local breeds of (cattle and) sheep. Results show that improved breeds selected for exploitation under high levels of feeding and management often show poor fertility, viability and production under harsh conditions. On the other hand, local breeds have demonstrated their adaptation to the permanent constraints of the Mediterranean environment."

In the United Kingdom, the breeding flock is concentrated in hill and moorland areas and the sheep population rests upon a foundation of purebred sheep dominated by hill breeds (which are suited to such environmental conditions) which account for 57 per cent of the total ewe breeding population. Crossbred ewes from the majority of the lowland flock - 30 per cent of the breeding ewe population - and are derived mainly from hill breeds crossed Down Breed Sires.

(2) The type of breed is clearly linked to the purpose of sheep production. In Australia, 75 per cent of the flock consists of the merino which is used primarily in the production of wool. The Northern parts of Europe concentrate on the production of lamb with wool as a secondary product. In most cases wool represents only 10 per cent of the value of the final product.

In France there are areas which specialise in sheep milk production - "Rayon de Roquefort" in the Southern Massif Central, Western Pyrenees and Corsica. Eleven per cent of the total French sheep herd is specialised in milk production.

In Greece, the sheep population consists mainly of triple-purpose animals - milk, meat and wool.

(3) The type of sheep stocks may also depend upon the degree of intensification in production. Stock of higher genetic potential can be bred, which will lead to greater prolificacy and live weight gain. But such breeds require greater care and improved overall farm management in terms of higher quality feed and hygiene standards.

(4) Breed types are affected by the overall development in the agricultural economy. In the case of Ireland, because of the long-term decline in sheep numbers and the fact that this decline was mainly confined to lowland areas (due to the relative unprofitability of sheep production), there has been a change in the distribution of breed types. Mountain ewes have increased in numbers and have replaced the lowland "Galway" Breed as the most numerous ewe type.

(c) Geographical Distribution of the Sheep Flock

20. In Europe, sheep rearing is becoming more and more concentrated in hill and mountain areas or regions which are unsuitable for crops and other livestock. In four member states of the European Community which account for 96 per cent of the total EEC herd, the major proportion of the sheep are found in those regions, classified by the European Commission as "less favoured areas" or "disadvantaged areas" (see Annex 5 for definition of less favoured areas, as laid down in EEC Directive 268/75).

Italy	80 - 90 %
Ireland	70 - 75 %
United Kingdom	55 - 60 %
France	70 - 75 %

Then two-thirds of the sheep flock of the EEC are situated in "disadvantaged areas".

21. In Greece, 20 per cent of the grazing land is classified as lowland. Twenty-nine per cent as semi-mountainous and 51 per cent as mountainous. The number of sheep herds in lowland areas continues to decrease.

In Portugal and Spain the major part of the sheep herds are located in the more arid regions. "Spain has vast expanses with a very harsh environment the use of which for stockraising is possible only on the basis of well-adapted breeds."(1)

(1) Report of the first FAO expert consultation on breed evaluation and crossbreeding.

Broadly speaking, there are two reasons why sheep are concentrated in these areas:

(1) Sheep can utilise hill and mountain land unsuited to other forms of agriculture. A sheep enterprise enables land to be farmed with relatively low capital cost and an elementary technology.

(2) Although sheep utilise arable by-products, surplus pasture and labour during slack periods on lowland farms, they are generally unable to compete, in terms of profitability with other farm enterprises. For this reason sheep production has "retreated" from the lowlands and become concentrated in disadvantaged areas.

22. In Australia, by way of contrast, prime lamb production is usually associated with improved pasture. There are areas, however, which are unsuited for improved agriculture, for climatic reasons, but may be used for extensive grazing of sheep.

III. PRODUCTION

(a) Sheepmeat

23. The overall gross domestic production of mutton and lamb has increased by 4 per cent in the OECD between 1966 and 1976. The following table shows that the only region which experienced a decline in production was North America.

Production of Sheepmeat ('000 tonnes)

	<u>1966</u>	<u>1976</u>	<u>Variation</u>	<u>% Variation</u>
Total	2,430	2,528	+ 98,000	+ 4
North America	306	181	- 125,000	-125
Oceania	1,070	1,121	+ 51,000	+ 4.7
Australia	601	608	+ 7,000	+ .1
New Zealand	469	513	+ 44,000	+ 9.4
Europe	1,053	1,226	+ 173,000	+ 16
EEC	502	502		
Non-EEC	551	724	+ 173,000	+ 31
Yugoslavia	48	61	+ 13,000	+ 27

In New Zealand, production showed an increase of 9 per cent in the 1966/76 period, following a drop in sheep numbers of about 1 million head.

24. In the European Economic Community, where the three largest producers are the United Kingdom, France and Ireland, accounting for 86 per cent of the total domestic production in 1976, overall production has been static. Despite considerable increases in overall meat production, however, as the following table illustrates, production in the United Kingdom and Ireland fell by 8.5 per cent and 27 per cent respectively, while production in France increased by 25 per cent.

Production
('000 tonnes)

<u>Country</u>		<u>1966</u>	<u>1976</u>	<u>X</u>	<u>Y</u>
<u>Belgium</u>	all meat	671	1,097	0.2	426
	sheepmeat	3	2		-1
<u>Luxembourg</u>	all meat	25	22	-	-3
	sheepmeat				
<u>Denmark</u>	all meat	1,190	1,190	-	-
	sheepmeat	2	1		
<u>France</u>	all meat	4,070	5,261	2.8 (2.8)	1,191
	sheepmeat	117	147		30
<u>Germany</u>	all meat	3,751	4,871	0.3	1,110
	sheepmeat	12	15		3
<u>Ireland</u>	all meat	540	669	5.5 (9.4)	129
	sheepmeat	51	37		-14
<u>Italy</u>	all meat	1,835	2,747	1.2	912
	sheepmeat	35	34		-2
<u>Netherlands</u>	all meat	1,059	1,374	0.9	315
	sheepmeat	9	17		8
<u>United Kingdom</u>	all meat	2,540	2,946	8.4 (10.7)	406
	sheepmeat	272	249		-23

X :: Sheepmeat as a proportion of total meat production in 1976.

Y :: Variation in production ('000 tonnes).

The above table also indicates that sheepmeat production accounts for a small proportion of total meat production, in all countries except the United Kingdom (8.4 per cent), Ireland (5.5 per cent) and France (2.8 per cent).

25. The growth of sheepmeat production has been exceptional in the Mediterranean regions.

	<u>1966</u>	<u>1976</u>	
	'000 tonnes	'000 tonnes	
Greece	82	116	+34 %
Spain	133	146	+13 %
Turkey	268	397	+129 %

Source: GATT Meat Balances.

In Spain, despite a drop in the sheep herd, production has increased due to the increased average weight of lamb at slaughter. Greece has also increased slightly the average weight of its lamb at slaughter from 9 to 10 Kg.

26. Sheepmeat accounts for 23 per cent and 40 per cent of all meat produced in Greece and Turkey respectively. It should also be noted that there is a sizeable population of goats in the Mediterranean region which are reared within the sheep flock and account for a considerable amount of meat and milk production.

<u>1977</u>	<u>Sheep</u>	<u>Goats</u>	<u>Goats' milk</u>	<u>Goats' meat</u>
	'000 head	'000 head	'000 tonnes	'000 tonnes
France	10,915(*)	1,012	389	12
Greece	6,135(*)	4,524	413	42
Spain	15,590	2,231	298	13
Portugal	3,657(*)	700(*)	38	4
Turkey	41,504	18,508(*)	637	105

Source: FAO Production Year Book 1977

(*) Estimates.

27. The FAO commodity forecast suggests the following levels of sheep and goatmeat production in 1985 (Basic forecast). In all of the countries listed in the table, production is predicted to increase by 1985.

	1975/77 '000 tonnes dressed carcass weight	1985 '000 tonnes dressed carcass weight	% Variation
<u>Oceania</u>	1,049	1,420	+ 36
Australia	538	770	+ 43
New Zealand	511	640	+ 25
<u>EEC</u>	505	560	+ 11
Denmark	1	0	-
France	139	150	+ 10
Germany	20	20	0
Ireland	40	50	+ 25
Italy	34	50	+ 47
Netherlands	18	20	+ 11
United Kingdom	250	270	+ 8
<u>Other European countries</u>			
Spain	147	150	+ 2
Yugoslavia	59	70	+ 19
<u>Asia</u>			
Turkey	348	410	+ 18

(b) Sheep, Milk and Wool Production

28. In the Mediterranean regions, milk is an important aim in sheep-rearing and, in the case of Greece and Italy, is the dominant aim. The following table illustrates that the production of ewes' milk is increasing:

	<u>1975</u>	<u>1977</u> ('000 tonnes)
Turkey	993	1,065
France	849	892
Greece	564	578
Italy	473	500
Spain	239	242
Yugoslavia	149	146

Source: FAO production yearbook 1977.

These countries alone account for 47 per cent of total world production.

In the case of Greece, milk produced in 1975 may be classified as follows:

Total production (tonnes)	1,710,866
Cows	762,680
Sheep	554,896
Goats	394,090

66 per cent of the sheep and goats' milk is used in the manufacture of cheeses. Sheep and goats' milk is consumed in Greece, in the following measures:

	<u>Sheep Milk</u> (tonnes)	<u>Goats' Milk</u> (tonnes)
Fresh Products	55,497	109,925
Soft Cheeses	75,472	32,004
Hard Cheeses	20,169	6,536
Butter	3,917	1,757

Source: Panhellenic Confederation of Unions of agricultural Co-operatives (PASEGES).

29. Wool production is of primary importance in Australian sheep production and of equal importance to meat in the case of New Zealand. These two countries produce 40 per cent of the total world production of wool (1,005,200 tonnes) and, combined, dominate the world wool trade.

Europe accounts for 10 per cent of World Production and in the past few years has stabilized at a level of approximately 260,000 tonnes (greasy).

30. The United Kingdom is the largest wool producing country in Europe, producing 46,900 tonnes in 1977, followed by:

Spain	27,800 tonnes
France	22,200 tonnes
Italy	12,100 tonnes
Greece	11,380 tonnes
Yugoslavia	9,500 tonnes

Source: FAO production yearbook 1977.

The United Kingdom is the only country in Europe which operates a complete market support mechanism for wool. This marketing arrangement is administered through the British Wool Marketing Board.

The "costs" to the Government of operating this wool guarantee system is illustrated in the following table:

<u>£ million</u>	<u>1973/4</u>	<u>1974/5</u>	<u>1975/6</u>	<u>1976/7</u>	<u>1977/8</u> (forecast)
	(-5.2)	(-4.3)	2.0	(-2.4)	(-2.2)

Source: Annual review of Agriculture (January 1978) from the Ministry of Agriculture Fisheries and Food.

Only in the 1975/6 marketing year did this scheme constitute a financial burden for the United Kingdom Government. In all other years receipt from wool sales more than compensated for payments made to the Wool Marketing Board.

The Wool Guarantee Price has been fixed at the following levels in pence per Kg.

<u>1976</u>	<u>1977</u>	<u>1978</u>
83.7	110	110

In 1977 actual payments to producers averaged 93.20 pence/Kg.

Source: British Wool Marketing Board, Rapport and Accounts (April 1978).

34. In Yugoslavia the type of flock husbandry and management is closely linked to the character of ownership. 2.5 per cent of all sheep are found in the social sector and 97.5 per cent in the private sector. In summer feeding is based exclusively upon grazing, and in winter consists of grazing in the Mediterranean part of the country, and of hay and concentrated feed in other areas.

35. In the south of Portugal herds of over 500 head are common. In the north, herds are from 100 to around 300 head. In the centre of the country milk ewes predominate and head size is around 50 and, along the coast, herds of 10 animals or less predominate. The system of feeding is based upon natural vegetation, but some supplementary feeding of hay and straw and, in some cases, of cereals is practiced, particularly in the case of milk production.

36. The sheep may be classified in Greece as follows:

1. Domestic sheep consisting of heads of 1 - 5 animals are fed mostly on foodstuffs.
2. Semi-domestic sheep are fed on a considerable amount of harvested feed but are also free to graze.
3. In range flocks, the sheep are reared on pasture and are not moved throughout the year.
4. Range sheep which are moved between summer and winter grazing lands.
5. Nomadic sheep belong to sheep owners with no permanent dwelling and both owner and flock move from summer to winter grazing and vice-versa.

37. In Turkey there are also sheep owners who migrate seasonally. There are three types of management.

1. Owners of large flocks who own the common pastures and manage their flocks of sometimes 400 - 500 independently.
2. Owners who migrate seasonally.
3. Some sheep owners have a shepherd to take care of their flock and some shepherds manage a number of flocks.

38. In Germany, flocks may be classified into three distinct production systems:

1. Large flocks (250+) under the full-time care of professional shepherds - these account for 75 per cent of all sheep but only 5 per cent of flocks.
2. Small flocks of 10 to 20 sheep kept as complementary grazing animals on cattle-producing farms - these account for 15 per cent of total sheep and 25 per cent of flocks.
3. Flocks of 1 to 4 sheep accounting for 10 per cent of sheep and 70 per cent of all flocks.

Lambs are marketed as (a) milk lambs at 3 to 6 months of age with carcasses weighing 15 to 20 Kg., (b) grass-fed lambs at 6 - 12 months with carcasses of 20 - 27 Kg., and (c) hoggets at 12 - 24 months.

39. In 1974 about 10 per cent of French farms kept sheep. Almost 50 per cent of the sheep are held on 10 per cent of the sheep farms. 85 per cent of farms are specialised in the production of sheepmeat and 6 per cent in the production of milk.

70 per cent of the herds are kept in the open air permanently or semi-permanently and this practice is increasing in importance. The rearing of sheep in the open is practised particularly in the west e.g. in Poitou - Charente, while the rearing of sheep indoors concerns the milk producing regions and in those areas of harsh weather such as Midi, Pyrenees and Aquitaine. In the region of Provence - Côte d'Azur around 44 per cent of the herds are involved in the practice of transhumance. But this tradition is declining in importance. The combination of cattle and sheep on the same farm is an important characteristic of French sheep rearing. In 1974 two-thirds of those farms rearing sheep also kept cattle and 55 per cent of all ewes are found on such farms.

(c) Production Systems

31. Production systems and farm practice in general vary considerably from region to region. Sheep are generally reared in the open air and acquire most of their feed from natural pasture. The major exception is the rather specialised production of milk from sheep. In countries such as France, Greece and Italy, ewes reared for the production of milk are generally kept indoors and fed with concentrated feed.

Transhumance is still practiced in France, Greece and Portugal but is declining in importance mainly because of the difficulties of finding suitable labour, of high transport costs and health problems.

32. In the United Kingdom and Ireland there is a strong link between lowland and mountain production. In the United Kingdom, on lowland farms, first cross ewes are brought from the Uplands for crossing with a Terminal Sire for the production of finished lamb. This is only one element in the very stratified system of sheep rearing in that country.

In Ireland, the lowland flocks are also crossbred for prime lamb production. The profitability of mountain production is very much dependent upon demand in the lowlands for "stores" for fattening.

33. The key characteristic of the Australian grazing industry, which includes prime lamb production, is its extensive nature. The absence of really severe winters precludes the need for winter housing. Prime lamb production, as with all sheep production outside the drier "pastoral zone", is usually associated with improved pasture with supplementary feeding being confined to winter when necessary and times of severe adverse seasonal conditions. Given the pasture based feeding system, the production of fat lambs in Australia is managed to take advantage of the spring pasture growth. Producers' flock husbandry is usually designed around spring lambing with the peak lamb turnoff period being summer to autumn.

40. In Ireland, summer feeding is based solely on grazed pasture. In wintertime the sheep usually continue to graze off the land but may receive additional feed in the form of arable by-products and moderate inputs of concentrate. The major production areas may be classified as follows:

In the Western Mountain Area, flocks are mainly Blackface Mountain pure-bred with natural mating and production is of store lamb. In the Eastern Hill Area flocks mainly consist of Wicklow Cheviot pure-bred and production is mainly store lamb but ewe flock size is larger than in the Western Mountain Area. Feeding consists of continuous grazing with small quantities of concentrate feed to ewes before lambing. In the Western Lowland Area, pure breeding of Galway sheep is practiced with an increased tendency to crossbreed. There is a mixture of stores to finished sheep produced and feeding consists of hay, small quantities of concentrates and continuous grazing. Finally, in the Eastern and Midland Areas flocks are crossbred for prime lamb production aimed at the early lamb market.

41. The New Zealand sheep industry is characterised by its extensive methods of production, with relatively low overheads and low inputs of labour and concentrated feed. Flocks remain in the open the whole year and feeding consists of grazing and hay or silage.

IV. TRADE IN SHEEPMEAT

42. Production and consumption of sheepmeat is highest in those countries where climatic and soil conditions are such as to permit a profitable system of extensive sheep rearing. While sheepmeat is consumed mainly in those regions where it is produced, nevertheless, the rate of self-sufficiency in sheepmeat in Australia and New Zealand - almost 250 per cent and 500 per cent respectively - is such as to allow considerable quantities for exportation.

43. These two countries account for 82 per cent of total world export of mutton and lamb or 88 per cent of OECD exports. Because of the exceptional export capabilities of Australia and New Zealand the proportion of sheepmeat entering world trade is as high as 15 per cent as compared to 8 per cent for all meats. In the OECD 34 per cent of sheepmeat production is traded as compared to approximately 12 per cent for all categories of meat. On the import side, the United Kingdom, Japan and France account for over 70 per cent of world imports of mutton and lamb. Trade in mutton and lamb is dominated by New Zealand's export of lamb to the United Kingdom, 210,067 tonnes in 1977, and Australian exports of mutton to Japan, 96,000 tonnes in 1976. There are also sizeable exports to the Middle East countries of both mutton and lamb and live animals. In 1976 Australia exported to these countries 55,000 tonnes of mutton and lamb plus 2.15 million head of sheep - while New Zealand exported 40,000 tonnes of mutton and lamb in 1977.

44. As the following table illustrates, Australian exports of mutton and lamb have more than doubled between 1966 and 1976. As production has remained relatively stable, this increase in exports is accounted for by the considerable decline in mutton and lamb consumption (-44 per cent). Consumption fell by 195,000 tonnes and exports increased by 200,000 tonnes.

<u>Australia</u>	<u>1966</u>	<u>1976</u>	<u>Variation</u>
Production (000 tonnes)	601	608	+ 7
Consumption (000 tonnes)	445	250	-195
Exports (000 tonnes)	158	358	+200
Self-sufficiency (%)	135	243	

Source: Meat Situation and Outlook. Bureau of Agricultural Economics - Canberra - Australia 1978.

There is, however, great variation in the level of Australian exports. In 1973, for example, exports were as low as 151,000 tonnes i.e. below the 1966 level.

45. New Zealand export increased steadily up to 1973 but dropped back slightly in 1974, 1975 and 1976. Since 1966, exports from New Zealand are more diversified and the quantity going to the United Kingdom totalled 210,067 tonnes in 1977 as compared to 255,560 tonnes on average between 1970 and 1974.

46. The fall in United Kingdom imports is explained by the fall in overall consumption of 26 per cent.

<u>United Kingdom</u>	<u>1966</u>	<u>1976</u>	<u>Variation</u>
	<u>'000 tonnes</u>	<u>'000 tonnes</u>	<u>'000 tonnes</u>
Production	272	249	- 23
Consumption	594	438	- 156
Exports	9	38	+ 29
% of Self-sufficiency	45.8 %	56.8 %	

Although the United Kingdom is the most important importer of lamb in the OECD, it is also the largest exporter of lamb in Europe - 38,000 tonnes in 1977 compared to 9,000 tonnes in 1966.

47. Within Europe, exports of lamb from the United Kingdom, Netherlands, Germany and Ireland of over 40,000 tonnes to France - represents over 85 per cent of all French imports. While imports to the European Community have not changed significantly, i.e. an increase of 8,000 tonnes, intra-EEC trade has showed marked changes.

<u>Exports ('000 tonnes)</u>	<u>1966</u>	<u>1976</u>
Germany	1	15
Ireland	23	9
Netherlands	7	16
United Kingdom	9	38
<u>Imports ('000 tonnes)</u>	<u>1966</u>	<u>1976</u>
United Kingdom	322	288
France	18	50
Belgium	3	15
Germany	4	39
Italy	11	30

48. Because of rising consumption in France, Germany, Belgium and Italy, imports have increased. On the other hand, exports from Ireland show a marked fall from 23,000 to 9,000 tonnes between 1966 and 1976. This fall is due to the decline in sheep numbers and production. Whereas the Netherlands, which is a small producer of sheepmeat and exports 94 per cent of all sheepmeat produced, increased its exports from 7,000 to 16,000 tonnes.

In other parts of Europe trade is relatively small, although Greece imports considerable quantities in certain years.

Greece

'000 tonnes	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
Production	82	84	84	89	91	96	99	106	112	115	116
Consumption	116	119	117	125	131	156	146	147	120	127	129
Imports	34	35	33	36	40	60	47	41	8	12	13
% Self-sufficiency	70	70	71	71	69	61	67	72	93	90	90

49. However, as the above table shows, exports of mutton and lamb have fallen considerably since 1973. In 1974, 1975 and 1976 consumption in Greece was approximately 20,000 tonnes below the yearly figure for 1971, 1972 and 1973. This fall in consumption, mainly due to price rises for lamb, is reflected in the reduced quantities imported.

50. The FAO Commodity forecasts up to 1985 suggest that the world availability of sheep and goatmeat for export will increase by 76 per cent on the 1972/74 average.

This projected increase should take place mainly in Australia and New Zealand.

<u>('000 tonnes)</u>	<u>Actual</u> <u>1972/4</u>	<u>Basic forecast</u> <u>1985</u>
Australia	172	490
New Zealand	418	530

51. World Imports are also projected to increase considerably but mainly in developing countries. Imports into the United Kingdom are expected to decline by over 100 per cent - 243,000 tonnes in 1972/4 to 110,000 tonnes in 1985. Finally, Japan is expected to increase its imports from 125,000 tonnes in 1972/4 to 180,000 tonnes in 1985.

V. MARKET CONDITIONS

52. Sheep farming in Australia specialises in wool production. Sheep numbers are determined by the price of wool and by the wool and beef/veal price ratio. The production of sheepmeat only plays a secondary role. In New Zealand wool and sheepmeat production are of equal importance, and stocks are also influenced greatly by the world price of wool.

53. The situation is very much different in Europe where meat is the prime objective in sheep rearing, although in the Mediterranean countries milk may be the dominant aim. In Northern Europe, therefore, the price of sheepmeat is the major influence on sheep numbers and the level of production, while in countries such as Italy, Greece and Southern France, the price of ewes' milk is the relevant factor.

54. Because of the divergent trade flows in mutton and lamb - New Zealand exports of lamb to the United Kingdom and Australian exports of mutton to Japan - there are two distinct markets for mutton and lamb and prices may diverge considerably. See Table below.

Saleyard price of mutton and lamb in Australia (cents per kilo)

	<u>Lamb</u> (13 - 16 kg.)	<u>Mutton</u> (18.5 - 22 kg.)
1970	38	18.9
1971	35.7	15.5
1972	40.1	21.5
1973	69.6	53.2
1974	68.5	35.3
1975	59.4	15.3
1976	61.2	19.1

Source: Meat Situation and Outlook Bureau of Agricultural Economics, 1978.

55. Within the EEC sheepmeat prices are determined primarily by the United Kingdom and French markets. Prices in the United Kingdom market are generally around 50 per cent below the French market prices.

The British market has normally had a direct influence upon the price level prevailing on the Irish market. Following levy-free access to the French market on the 1st January, 1978, however, the Irish and French prices are now closely aligned.

56. The French market determines the level of prices obtained by producers in those Member states which produce lamb suitable for the French market, i.e. the Netherlands, Germany and Belgium and, to some extent, Italy.

The French market, despite the import levy(1) system applied still provides the major outlet for the United Kingdom lamb export i.e. 16,000 tonnes in 1976 followed by the Netherlands 15,648 tonnes, and Germany 9,524 tonnes. Because of the interdependence of the continental market, United Kingdom producers benefit indirectly from the higher level of prices prevailing on the French market.

57. In Greece, market prices are regulated by means of import licences which may be suspended during that period of the year when the market is in oversupply. Since 1st January, 1978 the import of fresh meat is prohibited, and from mid-1975 the ceiling price on lamb was lifted.

58. In Portugal, the sheep sector does not benefit from any mechanism of market support. Maximum retail prices are fixed by the "Junta Nacional dos Productos Pecuários". The seasonality of supply has a destabilizing effect upon the producer price. In Turkey the producer has no role in the formation of prices and thus does not benefit from the continuous increases in the sheepmeat price. In Spain the price varies according to the type of product. The price of prime lamb may be close to four times higher than the price of mutton. There is also great seasonality in prices for the same type of animal.

59. It appears from this table that prices for mutton in Australia fell considerably in 1975 and 1976, mainly due to a fall in price for mutton on the Japanese market.

Year	Price (Australian cents per kg. f.a.s.)
1973	106.1
1974	72.4
1975	64.2
1976	79.2

f.a.s. = free alongside ship.

(1) The EEC applies a Common customs tariff on all imports of mutton and lamb, 15 per cent on live sheep and 20 per cent on mutton and lamb. In addition, France operates a levy system on imports while the United Kingdom maintains a deficiency payments system of market support.

The European Commission Institutions are presently discussing the possibility of establishing a common market organisation for sheepmeat with the 9 Member states.

Price in Europe appear to have been influenced by the varying rates of inflation in the different countries. The United Kingdom and Ireland record the highest increases and in these two countries the rate of inflation was, at times, the highest in Europe. See table.

60. The following table shows the development in prices of mutton and lamb between 1974 and 1978 in a selected number of countries.

1974 = 100

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>Actual price per kg.</u> <u>1978</u>
<u>Australia(1)</u>				
lamb	86.7	89.3		Australian cents
mutton	43.3	54.0	115.7	
<u>United Kingdom</u>				
lamb/hogget	109	147.5	177.7	138.8 pence
fat ewes	112	179.4	(228)(2)	92.28 pence
<u>Ireland</u>				
lambs/hoggets	109	149	162.5	121.25 pence
<u>Germany</u>				
all sheep	94.5	98.5		
<u>Netherlands</u>				
lamb	129.56	131.2	125.7	Fl.8.85
ewes	109	114.4	117.7	Fl.5.35
<u>Denmark</u>				
all sheep	136.7	138.6	147.7	D.Kr.6.50
<u>Sweden</u>				
lamb	107.5	116.8	131.56	S.Kr.15.67
ewes/ram	96.6	116	131.56	S.Kr.10.50
<u>Greece</u>				
lamb	106	135	150	Dr.71.56
mutton	108.4	130.5		
adult animals	105.4	128.7		
<u>Switzerland</u>				
lamb	100	100	100	Sw.Frs.5.20
ewes	100	100	100	Sw.Frs.4.65 - 5.15
<u>Portugal</u>				
lamb				Esc.55\$00
ewes				Esc.28\$00

(1) Australian saleyard prices of lambs 13 - 16 kg.
mutton 18.5 - 22 kg.

61. To compare producer prices in the different countries, prices in national currencies should be converted to a common numeraire. The most suitable is the European Unit of Account. The following table lists producer lamb prices in 1977 measured in units of account.

Germany	2.24	units of account
France	2.69	"
Italy	2.54	"
Netherlands	2.68	"
Belgium	3.15	"
United Kingdom	1.43	"
Ireland	1.56	"
Denmark	2.09	"
Sweden	2.59	"
Switzerland	1.49	"
Greece	1.43	"
Portugal	1.07	"
Spain	1.33	"

Germany: Hamburg - Lämmer und Hammel, Klasse A. 1977:
Mastlammfleisch LI - national average

France: Paris-Rungis - Moutons (weighted average) 1977
"France" quotations

Italy: Rome-Agnelloni - from January 1976: Agnelloni -
national average

Netherlands: Landbouw Economisch Instituut - national weighted
average

Belgium: St. Trond market - Mouton extra

United Kingdom: Smithfield

Ireland: Meat factories for MLC purposes - Lambs: 1977
Ministry of Agriculture

Denmark: Ministry of Agriculture - Lambs - 1st quality

Spain: lamb Cordero recental (of 2 to 3 months) Boletin
Mensual de Estadistica Agraria, 4th April Ministry
of Agriculture 1978.

Source: EEC figures, Commission of the European Communities,
DG for Agriculture.

62. This table shows that prices in the Netherlands, Germany, Italy and Belgium are close to the French price. This is due to the dependence of these countries on exports to France. While in the United Kingdom and Ireland prices are around 50 per cent of the prices on continental markets, prices in the United Kingdom are determined by the New Zealand import price of lamb and by the United Kingdom price of beef. The price of lamb in Greece, Portugal and Spain is relatively close to the EEC average price.

CONCLUSIONS

(a) Characteristics of the Sheep Farming Sector

63. Sheep farming is characterised by extensive methods of production involving relatively low inputs of both capital and labour. Some intensification may be achieved in lowland areas by improving the efficiency of land utilisation and flock management, but in mountain and hill areas only extensive sheep production is possible.

The sheep industry has remained a traditional industry, where there are few changes in farm practice from year to year and little if any innovation.

64. In lowland areas, sheep are generally unable to compete with other farm enterprises in terms of profitability. For this reason sheep lands have moved from the lowland areas and become concentrated in disadvantaged areas. Because of the concentration of sheep in these areas, especially in Europe, the sheep sector is subject to all of the structural problems associated with such regions: small size of farm, poorer quality of land, older average age of farmers etc.

65. In lowland areas of Europe, sheep are generally kept upon mixed farms and there is very little specialisation, except in the case of milk production. In mountain and generally less-favoured areas, there may be no alternative enterprise to sheep rearing. As the FAO study on cattle and sheep in the Mediterranean region of Europe points out:

"The tendency has been for such 'marginal' lands to go out of agricultural production. This applies particularly to the mountainous Mediterranean ones with their poor soil and alternation of hot dry summers and cold wet winters. Such land can only be exploited agriculturally either through forests or pasture, and the pasture can only be used by adapted breeds of cattle and sheep kept under extensive systems of management."

(b) Factors which inhibit the development of sheep production

66. The potential to develop sheep production does depend upon the general economic prospects for that sector: such as the price level, trading conditions etc. But the ability of the farmer to respond to price and market possibilities is restricted by many factors, some of which are of a purely technical nature.

1. Poor resources - small size of herd
- lack of suitable labour
- poor grazing land.

2. Poor management and unsuitable production systems.
3. Inadequate feeding.
4. Poor reproductive and growth rate performance of breeds.
5. Weight of lambs at slaughter.
6. Disease control.

67. However, in examining the responses of the Member countries to the OECD questionnaire, it is found that many countries emphasize the problem of poor farm management and the under-utilisation of feed resources as major inhibiting factors in developing production.

Because sheep production is becoming more and more concentrated on hilly and mountain areas, land is of a poorer quality and there is often a lack of sufficient and suitable grazing land and, thus, of proper feeding.

68. In the United Kingdom improvement of flock husbandry and management at farm level is considered an important factor in sheep production because of the wide gap which exists in the performance between the best flocks and the average. This gap may be due, among other factors, to lack of nutrition at critical periods.

The quality of management is seen as the major obstacle to expanding sheep production in Ireland. Poor resources, especially feed, are in scarce supply. The amount of land held in commonage is a contributory factor to the problem of grassland management.

In Turkey, because of economic reasons, the animals are not well fed or well kept. In small farms breeding activities cannot be applied.

"Animal production is low because of inadequate feed supply....". Much of the land is owned in common and is thus overgrazed.

In Portugal, government policy is aimed at improving productivity by the better use of feed.

In Greece, one of the major inhibiting factors to increased output is "lack of sufficient and proper grazing lambs especially in winter due to a continuous changeover to cultivated crops".

"A great portion of the country's grazing land is of low productivity and is overgrazed because of the absence of a system of management." Furthermore, the Greek soil - climatic conditions in many districts are not favourable for the development of self-growing vegetation.

(c) Suggested Theme for Joint OECD Activity to develop sheep production

69. When designing a research and development programme in the sheep sector account should be taken of the factors outlined in (A) and (B):

1. The Traditional nature of the Industry

Sheep rearing is a low-cost extensive system of production where farm practice is traditional and the application of modern technology has not kept pace with that applied in other live-stock sectors.

Farmers are not equipped to adopt technical innovations until such a time as they attain a reasonable level of farm management. Thus, before development on the farm is possible, the circle of traditional farm practices must be broken. Only by an on-the-farm development programme can farmers learn to alter their methods of production.

2. The concentration of sheep farms in less-favoured areas

Sheep farming has become concentrated in less-favoured areas in most countries. Many of these areas are in danger of depopulation and there is little if no alternative to sheep production in these regions. It is logical, therefore, that the stress of an OECD Joint Activity should be laid upon developing sheep farming in these areas, where farmers are most dependent upon sheep.

3. Analysis of Questionnaire Replies

In the responses to the questionnaire one can isolate "feeding" as the most important limiting factor in developing sheep production in most Member states.

One can, of course, also improve the system of sheep production by introducing new breeds of greater prolificity and live weight gain potential in less favoured areas. But such breeds must be adapted to the environmental constraints of the region.

It may be argued that because of lower productivity in general and indeed sheep losses, due to poor feeding, improving the management of feed resources can make a major contribution to developing sheep production.

70. Having regard to the foregoing, the following theme is proposed for a joint OECD activity in the sheep sector:

Improvement of sheep flock management methods to make better use of grazing resources in less favoured rural areas.

Given the constraints upon the sheep sector, such a policy is seen as the most effective approach to developing sheep production in the different Member states of the OECD and is likely to be of direct benefit to those farmers who are most dependent upon sheep production.

ANNEX I

SUMMARY ON SHEEP SECTOR IN SOME
OECD MEMBER COUNTRIES

AUSTRALIA
DENMARK
FRANCE
GERMANY
GREECE
IRELAND
LUXEMBOURG
NETHERLANDS
PORTUGAL
SPAIN
SWEDEN
SWITZERLAND
TURKEY
UNITED KINGDOM
YUGOSLAVIA

AUSTRALIA

A. THE MARKET

The rise in the sheepmeat to beef price ratio over recent years has been accompanied by a shift in the composition of meat consumption in Australia. Both total and per capita mutton and lamb consumption has declined while the consumption of beef has increased. This recent change in the composition of meat being consumed in Australia is seen as largely a reaction to relative price movements rather than a fundamental change in consumer tastes. Prospective trends in sheepmeat consumption can be expected to depend basically on future retail price movements. As it is likely that the sheepmeat to beef price ratio will fall slightly in the medium term, mainly due to an expected recovery of the price of beef, it seems reasonable to expect that the current per capita consumption of sheep meat will be maintained or show a moderate increase. See Table I.

There appears to be no real evidence that the recession during the mid-1970s adversely affected the meat consumption in Australia. In fact, per capita meat consumption was higher during 1975 and 1976 than at any time over the last two decades. This high level, however, is not expected to be maintained as it was associated with the low export levels and relatively low domestic meat prices.

Very little sheepmeat is imported into Australia while large volumes are exported each year. See Table 2.

B. SHEEPMEAT PRODUCTION

After attaining a very high level in the early 1970s the total production of mutton and lamb dropped dramatically to a low in 1974 and 1975. In contrast, Australian production of beef and veal has increased substantially over the past decade. See Table 3.

C. THE SHEEP FLOCK

Prime lamb in Australia is produced using first crossbred or second crossbred lambs. First cross lambs are produced from Border Leicester lambs crossed with Merino ewes. While neither of these are specialist fat lamb breeds, the combination has been found to be suitable for lamb production in the drier, more marginal areas and first cross ewes are mated to short wool British breed rams (for example, Dorset Horn, South Down or Ryeland) to produce second cross lambs. These British breeds are specialist meat-type rams producing fast-maturing lambs with good carcass composition. Most prime lamb production in Australia consists of second crossbred lambs in the higher rainfall areas.

Note that prime lamb production is a relatively small facet of sheep production in Australia. Only 10.9 per cent of the total flock is crossbred. There are only a few specialist

prime lamb-producing areas (for example, Oberon Shire, M.I.A.). The more usual situation is for prime lamb production to be only part of the farm enterprise with the other activity being wool production and/or mixed cropping.

D. PRODUCTION SYSTEMS

The key characteristic of the Australian grazing industry, which includes prime lamb production, is its extensive nature. Farm structures are similar for all sheep grazing properties - yards with sheep-dip, shearing shed, fencing and supplementary food storage facilities (hay/grain), sheds. The absence of really severe winters precludes the need for winter housing.

Flock husbandry centres around disease control (crutching, drenching and dipping etc.) and feeding and breeding management ("flushing ewes, marking, docking and immunisation"). Prime lamb production, as with all sheep production outside the drier "pastoral zone" is usually associated with improved pasture with supplementary feeding confined to winter when necessary and times of severe adverse seasonal conditions.

Given the pasture-based feeding system, the production of fat lambs in Australia has managed to take advantage of the spring pasture growth. Producers' flock husbandry is usually designed around spring lambing with the peak lamb turnoff period being Summer to Autumn.

E. PRODUCER ORGANISATIONS

Federal organisations:

- (1) Australian Wool Growers and Grazers Council;
- (2) Australian Wool and Meat Producers Federation;
- (3) Australian National Cattlemens Council.

F. INHIBITING FACTORS IN DEVELOPING PRODUCTION

The major health problems associated with sheep production in Australia are found in the regions of higher rainfall with the exception of Cutaneous Mycosis which occurs throughout the sheep-producing regions. The principal health problems are Cutaneous Mycosis, Lice and Sheep Ked, Internal Parasitism, including Liver Fluke and muscle damage due to immature forms, Foot Rot, etc.

G. OBJECTIVES AND PROGRAMMES IN SHEEP DEVELOPMENT POLICY

- (a) Bureau of Agricultural Economics: The basic objective of the B.A.E. research into the production of sheep-meat within Australia and its marketing is to produce information which will:

- (1) Aid producers in making entrepreneurial decisions and

- (2) Provide a more comprehensive basis for the development of Government decisions relating to sheepmeat production. As such, it forms only a relatively small part of research into the Australian rural production.

Some of the B.A.E. related ongoing research projects may be listed as follows:

- (i) The economic relationships between markets for Australian livestock products and disease eradication or control.
- (ii) Demographic models of the beef and cattle industry.
- (iii) The impact of the expanding live sheep and sheepmeat markets in the Middle East on the structure of the Australian sheep industry.
- (iv) Structural pressures and producer responses i.e. structural adaptation in the Australian sheep industry.
- (v) Prime lamb production in Australia 1974-75 and 1975-76.

(b) Commonwealth Scientific and Industrial Research Organisation:

As sheepmeat includes mutton wether meat and prime lamb, it may be argued that all sheep research programmes (nutrition, breeding for wool and meat, reproduction, disease and parasite control etc.) are related to or affect the viability of the sheepmeat industry. C.S.I.R.O. have a multitude of research projects in operation on various aspects of sheep production.

TABLE 1
MEAT CONSUMPTION

	Consumption (i) ('000 tonnes)				Per capita Consumption (ii) (kg per annum)				Percentage Consumption (iii) By volume of carcass meat			
	1973- 1974	1974- 1975	1975- 1976	1976- 1977p	1973- 1974	1974- 1975	1975- 1976	1976- 1977p	1973- 1974	1974- 1975	1975- 1976	1976- 1977p
Mutton and Lamb	330	336	337	250	24.9	27.1	24.7	17.9	33.9	25.5	24.5	20.0
Beef and Veal	552	881	969	926	41.6	65.4	71.2	66.2	56.7	66.9	70.4	74.0
Other (piguat)	90	70	69	75	6.8	5.2	5.1	5.4	9.2	5.3	5.0	5.9
Total Carcass Meat	973	1317	1375	1251	73.3	97.8	101.0	89.5	100	100	100	100
Total Processed Meat	142	140	129	117	10.9	10.6	9.6	8.6				

Source: ABS Ref. No. 10.74 September 1977 "Meat Statistics June Quarter 1977".

p. = provisional

TABLE 2I. EXPORTS OF FRESH, FROZEN AND PROCESSED MEAT
('000 Tonnes)

	1972-73	1973-74	1974-75	1975-76
Beef and Veal	826	730	633	801
Mutton and Lamb	188	107	123	195
Other (pigmeat)	20	8	1	5
Processed Meat	23	23	15	21
TOTAL ALL MEAT	1,057	868	772	1,022

Sources: ABS. Ref. No. 10.54
"Meat Statistics 1975-76".

II. EXPORTS OF LIVE ANIMALS ('000)

	1972-73	1973-74	1974-75	1975-76
Cattle and calves	9.5	24.8	11.2	23.4
Sheep and lambs	1,134.7	1,060.5	1,448.9	1,844.9
Pigs	1.2	1.1	.5	.3
TOTAL	1,145.5	1,086.3	1,460.7	1,868.5

Source: ABS. Ref. No. 10.54.
"Meat Statistics 1975-76".

TABLE 3III. PRODUCTION OF MEAT BY TYPE ('000 Tonnes)

	1972-73	1973-74	1974-75	1975-76
Beef and Veal	1,438	1,310	1,534	1,838
Mutton and Lamb	713	456	520	588
Other (pigmeat)	236	211	175	174
TOTAL	2,388	1,977	2,228	2,543

Source: ABS. Ref. No. 10.54
"Meat Statistics 1975-76".

DENMARK

A. THE MARKET

After a reduction in domestic offtake of sheepmeat during the 1940s and early 1970s consumption is now on the increase again. According to official figures consumption per capita only 260 grams in 1974 but increased to 430 grams in 1976. Almost the entire consumption is lamb while a good proportion of the ewes find ready buyers among the emigrant workers and are not included in the official figures.

Because of heavy advertisement by New Zealand, lamb is now placed as a "fashionable" dish for the young generation, while others still think of sheepmeat as having a "woolish" taste. It is estimated that there will be an increased consumption of lamb with increasing standards of living, despite the fact that lamb is a relatively low cost meat.

The lamb market is totally dominated by imported lamb from New Zealand which in 1976 supplied about 75 per cent of the total import and about 63 per cent of the total consumption of sheepmeat in Denmark. In 1977 the New Zealand share was even higher. The other major supplier to the Danish market was Iceland. Iceland supplies almost entirely carcasses, while New Zealand sends an increasing volume of lamb cuts.

The export trade is dominated by a good trade in live lamb with West Germany, where the slaughter costs are lower and the market prices higher. In 1976 the total export of live sheep was 9,289 head, while the total Danish slaughterings were 21,000 head.

The wholesale price for domestic "spring lamb" (6-8 weeks old) are normally about 25 Kr./Kg. carcass weight and are generally falling to about 15 Kr./Kg. during October/November.

B. PRODUCTION

The output of sheepmeat has up to now been declining slightly, but it is expected that production will increase, when the domestic sales prices will be influenced by the opening up of the French market for Danish lamb. However, it is not expected that sheepmeat production in Denmark will be a major industry in the foreseeable future.

C. THE SHEEP FLOCK

The Danish sheep flock fell to its lowest level in 1972 with 52,000 head, of which 24,000 head were breeding ewes, but has since 1974 been stable at about 60,000. As sheep are normally kept as a "hobby" for farmers and especially by city people, who have purchased a small farm in the country, the average size of the breeding flock is only about 8-9 ewes. Commercial units only exist in the south-western part of Jutland close to the German border. Here the average size is about 25 ewes. About 90 per cent of the economic return to the sheep owners stem from sales of meat and only 10 per cent from sales of wool.

The major breed is the Texel with about 25 per cent of the population followed by a local breed (Hvid Marsk) with 20 per cent, while Oxforddown, Shropshire and Leicester each have about 10 per cent of the population.

D. PRODUCTION SYSTEMS

As most sheep are kept as a "hobby" no farmers are fully dependent on sheep for their income. The normal production system is that the ewes are kept indoors during the winter period (December-March), where the lambing takes place and the lambs are sold off grass from May through to November. More than half of the yearly slaughters take place in October/November. In the major production area close to the German border a major proportion of the lambs are sold for slaughtering in Germany.

E. ORGANISATION OF PRODUCTION

There is only one producer group - Dansk Fareavl - which supervises the breeding and also represents the breeders in policy questions. There is no specialisation in the feeding systems and there is nobody who purchases lamb for fattening.

F. INHIBITING FACTORS IN DEVELOPING PRODUCTION

The major inhibiting factor for increased production is the price paid to farmers. However, the tradition in farming circles where sheep holders have a rather "comic" reputation, does play an important role.

G. OBJECTIVES AND PROGRAMMES IN SHEEP DEVELOPMENT POLICY

There is no official development policy in Denmark for the sheep sector.

FRANCE

A. CONSUMPTION AND PRODUCTION

Domestic consumption increased from 151,000 tonnes in 1970 to 198,000 tonnes in 1977. At 3.7 kg. per annum it represents 4.45 per cent of per capita consumption of all meat.

Domestic production (143,000 tonnes in 1977) did not increase at the same rate as demand, and imports expanded from 36,000 tonnes to 55,000 tonnes per annum. The main product is lamb of 4 to 6 months averaging 16 to 18 kg. dead weight.

B. THE SHEEP FLOCK

The total number of sheep was 10,945,000 head in 1976, of which approximately 6,200,000 were breeding ewes, including 785,000 for regular production.

In 1975, 76 per cent of the ewes were single-purpose for meat and 11 per cent for milk.

26 per cent of the total ewes belonged to two breeds: Lacame (14 per cent) and Southdown (12 per cent).

The sheep population is concentrated in the southern half of France, which has approximately two-thirds of the flock and where concentration seems to be increasing since 1970.

In 1974, 10 per cent of French farms had sheep. In 1975, 50 per cent of breeding ewes were in flocks of less than 100 head and 6 per cent in flocks of over 500 head. Between 1970 and 1974 there was an increase in the number of flocks of over 100 head and in their size.

As far as performance is concerned lambing rate was 116.3 per cent in 1974 while productivity on a weight basis (weight of lamb produced per actual ewe) was 27 kg

In the same year average milk production of milked sheep was approximately 100 litres.

The weight of unwashed wool per fleece averaged 2 kg.

C. PRODUCTION SYSTEMS

Of all farms with sheep, 53 per cent have flocks of less than 20 head totalling 9 per cent of the ewes, while 3 per cent of farms have 26 per cent of the ewe total in flocks of over 200 head.

Milk production involves 6 per cent of sheep farms while 85 per cent are single-purpose for meat (1975) with average ewe numbers respectively of 77 and 36 head. The most widespread system of husbandry is in the open i.e. 55 per cent of farms and 49 per cent of numbers. Production in sheds is practised by 29 per cent of farms with 32 per cent of the numbers but is

declining in favour of full-time or part-time production in the open. 86 per cent of farms are in non-migrating flocks. Approximately half of flock of the Provence-Côte d'Azur region is migratory but this type of husbandry is decreasing rapidly. A combination of cattle and sheep on the same farm is very widespread and in 1974 this applied to almost two-thirds of farms with sheep and 55 per cent of the ewes.

D. PRODUCER ORGANISATION

In 1976 there were 76 sheep producer groups, accounting for 20 per cent of production. These groups mostly concern producers with more than 200 ewes. The groups encourage dissemination of modern production techniques but have not yet secured control of the meat market.

E. FACTORS LIMITING INCREASED PRODUCTION

The majority of farms with sheep are units of small economic size. Certain areas achieved increased sheep production after the introduction of silage and controlled grazing techniques but the farms concerned are mainly medium-sized family holdings. Increased production seems mainly connected with the simultaneous existence of a large local demand and a high degree of concentrated production practising intensive feeding.

F. DEVELOPMENT POLICY

Research programmes are concerned on the one hand with improving productivity in females by increasing prolificacy and the reproduction rate, reducing mortality among lambs and achieving a higher slaughter weight and, on the other hand, with methods of maintaining sheep production in difficult regions. Improvement programmes are being developed in genetics (selection and artificial insemination), feeding (silage and use of by-products), health (mastitis and diseases causing abortion), management (technical and technico-economic records) and buildings

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GERMANY

A. THE MARKET

Per capita meat consumption in Germany rose to 84.4 kg. in 1976 as compared to 82.8 kg. in 1975. Per capita consumption of sheepmeat is 0.6 kg. or 0.7 per cent of all meat consumed. In 1970, Germany imported 5,400 tonnes and exported 2,400 tonnes of sheepmeat in fresh, chilled and frozen form. In 1976, imports increased to 24,700 tonnes and exports to 8,400 tonnes. Furthermore, imports of live sheep increased from 3,700 head in 1970 to 386,200 head in 1976 while exports rose from 105,600 head to 292,000 head in 1976. Table 1 shows the trend in the producer price for fat lamb meat. Table 2 illustrates that between 1971 and 1976 consumption rose from 13 to 39,000 tonnes of mutton and lamb while production only increased from 11,000 to 14,000 tonnes. This has led to a widening gap of 25,000 tonnes in 1976 as compared to 2,000 tonnes in 1970 which must be filled by imports. The seasonal pattern of production is indicated by Table 4.

B. THE SHEEP FLOCK

The average flock size varies from 325 sheep in the migratory flocks to 12 sheep in the "unfarmed" flocks.

Almost 75 per cent of all sheep are to be found in fewer than 5 per cent of all sheep rearing enterprises. The migratory sheep raising system continues to play an important part in the south of the country, accounting for 35.7 per cent of the sheep stock. The indoor sheep rearing systems which account for 17 per cent of all sheep continues to grow particularly in the flocks of sizes 1-4 sheep.

The shares of the different breeds in the total sheep stock are shown in Table 3.

The five most important breeds:

- Local Merino
- the German Black/White Head Mountain Sheep, Texel and Merino Mutton sheep

together account for 90 per cent of the total sheep stock. Next, in order of importance are the Milk Moorland and Mountain sheep. The share of crossbred sheep is nearly 7 per cent. The following tables show the relative importance of the different types of sheep-rearing enterprises and, secondly, sheep slaughtering in 1976 on a seasonal basis.

C. RESEARCH PROJECTS IN SHEEP BREEDING AND FARMING

With the renewed growth in German sheep farming an increasing number of University and research institutes have initiated research projects of varying scope in recent years in the field of sheep breeding and farming.

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The trend in the Producer Prices for lambmeat.

TABLE 1

	<u>1975</u> DM./kg.	<u>1976</u>	<u>1977</u>
West Germany	7.23	7.40	7.44
North Germany	7.23	6.85	6.85
South Germany	6.77	7.15	6.88

TABLE 2

	<u>1971</u>	<u>1972</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
<u>Gross Domestic</u> <u>Produce (000T)</u>	11	12	12	13	14
<u>Consumption</u> <u>(000T)</u>	13	19	24	35	39
<u>Per Capita</u> <u>Consumption</u> <u>Kg./Head</u>	0.2	0.3	0.4	0.6	0.6

The much larger rise in consumption vis-à-vis production has led to a widening gap of 25,000 tonnes in 1976 as compared to 2,000 tonnes in 1970 which must be filled by imports.

TABLE 3

	<u>Total 1976</u>		<u>Pedigree Sheep</u>
Local Merino	465.7	42.65	10.670
Black-head mutton	282.081	25.85	13.988
White-head mutton	102.725	9.41	3.210
Texel	75.744	6.94	12.535
Merino Mutton	34.047	3.12	3.836
Blue-head mutton	1.023	0.10	576
Milk Sheep	24.764	2.27	1.601
Moorland Sheep	16.981	1.56	1.110
Rhön Sheep	3.424	0.31	983
Mountain Sheep	10.644	0.98	634
Leine Sheep	1.020	0.09	562
Local Beneth Sheep	800	0.07	95
Other	451	0.04	491
Cross-breed	72.100	6.61	-
TOTAL	1.091.261	100.00	50.291

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TABLE 4

<u>MONTH</u>	<u>Sheep Slaughterings</u>		<u>'000 head 1976</u>
	<u>COMMERCIAL</u>	<u>ON-FARM</u>	<u>TOTAL</u>
January	32.4 (6.5)	7.7 (7.9)	40.1 (6.8)
February	30.8 (6.2)	6.5 (6.7)	37.3 (6.3)
March	33.2 (6.7)	6.1 (6.3)	39.3 (6.6)
April	44.4 (9.0)	7.5 (7.7)	51.9 (8.8)
May	31.4 (6.3)	5.1 (5.2)	36.5 (6.2)
June	33.9 (6.8)	4.25 (4.3)	38.1 (6.4)
July	44.4 (9.0)	6.1 (6.3)	50.5 (8.5)
August	49.6 (9.9)	6.3 (6.5)	55.4 (9.3)
September	51.4 (10.4)	9.0 (9.3)	60.4 (10.2)
October	44.7 (9.0)	11.3 (11.5)	55.9 (9.4)
November	53.3 (10.7)	13.8 (14.2)	67.1 (11.3)
December	47.1 (9.5)	13.7 (14.1)	60.8 (10.2)
	<u>496.1 (100)</u>	<u>97.2 (100)</u>	<u>593.3 (100)</u>

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TABLE 5

	<u>FIXED LOCATION OF FARM FLOCKS</u>				<u>MIGRATORY FLOCKS</u>		<u>FIXED LOCATION ON FARM FLOCKS</u>		<u>TOTAL</u>
	<u>States</u>	<u>Municipality and Co-operative</u>	<u>District Shepherds</u>	<u>Dykes</u>	<u>Individual Flocks</u>	<u>Large Scale</u>	<u>1-4 sheep Flocks</u>	<u>Paddock</u>	
Units	158	29	999	365	396	210	43,047	12,388	61,179
Sheep	84,537	8,934	261,745	67,510	275,780	115,728	94,478	163,476	1,090,181
<u>% Dist. of Sheep</u>	7.6	0.8	24.1	4.4	25.1	10.6	3.7	16.8	100

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GREECE

A. THE MARKET

Sheepmeat consumption amounted to 10.1 kg. per head of population in 1976 and represented a decline as compared with the figure for 1972-1973. Before the Second World War it represented more than 50 per cent of all meat consumption whereas at present it is only about 15 per cent. No increase in consumption is foreseen in the coming years.

Total consumption was 93,000 tonnes in 1976, of which 15,000 tonnes were imported frozen. Prices were limited by a ceiling until 1975. They also vary greatly between lamb and adult mutton: respectively Dr.103.95 and Dr.57.32 per kg. of carcass in 1976. The seasonal nature of lamb production causes a slump in prices from January to April.

B. PRODUCTION

Production, which increased after 1972, seems to be stabilizing since 1975-1976 (78,000 tonnes). There is no system of carcass classification and retail prices do not distinguish between the various cuts apart from head and offals.

C. THE SHEEP FLOCK

The sheep population numbered 8,135,000 head in 1976 after reaching its highest figure in 1974, i.e. 8,400,000 head. Pure-bred local breeds are very common, representing 57 per cent of the flock in 1975. Among the most numerous may be noted the Vlahiko and Karagouniko breeds belonging to the Zackel type, accounting for approximately 35 per cent of the total flock. Apart from a few thousand lambs of improved foreign or local breeds, the remainder of sheep population is made up of various non-controlled crosses. The main type of production is milk, with an average yield of 87.5 kg. per female in 1976. Some single-purpose breeds can reach 200 kg. (Chios, Skopelos, Kyne, Zakynthos). Only exceptionally are there flocks for meat production along.

Average production per ewe in carcass weight terms was 10.8 kg. in 1976. Wool production is an inadequately exploited outlet and the average per ewe is 1 kg.1.

D. PRODUCTION SYSTEMS

The 1971 census showed that 40 per cent of farms had 3 per cent of the total in flocks of less than 5 head, and 8 per cent of farms had 44 per cent of the total in flocks of over 100 head. The sheep flock therefore represents a source of income for a very large number of farms, of which a considerable proportion is in mountain and hill areas. Since then the number of small farms has fallen while medium and large farms have increased. This trend seems likely to continue.

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There are several types of flock husbandry:

- indoor production for certain small flocks (1 to 5 head);
- semi-outdoor;
- outdoor, with or without migration under the control of a shepherd for community flocks at village level;
- nomadic production, which is tending to disappear.

Upgrading is usually done by the shepherd; an organisation is now being set up to develop genetic improvement; at present 1 per thousand of animals are under performance control. Artificial insemination has developed since 1960 and at present involves 186,000 ewes. Breed improvement crossings are made on local breeds (mainly Friesian) and commercial crossings are practised on various foreign breeds.

There is little complementarity between areas, lambs being reared and slaughtered at place of birth. Approximately 70 per cent of lambs are slaughtered between January and April, mostly by the producers themselves.

E. PRODUCER ORGANISATION

Attempts have been made to group sheep producers. Ten associations of at least three producers each have been established but results so far are poor.

F. FACTORS LIMITING INCREASED PRODUCTION

The main factors which curb increased sheep production are:

- lack of incentive among young peasants to become shepherds;
- the difficulty of paying shepherds a fair wage;
- lack of grazing lands particularly in winter because of the continuous trend towards crop production.

A large proportion of the grazing lands are of low productivity particularly because of over-grazing, connected with the inefficient management of these areas.

The part played by grazing in sheep feeding resources makes performance closely dependent on rainfall and winter conditions in mountainous areas. As far as health is concerned remarkable progress has been made in recent years, enabling losses to be considerably reduced. Programmes are under way for campaigns against antibrucellosis and internal parasites.

In connection with the market and the organisation of producers, mention must be made of the smallness of farms which helps to increase production costs, the lack of incentive among producers to form associations and the fact that consumer tastes oblige the producer to kill young lambs, thus reducing the possibility of improving income by increasing the weight of carcasses.

G. OBJECTIVES AND PROGRAMME OF SHEEP PRODUCTION DEVELOPMENT POLICY

Sheep production is very important to Greece because it offers one of the few possibilities of exploiting the resources of mountain and hill areas. It makes the greatest contribution to the gross product from livestock, accounting for 28.3 per cent.

Improvement programmes are designed for both milk and meat production. Objectives for meat are:

- improved reproduction: prolificacy, lambing regularity;
- improvement of lamb carcasses;
- increased average carcass weight.

There are specific research programmes supporting these objectives:

- experiment with the most useful local breeds in research stations;
- development of genetic improvement programmes for local breeds on a regional basis;
- programme for the development of new high-performance breeds geared to meat production;
- experiments with commercial crossings to permit improved meat production.

In the development field there is a programme of incentive measures designed to:

- help producers to acquire production facilities through a subsidy of 40 per cent of the costs;
- encourage the use of improved rams (a subsidy of 50 to 70 per cent of the value of the animal);
- encourage maximum use of females of the best local breeds, whose numbers are small (Chios and Skopelos);
- develop artificial insemination;

- promote the migration of flocks;
- encourage the maintenance of sheep in mountain areas and the islands.

The main criteria for granting this aid are that the farm must itself provide at least 50 per cent of the necessary feed and that the work be carried out by family help alone.

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IRELAND

A. THE MARKET

The total consumption of sheepmeat in Ireland has averaged 33,000 tonnes over the period 1973 to 1976. Per capita consumption is exceptionally high both by European and world standards, exceeded in Europe only by Iceland and Greece. The absolute level of per capita consumption has averaged almost 11 kg. over recent years but there is evidence of a declining trend. Between 1973 and 1975 sheepmeat has not maintained its relative position within total meat consumption.

Exports of sheepmeat have been declining in recent years. With the domestic demand stable and production declining, the quantity available for export has been contracting. Almost 12,000 tonnes of mutton and lamb were exported in 1973 but by 1976 this had dropped to 7,000 tonnes.

While agricultural prices in general in Ireland rose rapidly from the date of EEC entry, sheep prices moved slowly, increasing by only 10 per cent between 1973 and 1975. A significant increase occurred from 1975 to 1976 with a moderate increase in 1977. Prices in the domestic market rose sharply at the beginning of 1978, as a result of the opening up of the French market.

B. PRODUCTION

The sheepmeat sector in Ireland has been declining in recent years. Sheep numbers dropped by 0.73 million between 1973 and 1977 and the drop in production has been commensurate with this decline in the flock. This development has been attributed to a loss of confidence in the sector caused by a declining relative profitability as other producer prices rose rapidly. Sheep production, particularly in lowland areas, was unable to compete in terms of profitability with other agricultural enterprises competing for the same resources. However, since the 1st January, 1978, Ireland has enjoyed a levy-free access to the French market and discussions are being held concerning the establishment of a Common Agricultural Policy in the EEC. These factors, combined, have resulted in renewed confidence among producers. It is now felt that an expansionary phase is beginning in the Irish sheepmeat sector. Production is expected to expand substantially over the next few years, although the necessity of rebuilding the breeding stock means that the expansion will not be immediate.

C. SHEEP FLOCK

Sheep flock may be classified as follows: Blackface Mountain with 33.5 per cent of the total, Galway with 28.9 per cent, Wicklow Cheviot with 19.3 per cent and others (mainly Suffolk) with 18.3 per cent of the total:

Table I

Ewe numbers in Ireland (June 1975)

Breed Type	No. (000 head)	% of Total
Blackface Mountain	565.5	33.5
Galway	487.5	28.9
Wicklow Cheviot	325.6	19.3
Others (mainly Suffolk)	309.1	18.3
Total	1,687.7	

D. SYSTEMS OF PRODUCTION

There are four main production areas:

- (1) Western Mountain Area - flocks are mainly Blackface Mountain, bred pure with natural mating and a pastoral system of nutrition. Production in this area is basically of store sheep.
- (2) Western Lowland Area - traditionally pure breeding of Galway sheep with an increasing tendency to crossbreed using a Suffolk sire. Feeding consists of hay, and small quantities of concentrates with continuous grazing. Stores to finish sheep are produced in the ratio 3:1 approximately in this area.
- (3) Eastern Hill Area - flocks of Wicklow Cheviot are bred pure. Production in the main is of store lamb. Ewe flock size is larger than in the Western Mountain Area, feeding consists of continuous grazing on hills and uplands with small quantities of concentrates fed to the pregnant ewes prior to lambing.
- (4) Eastern and Midland Area - flocks are cross-bred (mainly Suffolk cross) for prime lamb production aimed at the early lamb market. Some synchronisation with natural mating is practised.

Winter nutrition is based on grazed pasture and arable by-products with moderate inputs of concentrates. Summer nutrition is based solely on grazed pasture with creep-feeding of lamb practised on a limited scale. In larger flocks, housing of ewes on slats (either covered or open) is sometimes practised.

E. INHIBITING FACTORS IN PRODUCTION

In mountain and hill areas - the main factors which inhibit the expansion of sheep production are poor resources, a high proportion of common land, poor reproductive and growth rate performance and very high sheep losses. While in lowland areas, competing alternative enterprises, inadequate technical and managerial ability on the part of the producers, all inhibit production. The main factors which affect the health of the sheep flock arise from parasitic disease - Liver fluke, Stomach and Bowel worms, Fly Strike and Sheep Scab.

F. OBJECTIVES AND PROGRAMMES IN SHEEP DEVELOPMENT POLICY

The main objective of production development is to produce lambs of a quality which would attain the highest price on continental markets. A programme of advice to producers on the breeding and feeding of animals to meet this objective is in progress.

The following is a list of development programmes which have been operated in Ireland for some years;

(1) The Galway Breed improvement Programme

The Galway breed and crosses thereof constitute almost 30 per cent of the National ewe flock. Litter size of the Galway breed is in the region of 1.40. The Galway Breed Improvement was initiated in 1969 and has as its prime aim the increasing of prolificacy (litter size) in the Breed.

(2) The Suffolk Breed Improvement Programme

The Suffolk is the predominant fat lamb sire in Ireland, being used as a crossing sire on lowland ewes to produce early mid-season fat lamb, and to a lesser extent with some of the mountain breeds, especially the Wicklow Cheviot, to produce mid to late season lamb. The Suffolk ram, therefore plays a very significant role in Irish sheep production and the object of the Suffolk Breed Improvement Programme is to bring about a genetic improvement in the growth rate and carcass quality of the Breed.

(3) The Premium Ram Schemes

These schemes consist of the payment of grants to selected applicants towards the purchase of high quality premium rams of the Suffolk, Galway, Border Leicester, Blackface Mountain and Wicklow Cheviot Breeds. The total number of ram premiums awarded in 1977 was 720.

(4) Special term ram scheme in Congested Districts

Each year the Department of Agriculture purchases a number of premium rams of selected breeds; these rams are then resold to selected flock owners on small holdings in the "Congested Districts". The latter are those areas of the country where there exists a poor land structure. The purpose of the scheme is to make good quality rams available to small flock-holders.

(5) The Leased Ram Scheme

This scheme is operated by the Department of Agriculture for the purpose of making expensive high class rams available to selected small pedigree breeders or groups of breeders in order to improve the quality of their flocks. Each year these rams are leased to breeders at an annual fee of about 11 per cent of the cost of the ram.

(6) EEC Directive 268/75 (see Annex III)

Following the introduction of the EEC directive for disadvantaged areas in 1975, there is a scheme for the payment of subsidies on Hogget ewes and Mountain lambs in these areas.

LUXEMBOURG

A. THE MARKET

Consumption of sheepmeat has risen to around 350 tonnes per annum which corresponds to a per capita consumption of 1 kg. Consumption has risen slightly during the last few years. From the point of view of quality, sheepmeat is considered a luxury product. Thus, the increase in the consumption of meat does not depend upon market prices or the economic situation but mainly on the quality of the meat offered on the market. Two hundred and ninety-six tonnes of lamb are imported each year, the greatest part of which consists of carcass lamb of 18-22 kg. In general, the imported lamb is less expensive than that which is produced internally.

B. PRODUCTION

Since 1970, production has remained constant at around 60 tonnes per annum. Eighty per cent of production is of lambs of weights 20-25 kg, slaughter weight - 20 per cent from ewes.

C. THE SHEEP FLOCK

The total sheep flock number is 6,000 head, 90 per cent of which is of the Texel Breed. There are five herds of 100-150 sheep. The remaining herds mainly consist of less than 30 animals.

D. SYSTEMS OF PRODUCTION

The sheep remain outdoors most of the year, and feeding consists mainly of grazing and in winter some hay. A natural system of mating is practised. Most production comes onto the market from August to November.

E. ORGANISATION OF PRODUCTION

There are no producer groups.

F. INHIBITING FACTORS IN DEVELOPING PRODUCTION

There are around 30 rearer/fatteners who are concerned with sheep production, but for the most part sheep production is of little interest. At the same time consumption of lamb is very low in Luxembourg.

G. OBJECTIVES AND PROGRAMMES IN SHEEP DEVELOPMENT POLICY

Sheepmeat production plays only a marginal role in the agricultural sector in Luxembourg. There is no specific policy for this sector and no research programmes in operation.

The Flockbook Texel and Department of Animal Production of the Ministry of Agriculture advise farmers on the technical problems of sheep rearing.

NETHERLANDS

A. THE MARKET

Per capita consumption of sheepmeat has remained at 0.2 kg. between 1974 and 1976 and is likely to remain at this level. Sheepmeat occupies a very small part of total meat consumption.

B. PRODUCTION

Between 1974 and 1976 production has only increased by 200 tonnes from 15,000 to 15.2 thousand. Following are the different types of products: 15-20 per cent of the slaughterings is of lambs fed by the ewe until about 3 months, 50-60 per cent are 3-10 month old lambs fed on pasture, 15-20 per cent are lambs about one year old fed on pasture and 10-15 per cent are older sheep.

C. THE SHEEP FLOCK

The total sheep flock in 1976 was 780,017. The main domestic breed is the Texel, which represents 99 per cent of total breeding females. The average flock size is 16 breeding ewes and 21 fattening animals.

D. THE PRODUCTION SYSTEMS

The following table illustrates the type of farm structure in the Netherlands.

<u>Number of Animals</u>	<u>Number of Farms</u>
1-10	6,540
10-19	4,573
20-49	6,230
50-90	2,889
100	1,446
Total	<u>21,678</u>

Sheep farming is first of all aimed at mutton production, in particular, lamb, which is almost entirely exported (especially to France). The sheep are grazed in the meadows nearly the whole year round. Only with frost and when the sheep are about to lamb are they kept inside during the night. Keeping sheep and cattle together is a very frequent combination and a profitable way of sheep farming. A great many sheep are kept on the many dykes in the North and West of the Netherlands.

The Texel breed is highly predominant. It is an early maturing breed with very good qualities for meat production. Fertility is good, most ewes are dropping young when 12 months

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old - mostly one lamb; when they are two years old and older the majority of them produce two lambs, and a single time, three lambs. Mainly pure breeding is applied. Crossing with other breeds is still in an experimental stage. The lambing season mostly starts at the end of February and ends at about the end of April. Most births are taking place in March, early in Spring, so that the ewes can get the maximum of profit of the young grass for the rearing of their lambs, which is mostly done by the dam. Grass is the main food of sheep. Only in winter do they get additional feed in the form of hay, and around the lambs birth, also, some concentrates.

There are flockbook societies for sheep breeding. These identify and register the animals at the breeders' and inspect the animal on conformation. These organisations (one flockbook society in every province) also play a part in the exchange of breeding material between the relative members, but are also supplying non-members with breeding material, especially young rams for service. Because of this exchange system, the sheep herd in the Netherlands is of a uniform and good quality.

E. ORGANISATION OF PRODUCTION

Producer groups are unknown in the Netherlands, although there is some specialisation in sheep production. Some farms are almost exclusively concerned with the production of breeding animals which are sold to other farms. The majority of the farms keep their animals and sell them direct for slaughter.

F. INHIBITING FACTORS IN DEVELOPING PRODUCTION

Farmers have generally a good technical knowledge of sheep farming. A limiting factor is that agriculture in the Netherlands is generally highly intensive, in which sheep farming, as a more extensive method of agricultural production is less suitable. The quantity of available food need not be a limiting factor. On the grassland farms, combined with cattle, the sheep are often admitted to the meadow in question after the cows have already grazed on the field. The health problems among sheep are relatively few.

G. OBJECTIVES AND PROGRAMMES IN SHEEP DEVELOPMENT POLICY

On farms where sheep are kept, together with cattle, development and research policy is directed towards (i) a higher lamb production (litter size with good growth and slaughter quality), (ii) avoidance of birth problems and (iii) shorter lambing period. Research is devoted to improving litter size among Texel sheep on Objective 1 and on Objective 2, research is taking place into partus induction/heat synchronisation. On purely sheep-farms, the objective of development policy is to shorten the interlambing season i.e. period between litters. Research is taking place into crossing and on selection on the length of the heat season of the Texel breed. In the case of arable farms with sheep, efforts are being made to move the lambing season to December and January.

PORTUGAL

A. CONSUMPTION AND PRODUCTION

In the past five years consumption has remained stable around 18,000 to 20,000 tonnes. With 2.1 kg. per head of the population per annum sheepmeat represents 10 per cent of home-produced meat consumption in the country. Production has not succeeded in meeting demand (18,600 tonnes in 1976) and frozen meat imports are necessary. Production is very seasonal and causes considerable price fluctuations which require state intervention for their support. The most widespread product is grass-fed lamb (75 per cent) of 5 to 6 months and 10 to 12 kg. per carcass, followed by young "Canastra" lamb slaughtered at 1 month and 4 to 5 kg. carcass. The third type is much less widespread: intensively fattened lamb slaughtered at 3 to 4 months and 12 to 14 kg. carcass weight.

B. THE SHEEP FLOCK

The number of sheep was 2,420,000 head in 1972, of which 1,735,000 were females of over 1 year. The sheep population fell considerably from 1965 to 1970 but there has been a slight increase in the last two years.

Four breeds compose 75 per cent of the ewe population. These are the Merino breed with 43.9 per cent, the Churba Badana with 13.4 per cent, the Serra de Estrela with 12.1 per cent and Merinos de Beira Baixa 7 per cent.

The sheep population is composed on average of 70 per cent of females of over 1 year.

Average performance at national level is:

- prolificity 1.1
- wool production 2.2 kg. per fleece
- milk 50 to 55 litres per ewe

An increase in the average size of flocks is to be noted in the North through the disappearance of the very small flocks. The same trend is occurring in the South but is due to the size of farms and the need to reduce the cost of manpower per head. In the South flocks exceed 500 head. In the Ribatejo they are between 100 and 300 head while in the North the figure is about 10 head. Milk flocks in the centre have 50 to 100 head.

C. PRODUCTION SYSTEMS

In 1972 there were 172,500 sheep farms. Flock management in the open is the general rule for Merinos and is frequent for other regions particularly in the summer. Crossings are not much used; free mating takes place particularly in the spring and the beginning of summer. Feeding based on natural herbage

and crop residues is general; supplementary feed in winter in the form of hay or concentrates is used to a varying extent. Milk flocks received regular supplementary feed. At present there is an increase in feed crop production (particularly subterranean clover) for sheep especially in the South. Migration of flocks is now of less importance.

D. PRODUCER ORGANISATION

There is no organisation in the production sector. A few private schemes are being initiated to create intensive lamb fattening enterprises.

E. FACTORS LIMITING INCREASED PRODUCTION

Farm structure is one of the main obstacles in the North because of the small size and in the South because of the inadequacy of investment in equipment which would enable production to be rationalised. Lack of shepherds is also an unfavourable factor.

The practice of supplementary feeding is not sufficiently generalised to meet the deficiency and irregularity of natural feed resources. Parasitic diseases are the most important health problem. Lastly, the lack of organised production and marketing prevents effective action against excessive price fluctuations due to irregular supply.

F. DEVELOPMENT POLICY

This is designed to improve feed resources in order to increase production in sheep producing areas.

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SPAIN

A. CONSUMPTION

At 3.8 kg. per head per annum in 1976, consumption has remained stable during the last 10 years; it occupies fourth place in meat consumed but its relative importance has fallen considerably. From 19.2 per cent in 1960, it fell to 6.4 per cent of total meat in 1976.

The product preferred by the consumer is young lamb of low carcass weight; heavy animals are not popular except in a few limited areas. No significant change is expected in the coming years. As far as external trade is concerned, there has been a surplus of live animals (2,033 tonnes) and set chilled meat (6,153 tonnes) over the past eight years but a deficit in the case of frozen meat (13,972 tonnes). The price to the producer varies greatly according to the type of animal, the maximum range in 1976 being between 1 and 3.8 from adult sheep to young lamb. Prices also vary strongly during the year ranging up to 60 per cent.

B. THE SHEEP FLOCK

The total number of sheep in September 1976 was 14,776,500 head of which 13,198,400 were breeding stock of over 12 months. This figure represents a fall of 4.5 million breeding animals compared with 1960. The areas most affected by the fall are Galicia, the North, Duero and Estramadura. Stock density expressed in kg. live weight per hectare puts Estramadura in the lead with 25 kg. followed by the Ebro and Duero areas with 20 kg.

The Merino and Manchega breeds are the most numerous and together represent almost 38 per cent of breeding females. They are followed by the Churra, Castellana and Aragonesa breeds which together also represent 38 per cent of the ewe flock. The constitution of the flocks varies according to the breeds and the areas; ewes usually represent from 75 to 80 per cent of the total. Flocks are large: 300 head and over in the South and South West (Merino breed) and smaller (150 to 200 head) in the centre, with the milk breeds. Yields vary considerably according to breeds and production systems. Average milk production is 120 to 150 litres. Average production from fine wool animals is 2.45 kg. of wool. In the case of meat production performance varies greatly; large-size breeds show daily gains of 250 to 300 grammes with a live weight of 30 to 32 kg. The other breeds approach 200 g. per day. In average, production of meat in 1976 was 11 kg. of carcass per breeding ewe of over one year old. Flock productivity per head in 1976 was 1.02, a considerable increase compared with the 1963-67 average which was 0.80.

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C. PRODUCTION OF SHEEPMEAT

In 1976 production reached 134,090 tonnes, an increase of 30 per cent since 1963. This increase is partly due to increased slaughter weight (from less than 11 kg. to over 12 kg. for Easter lamb and from 5.5 to 9 kg. for young lamb), and partly to the larger number of lambs slaughtered per breeding ewe (plus 64 per cent between 1963 and 1976).

As far as production and market organisation is concerned mention should first be made of the sluggish demand for heavy carcasses and this gives rise to considerable price differences according to weight.

The smallness of farms is also the reason for the slight influence of producers on the marketing of their output because they are necessarily dependent on middlemen.

Lastly it should be noted that the main production areas in the South and South West are remote from the big markets, which is why producers in these areas are underpaid by at least 10 per cent.

D. PRODUCTION SYSTEMS

Two hundred and thirty-three thousand, eighty-seven farms have sheep. The bulk of the milk flock is to be found in the Centre and Duero regions, with 93 per cent of the total, spread over an average of 60 breeding ewes per farm. The South and South West have 56 per cent of the total with an average of 485 head per farm.

On an overall basis 97 per cent of farms have less than 300 ha and account for 75 per cent of the sheep population over 12 months old. Twenty-five per cent of the sheep population is owned by 3 per cent of farms averaging over 300 ha.

The traditional extensive production systems have disappeared; all farms have sheds and use supplementary feed and this leads to a certain degree of intensification. This is greater in milk flocks than in the large flocks in the South. The system is still mainly outdoor. Since reproduction in the case of local breeds is not seasonal, they are put to ram throughout the year with intensification in April-May and again in September-October. Basic feeding comes from grasslands, with hay and silage supplements and sometimes concentrates, particularly for milking ewes and lambs, the latter usually being fattened with concentrates.

The migration of flocks is decreasing; in recent years there has been a commercial flow of young lambs of 15 kg. towards the main consumption centres where large fattening sheds have been installed.

E. PRODUCER ORGANISATION

There are various forms of sheep producer associations. The most common are local producer groups formed in co-operatives for the joint management of their individual flocks which are thus of a more economic size from the labour standpoint. The Ministry of Agriculture has encouraged the creation of "sheep complexes" which are producer groups with a minimum of 4,000 breeding ewes each. At present there are 57 groups with a total of 386,000 ewes of all breeds, with a predominance of Merino sheep. This type of association also has fatteners without any breeding ewes (10 associations representing 199,000 fattening places).

F. FACTORS LIMITING INCREASED PRODUCTION

The size of farms considerably limits the possibility of introducing modern production techniques and is responsible for the underemployment of inputs and increased production costs. Shepherds are not adequately paid and are now therefore hard to find.

From the technical standpoint, native breeds are hardly built for meat production and this leads to the need for commercial crossings with meat breeds and raises the problem of maintaining the purity of native breed, in view of the smallness of flocks.

Feeding resources are a limiting factor as dry feed yields are poor and the sheep flock is normally put on the less productive feeding areas. In view of the scarcity of concentrates, sheep production will have to resort to by-products in order not to increase production costs. Health problems are similar to those of other countries with abortion-causing diseases, contagious mastitis and parasites predominating.

SWEDEN

A. THE MARKET

Sheepmeat consumption in 1976 was 5,173 tonnes or 0.6 kg, per capita which represents 1.1 per cent of total meat consumption. About 90 per cent of Swedish consumers never eat sheepmeat. Consumption is increasing continually.

B. PRODUCTION

In 1976 production of sheepmeat totalled 4,700 tonnes and increased to 4,810 in 1977. Production is expected to increase by around 100 tonnes per year. Sweden normally imports 650 tonnes of sheepmeat from Iceland each year.

C. THE SHEEP FLOCK

In June 1976 the total number of sheep was 389,000. The average number of breeding ewes per flock is 16, and of fattening animals 21.4. In many cases sheep are kept merely as a hobby. In traditional sheep areas such as the Gothland Island, sheep rearing is decreasing due, mainly, to the high average age of farmers.

There are 15 types of breeds and many different cross-breeds. The breeds are classified into four groups:

P Grey landrace + native Gothlandic sheep.

L White Landrace, which includes carpet-wool and fine-wool landrace (= finnsheep), Norwegian spelsau and crosses between them.

K "Heavy" breeds which include British breeds, Texel and Norwegian breeds such as Dalasau, Steigar, etc.

X Crossbreeds between L and K groups, which are considered as a distinct breed.

Fifty to 60 per cent of the sheep stock belongs to the P group and 20-40 per cent to the X group. The smallest group is K. The P group is used for the production of fur skin and meat. The other groups are used for meat production with wool as a minor product.

D. PRODUCTION SYSTEMS

Breeding is mainly based on breed improvement by selection. Some crossbreeding does occur but always combined with selection. Crossing is mainly rotational within the X group with a considerable amount of selected X rams also used. Commercial crossing of finnsheep ewes with heavy rams (Texel) also takes place to some extent. Regular hybrid productions and the selling of the by-product does not occur.

Almost all production of lamb meat is from 4-5 month old pasture lambs slaughtered in the August/October period.

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E. ORGANISATION OF PRODUCTION

Special producer groups such as breeders and fatteners do not exist. Sheep production is, with a few exceptions, a complement to other kinds of agricultural or forestry production.

F. INHIBITING FACTORS IN DEVELOPING PRODUCTION

The main inhibiting factor, seen from the sheep-farmers' point of view, is that production is so small that it is not seriously discussed and supported together with other kinds of meat production. A limiting factor may also be that just a small number of consumers eat lamb meat which is, therefore, not considered as an alternative to other kinds of meat. The price of lamb cannot be a limiting factor for consumption, it is more a question of tradition.

G. OBJECTIVES AND PROGRAMMES IN SHEEP DEVELOPMENT POLICY

At the moment, research and development resources are being concentrated on breeding problems. The work is based upon data from sheep recording.

The following is a summary of current and planned research:

1. Further development of computer systems for sheep recording activities.
2. Effects of systematic environmental factors on different production traits - correction factors in the estimation of breeding values.
3. Genetic parameters for different traits.
4. Analysis of population structures for
 - decisions about breeding goals
 - planning of breeding programmes
 - extension work.
5. Economic calculations for
 - deciding breeding goals
 - benefit analyses from selection programmes
 - benefit analyses from crossbreeding programmes compared with purebreeding.
6. Registration methods for different traits.
7. Prediction methods for breeding values.

SWITZERLAND

A. THE MARKET

The sheepmeat market represented 1.57 per cent of total meat consumed in 1976; there are no indications of any significant future change in this consumption level, which largely depends on prices. These are maintained at an acceptable level for both consumer and producer through an equalisation system between national production and imports, the latter representing approximately 50 per cent of consumption.

B. PRODUCTION

One hundred and fifty thousand lambs are slaughtered annually at an age of 120 to 200 days and a live weight of 37 to 45 kg. representing a national production of 3,511 tonnes in 1976. Sixty thousand store lambs are marketed every year by the mountain producers, half of them being fattened in sheds and the rest on grasslands which are free of snow during the winter.

C. THE SHEEP FLOCK

In 1973 the sheep flock numbered approximately 337,000 head, of which 72 per cent belonged to the Blanc des Alpes breed. All breeds are meat-producing. Sixty per cent of the flock is in the mountains. The various breeds have a prolificity of 1.4 to 1.8 and the number of lambings per year varies from 1 to 1.6. Wool production is 3 to 4 kg. per fleece.

D. PRODUCTION SYSTEM

Eighty-six per cent of flocks have less than 25 head and represent 51 per cent of the total. Only 14 per cent of the total consist of flocks with over 100 head.

Single-enterprise sheep production farms are very rare. Sheep production is merely an additional source of income particularly for part-time farmers and non-farmers, representing 57 per cent of sheep owners with 54 per cent of the total number.

E. FACTORS LIMITING INCREASED PRODUCTION

The main factor is the necessary balance between national production and imports, which have to reach almost 50 per cent of consumption to keep the price to the producer at a high level without discouraging the consumer.

The marked seasonal nature of supply, due to the fact that more than half the sheep use summer mountain grazings ("alpages") sometimes make marketing difficult in the high season, i.e. autumn and spring, hence the need for support action.

F. SHEEP SECTOR SUPPORT MEASURES

From the technical standpoint, state aid concerns performance control (80,000 sheep registered in the Flock book) and the maintenance of an advisory service to improve the profitability of sheep farms.

From the financial angle the mountain producers receive a subsidy to compensate for the handicaps of their environment.

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TURKEY

A. THE MARKET

Total domestic consumption comes to 87,550 tonnes. There has been an increase in the total consumption of sheepmeat in 1975 and a slight decrease in 1976, but per capita consumption has not changed. Sheepmeat is the most consumed meat with 37.7 per cent, beef comes next (31.5 per cent) and poultry comes last (18 per cent). Because of religious reasons, there is no pork consumption. Pork is consumed by non-Muslims in very minor amounts. The population in Turkey is increasing rapidly so the internal market for sheepmeat is expanding. But supply cannot keep up with the demand. This has caused constant increases in the meat prices. It is expected that demand will continue to increase along with prices.

Turkey does not import sheepmeat but exports meat to the Middle East countries. Most of the meat exported is in live form but Turkey is trying to export processed meat instead of livestock.

B. PRODUCTION

Sheepmeat production has been increasing in general, but in 1976 there has been a decrease. The Government has taken some measures to encourage production.

C. THE SHEEP FLOCK

In the villages, almost every family owns some sheep. There are a very large number of sheep flocks but the flock size is extremely small. The number of flocks in Turkey is 1,164,813.

In general, sheep are fed on the pastures. During the summer season, flocks move to pastures on upper altitudes. 97 per cent of the sheep population consists of native breeds.

D. PRODUCTION SYSTEMS

Sheep are reared on small farms and on State farms. State farms own 1 per cent of the total stock of sheep in the country. Big flock owners use the mutually-owned pastures and the owners of flocks which migrate seasonally, manage their sheep of 400-500 head independently. There are also sheep-rearers who hire a shepherd to take care of their flocks. A third type of management is where the farmers, who have small flocks hire a shepherd who takes care of all of these small herds together. This third type of management is widespread. In Western and Central Turkey, artificial insemination is practiced and cross-breeds are reared. There are some rearers who buy Merino sheep under certain credit arrangements from Banks. In Marmara-Thrace and Western Regions lamb fattening, and in the Central parts, some ram fattening by sugar-beet cakes take place. Natural and artificial insemination are both applied as breeding techniques.

In Turkey, sheep and lamb production show great variations according to the seasons. In early Spring, lamb meat produced in Western Turkey finds a good market in the big cities. In the late Spring and early Summer, prices go down because lamb meat from other regions is offered on the market. There are seasonal fluctuations in sheepmeat production also. As a result of pasture-dependent production, in the Autumn, many sheep are offered for sale and so the prices generally fall. The capacity of the Meat and Fish organisation is not adequate to buy, slaughter and store these animals. Production decreases in the winter months. In Spring, there are hardly any sheep for slaughtering except those which are fattened.

E. ORGANISATION OF PRODUCTION

Production has not been organised on a technical basis, but producers do belong to the Chamber of Agriculture which is a country-wide organisation. Sheep-rearers do not have an organisation of their own. Sheep fattening is carried on by buying the sheep from the small farmers and fattening them in the places where cheap feed can be obtained. In some cases, the rearers themselves, fatten their own sheep.

F. INHIBITING FACTORS IN DEVELOPING PRODUCTION

Because of economic reasons, the animals are not well fed and well kept. In the small farms, breeding activities cannot be applied. Marketing is a major factor which prevents increases in meat production. During marketing, the product usually changes hands several times. The price, therefore, rises, while the actual producer price falls. This situation discourages the producer and the fattener. Approximately 37 per cent of the consumer price goes to the producer. Prices of animal products are not formed by the prices of other products. The producers have no role in the formation of prices. The Meat and Fish organisation establishes a base price but this organisation stores only 18-20 thousand tonnes of the total production which is 600,000 tonnes. So, around 580,000 tonnes of meat produced in the country is sold without price control. Therefore, the base price system is not an encouraging factor in production. There is a need to increase the cold-storage capacity and to accelerate exportation.

Animal production is low because of inadequate feed supply, yet Turkey exports large amounts of oil-cakes, molasses and bran. The rearers do not feed their animals with these costly feedingstuffs because there is no guarantee on the sale price. The rearers prefer food crops which can readily be sold rather than feedcrops. The meadows, which are mutually owned by the farmers, are poor yielders and are over-grazed. Because of the internal parasites there are feed losses. By the eradication of these parasites, it would be possible to convert feed more efficiently into animal products. Around 4 million lambs are slaughtered every year in Turkey. Production could certainly be increased by increasing the weight of lambs at slaughter.

G. OBJECTIVES AND PROGRAMMES IN SHEEP DEVELOPMENT POLICY

1. Merinolization programme: This programme is designed to fulfil the need of the textile industry for thin and uniform wool, from internal resources; there is an organisation established to buy wool as a support.
2. Project to avoid early slaughter of lambs: The aim is to increase the carcass weight of lamb to 14-16 kg. It is prohibited by law to slaughter lambs under 8 kg. of carcass weight.
3. Meat Least Price Project: The aim here is to buy meat at a certain price when there is an over-supply in the market to protect the rearer. The most important obstacle in this project is the storage capacity of the Meat and Fish organisation which is in charge of the implementation of the project.
4. Exports: During the season when there is an over-supply, the Government can encourage exportation as a measure to avoid price decreases. Special attention is given in this programme to protect the producer rather than to benefit purely the tradesmen.
5. Credits: The credit given to livestock growers are insufficient with involving short return periods and high interest rates.

UNITED KINGDOMA. THE MARKET

There has been a decline in sheepmeat consumption over the past five years from 9.5 kg/head in 1972 to 7.6 kg/head in 1976. It is felt that consumption of mutton and lamb is probably at or near a ceiling determined by habits and price differences. It seems unlikely that consumption per head will rise to former levels unless all other meats become relatively much more expensive.

TABLE 1 - DOMESTIC CONSUMPTION OF SHEEPMEAT ('000 TONNES)

	1968	1977
Home fed production		
Mutton	48.0	36.2
Lamb	198.4	195.9
Imported		
Mutton	43.2	9.6
Lamb	307.2	210.5
Irish Rep. Fats	0.1	-
Exported		
Carcass Meat	4.0	40.1
Live (equiv.)	5.0	4.0
Total UK Consumption	587.9	406.3
Home fed as % total	42	57

B. PRODUCTION

The supply of home-produced lamb (including hogget) is not constant throughout the year. The months of relatively low production are the months of high levels of lamb imports, thereby tending to level the total supply to some extent. Although there is a tendency for the weights required by a given market to fall within fairly narrow limits, overall, quite a wide range between 13 and 23 kg. for slaughter weight is acceptable. In the South of England lighter (13-16 kg.) carcasses are preferred; in the North, 21-23 kg. are more usual. However, there is a general trend to a narrower overall range of 16-21 kg. Much lighter carcasses are not wanted because the overheads of procurement, slaughtering and handling are constantly rising and are best spread over a greater deadweight. Much heavier lambs are resisted because normally they carry more fat than is desired by the consumer.

C. THE SHEEP FLOCK

In the United Kingdom there are over 40 native pure breeds and a much larger number of crosses. It is important to realise that the majority of lowland ewes in flocks which produce lambs for slaughter are crossbreds. To a large extent, the whole of the sheep industry is geared to the production of large numbers of crossbred ewes (out of hill ewes for lowland farms). Many thousands of such ewes change hands annually at the autumn sales.

Sheep tend to be most numerous in the hill areas of Scotland, Wales and Northern England. Areas of better land have more choice of alternative enterprises. The average flock size in the hill areas of Scotland, Wales and Northern England tend to have the larger flocks of breeding sheep.

It is difficult to estimate the level of performance in relation to the different breeds. This obviously varies greatly from year to year especially in areas of difficult environment. However, it can be stated that on hard hill farms the objective might be to rear 100 per cent lambs. In practice this figure may vary from 100 per cent downwards to as low as 60 per cent on the very poor hills in bad years. On the lowlands, production potential is around 200 per cent but figures from the Meat and Livestock Commission recorded flocks for 1977 show that on average 145 per cent lambs were reared. This figure may well be an over-estimate of the actual situation because it may be expected that the recorded flocks would be rather better than average.

On a national basis the net output of lamb meat per ewe is approximately 15 kg. To this figure can be added about 3 kg. of mutton (by-product of the breeding flock) produced per ewe per year.

Each year, the output of home produced wool is about 50 million kg. of which about 36 million kg. is clip wool and the remainder skin wool. Individual breeds vary enormously in their wool production from less than 1 kg per head up to 6 or 7 kg. per head annually. There is also a very wide range of quality both in terms of fineness and staple length.

TABLE 2 - UNITED KINGDOM SHEEP NUMBERS ('000 head)

	1971	1975
Ewes for breeding	10,422	11,287
Shearlings to be put to ram in current year	2,263	2,442
Rams for service	300	325
Other sheep and lambs: 1 year old and over	943	952
Under 1 year old	12,053	13,249

D. PRODUCTION SYSTEMS

Most of the hill breeds are found in pure breeding flocks on the hills and mountains. Such flocks are bred pure in order to produce replacements acclimatised to the particular hill. Ewes are usually retained for three, four or five lamb crops before being drafted to less hard upland farms. Other sale products of hill flocks are wool, wether lambs (either finished or as stores) and surplus ewe lambs (if any).

On the upland farms, the second stage in the stratification, ewes from the hills are crossed with rams which are especially chosen for this purpose. The main sale product of these flocks is ewe lambs - these are sold to lowland farms. Other products are crossbred wether lambs, wool and cull ewes. On the lowland farms, traditionally first cross ewes are bought from the uplands for crossing with a terminal sire for the production of finished lamb. Such lambs form the major sale product, although wool accounts for some income (up to about 10 per cent) and cull ewes for a little income.

There are of course, many variations in this traditional pattern - many draft hill ewes go straight to the lowlands for crossing with a terminal sire. Also, many lowland first cross flocks use a Suffolk ram and retain (or sell for breeding) the female progeny.

In parallel with this mainstream of the industry are the self-contained flocks which produce their own replacements, females for sale and fat lambs. There are also out-of-season flocks where lambs are born in the autumn for early spring sale.

In addition to this stratification in breeding stock production, there is a great deal of movement each year of store lambs. Such lambs are sold off hill and upland farms in the late summer/early autumn and are transferred to lowland farms for finishing - the larger ones on grass in the autumn and the smaller ones on roots later in the autumn or during the new year period up to about April. The lambs (or more precisely, the hoggets) sold in the early part of the year tend to be heavier carcass weights and demand a higher price because home-killed hogget is in short supply at that time of year.

TABLE 3 - DISTRIBUTION OF SHEEP BY FLOCK SIZE 1974
(England and Wales)

FLOCK SIZE	% OF TOTAL BREEDING EWES
Under 200	33
200-499	34
500-999	21
over 1000	12
% of all holdings with breeding ewes	23

E. ORGANISATION OF PRODUCTION

There is very little organisation of groups of producers for production in the United Kingdom. Some, however, belong to groups for marketing of lambs for slaughter or store lambs or breeding stock. Such groups, however, only progress if they can offer better prices for stock than would otherwise be available to the producer. In the fiercely competitive area of lamb marketing this is not always possible and many groups have collapsed in recent years.

Of all lambs sold for slaughter, approximately 60 per cent are sold in live auctions and about 40 per cent on the deadweight system.

F. INHIBITING FACTORS IN DEVELOPING PRODUCTION

1. Thirty-three per cent of ewes are in flocks of less than 200. It could be argued that such flocks are uneconomic, but in practice it is often found that they are scavenger flocks on arable and mixed farms, living very cheaply on food which would otherwise be wasted. Flocks of this size cannot justify a specialist shepherd and are often looked after by the farmer himself. For flocks of over 500-600 ewes a full-time shepherd may be justified - but again only about 33 per cent of ewes are in flocks in this category.

2. In some cases, genetic potential is a limiting factor to production, but more often than not, output falls short of the theoretic maximum because the conditions on the farm are not always ideal. Output could be improved in most flocks by better breeding, feeding or management.

3. In general, feed resources are adequate in the United Kingdom which is largely dependent on grass for sheep production. This does not mean, however, that the grass is always used to maximum effect.

4. Although there are many health problems of sheep, very few attain general economic importance. Perhaps the major problem is that of internal parasites.

5. The organisation of production and marketing is not thought to be a factor inhibiting production development because there is a large market with very many highly competitive alternative outlets for sheepmeat of all types and qualities.

G. OBJECTIVES AND PROGRAMMES IN SHEEP DEVELOPMENT POLICY

There is a great deal of sheep research in progress on all aspects of sheep husbandry and management. The basic objective of the fundamental research is to try to gain a better understanding of the sheep - its physiology, genetics etc. The objective of the applied research is to identify improved methods of breeding, feeding, management or disease control which in given economic conditions may have application in commercial practice.

The primary object of the extension work is to advise farmers on all aspects of sheep husbandry. Their financial benefit is usually the main criterion. Sometimes this involves advising methods or techniques which are well understood. A further objective of extension workers is to evaluate new research findings in practice. This very often involves a development phase in which research findings are closely monitored on a commercial scale before being widely promoted as being of benefit to the industry.

In many respects the extension services act as a link between the research worker and the farmer. The results of extension work are seen in terms of improved profitability to the producer. This may result from increased output or from better utilisation of resources - land, labour and capital.

YUGOSLAVIA

A. THE MARKET

In line with the general development of the economy, efforts are being made to increase living standards and consequently, to increase both production and consumption of sheepmeat. In 1966, the total consumption of sheepmeat was 46,000 tonnes while in 1975 it had risen to 54,000 tonnes. In other words, per capita consumption had increased from 2.4 kg to 2.7 kg. The share of sheepmeat in total meat consumption is not large and has a declining trend. In 1966, sheepmeat represented 7.7 per cent of total meat consumption, while in 1975 this figure had fallen to 5.2 per cent.

B. PRODUCTION

Sheep-rearing is an important sector of economic activity which, in an organised manner, could meet the demands of the domestic market and provide a surplus for exports. The following factors will influence the trend in production:

- The increase in population in general and the urban population, in particular, will lead to increased demand for sheep, mutton and lamb along with other types of meat;
- Consumption is expected to increase with increases in living standards. It is expected that sheep-rearing will increase in importance within the general livestock sector as it is a rather rational user of pastures.

In 1975, only 19 sheep and rams for breeding were imported while there was no import of sheepmeat. In the same year 117,804 head of lamb, 3,274 tonnes of sheepmeat and 37 tonnes of unwashed wool were exported.

The price of concentrated feed has been growing proportionately faster than the price of sheep products. For this and other reasons sheepmeat production has not increased significantly from 50,000 tonnes in 1967 to only 61,000 in 1976. In 1976, 5,312,000 sheep were slaughtered with an average net weight of 10 kg. In addition, 35 litres of milk per sheep was obtained in 1976 and 1.35 kg. of wool. Thus, in general, three products were obtained from sheep farming in Yugoslavia - meat, milk and wool. In modern production systems, however, there is a growing trend combination of meat/wool or milk/meat.

C. THE SHEEP FLOCK

The total number of sheep has fallen from 10.3 million in 1966 to 7.5 million in 1976. The structure of the sheep flock is as follows: sheep for breeding - 74.5 per cent; lambs up to one year of age - 19.3 per cent; rams for breeding stock etc. - 6.2 per cent.

The dominant breed is the domestic "Pramenka" with its numerous varieties (80 per cent) followed by "Cigaya", "Soltchavska" sheep, the "Dubrovnik" sheep, the domestic "Merino" breed and the crossbreed of "Pramenka" and "Merino" (about 20 per cent). As a result of crossbreeding with French breeds and the "Virtemberg" sheep of Germany a significant number of crossbreeds have been developed. As far as geographical distribution is concerned, sheep-rearing takes place mainly in hilly/mountainous regions.

D. PRODUCTION SYSTEMS

Sheep in Yugoslavia are bred for the production of meat, milk and wool. Meat is, however, the most important while a share of wool is relatively low. The production of milk has been gaining in importance since the consumption of sheep milk and, particularly, milk products have been rising.

It is characteristic of sheep breeding in Yugoslavia that there are two types of ownership - social and private. Closely linked to the character of ownership is the type of flock husbandry and management. In the social sector, the husbandry and management of sheep farms are based on the self-management system of all those involved in the process of production. Husbandry and management on private sheep farms is exclusively in the hands of the owners themselves. Of the total sheep population 2.5 per cent may be found in the social sector and 97.5 per cent in the private sector.

For the improvement of breeds, it is mainly French breeds which have been introduced: "Precos", "Rambouillet", "D'lest", "D'arl", "Ile de France" and the "Virtemberg" breed from Germany. Due to unsystematic crossing and the absence of adequate selection, there exists a large imbalance in the crosses. The breeding technology is mostly traditional and classical. But efforts are being made to apply methods of induction and synchronisation of oestrus and also of artificial insemination and modern selection methods.

In the summer period, the feeding of flocks is done almost exclusively by grazing, which may be unsatisfactory in years of drought. In the winter, feeding consists of grazing in the Mediterranean parts of the country and of hay and concentrated feed in the continental part. The use of silage as sheep fodder during the winter is rarely practiced.

Sheep milk is mostly used for the production of white salt cheeses, hard cheeses of the Katchaval type, sheep sour milk and yoghurt and recently, ice cream.

E. INHIBITING FACTORS IN DEVELOPING PRODUCTION

On farms, where there is an extensive system of sheep-rearing, the number of workers is decreasing mainly due to relatively lower salaries. The most significant feed resource is found from grazing either on hilly, mountainous (summer) or

valley (winter) pastures. Grazing on unimproved pastures depends greatly on climatic conditions in a given year. Since sheep do not get additional feed while on summer pastures, their condition and productivity depend on the pasture yield. Hay is prepared in winter but not always in sufficient quantities and of the right quality. A large proportion of the sheep feed requirements during the winter period is covered with grain. Health standards are difficult to maintain when sheep breeding is carried out in large flocks. The distance of summer pastures from the veterinary stations also represents a problem. Sheep in Yugoslavia suffer from many diseases, particularly important is the problem of infectious lameness.

F. OBJECTIVES AND PROGRAMMES IN SHEEP DEVELOPMENT POLICY

The main objective of policy in sheep breeding is to increase the production and quality of meat through the better utilisation of all resources and the application of modern technology and methods of selection.

One of the main objectives is to improve the utilisation of feed in order to improve feed conversion.

G. ORGANISATION OF PRODUCTION

In Yugoslavia, there are associations of sheep breeders and assisting also in the development of sheep production are the secretariat for Agriculture and Forestry, the Private Breeding Development Service, the Co-operatives Union, the Agricultural and Veterinary Medicine Faculties and the Institute for Animal Husbandry and Veterinary Medicine.

Bil.

ANNEX II/ANNEXE II

SHEEP STATISTICS/STATISTIQUES OVINES

- A) Source: "Meat balance in
OECD countries 1963-1976"/
Bilans de la viande dans les
pays Membres de l'OCDE 1963-1976

- B) Other Sources/Autres sources

- C) Distribution of breeds/
Repartition des races

- A) Source: "Meat Balances in OECD Countries 1963-1976"
"Bilans de la viande dans les pays Membres de l'OCDE 1963-1976"

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TABLE 1/TABLEAU 1

1. Per capita consumption of sheepmeat (v. carcass weight)/
Consommation de viande ovine per capita (Kg. de carcasse)

	1966(OECD/OCDE)	1976(OECD/OCDE)	1977(2)
<u>OECD Total/Total;OCDE</u>	3.6(1)	3.0(1)	
<u>North America(OECD)/Amérique du Nord(OCDE)</u>	1.8	0.9	
Canada	1.7	1.1	0.9
United States/États-Unis	1.8	0.8	0.8
<u>Japan/Japon</u>	0.9	1.2	(1)
<u>Oceania/Océanie</u>	37.8	20.8	
Australia/Australie	38.0	18.1	20.3
New Zealand/Nouvelle-Zélande	36.9	33.0	34.3
<u>Europe</u>			
OECD excl. Yugoslavia/OCDE exc. Yougoslavie	4.0(1)	4.0(1)	
<u>EEC/CEE</u>	3.4	3.0	3.0
Belgium-Lux./Belgique-Lux.	0.6	1.6	1.6(1)
Denmark/Danemark	0.4	0.4	0.5
France	2.7	3.7	3.8(1)
Germany/Allemagne	0.3	0.6	0.7(1)
Ireland/Irlande	10.7	10.4	10.2
Italy/Italie	0.9	1.1	1.1(1)
Netherlands/Pays-Bas	0.2	0.2	0.3(1)
United Kingdom/Royaume-Uni	10.9	7.8	7.3
<u>Other European countries/Autres pays européens</u>	5.3(1)	5.9(1)	
Austria/Autriche	0.4	0.3	0.4
Finland/Finlande	0.2	0.2	0.2
Greece/Grèce	13.5	14.1(1)	13.4(1)

Table 1 (Contd.)/TABLEAU 1 (Suite)

	<u>1966(OECD/OCDE)</u>	<u>1976(OECD/OCDE)</u>	<u>1977(2)</u>
Iceland/Islande	48.5(1)	48.0(1)	
Norway/Norvège	4.8	5.0	5.3(1)
Portugal	3.3	2.2(1)	2.5
Spain/Espagne	4.1	4.2(1)	4.1
Sweden/Suède	0.4	0.7	0.7(1)
Switzerland/Suisse	0.8(1)	1.1	1.2(1)
Turkey/Turquie	8.4(1)	9.6	9.4(1)
<u>Yugoslavia/Yougoslavie</u>	2.3	2.6	2.3

(1) Indicates those countries where an increase in per capita consumption has taken place/
Indique les pays dans lesquels la consommation per capita a augmenté.

(2) Source: USDA.

TABLE 2/TABLEAU 2

2. Consumption of sheepmeat as a percentage of total meat consumed/Pourcentage de la consommation de viande ovine par rapport à la consommation totale de viande

	1966(%)	1976(%)
<u>OECD Total/Total OCDE</u>	5.4	3.7
<u>North America</u>	1.8	0.75
Canada/Canada	2.0	1.1
United States/Etats-Unis	0.9	0.7
<u>Japan/Japon</u>	6.4	4.7
<u>Oceania/Océanie</u>	36.6	17.0
Australia/Australie	37.1	14.7
New Zealand/Nouvelle-Zélande	34.4	29.0
<u>Europe (OECD)/(OCDE)</u>	6.7	5.5
<u>EEC/CEE</u>	5.0	3.5
Belgium/Lux./Belgique/Lux.	0.8	1.7(1)
Denmark/Danemark	0.6	0.5
France	3.1	3.6(1)
Germany/Allemagne	0.4	0.6(1)
Ireland/Irlande	14.5	11.1
Italy/Italie	2.0	1.6
Netherlands/Pays-Bas	0.3	0.3
United Kingdom/Royaume-Uni	14.7	10.9
<u>Other European countries/ Autres pays européens</u>	14.5	11.5
Austria/Autriche	0.6	0.4
Finland/Finlande	0.5	0.3
Greece/Grèce	33.5	21.5
Iceland/Islande	64.0	62.0
Norway/Norvège	11.7	10.5
Portugal	10.6	4.6
Spain/Espagne	10.8	6.6
Sweden/Suède	0.8	1.1(1)
Switzerland/Suisse	1.2	1.4(1)
Turkey/Turquie	50.0	40.3(1)
Yugoslavia/Yougoslavie	7.9	4.5

(1) Indicates a country where an increase has taken place/
Indique un pays où la consommation a augmenté.

TABLE 3/TABLEAU 3

CT/AGRES/4
DAA/1585
Annex/Annexe II3. Total Consumption of sheepmeat/
Consommation totale de viande ovine

	<u>'000 Tonnes carcass weight/ '000 tonnes poids de carcasse</u>		
	<u>1966</u>	<u>1976</u>	<u>Change/ Variation</u>
<u>OECD Total/Total OCDE</u>	2442 ⁽¹⁾	2223	-219
<u>North America/Amérique du Nord</u>	387	284	-183
Canada	36	25	-11
United States/États-Unis	351	179	-172
<u>Japan/Japon</u>	93	136	+43
<u>Oceania/Océanie</u>	545	354	-191
Australia/Australie	445	250	-195
New Zealand/Nouvelle-Zélande	100	104	+4
<u>Europe (OECD)/(OCDE)</u>	1417	1529 ⁽¹⁾	-112
<u>EEC/CEE</u>	833	789	-44
Belgium/Lux/Belgique/Lux.	6	16	+10
Denmark/Danemark	2	2	0
France	135	195	+60
Germany/Allemagne	15	39	+24
Ireland/Irlande	31	33	+2
Italy/Italie	47	63	+32
Netherlands/Pays-Bas	3	3	-
United Kingdom/Royaume-Uni	594	438	-156
<u>Other European countries/ Autres pays européens</u>	584 ⁽¹⁾	740 ⁽¹⁾	+146
Austria/Autriche	3	2	-1
Finland/Finlande	1	1 ⁽¹⁾	0
Greece/Grèce	116	129 ⁽¹⁾	+13
Iceland/Islande	10	11 ⁽¹⁾	+1
Norway/Norvège	18	20	+2
Portugal	27	20	-7
Spain/Espagne	133	150	+17
Sweden/Suède	3	6	+3
Switzerland/Suisse	5	7	+2
Turkey/Turquie	268	394	+126
<u>Yugoslavia/Yugoslavie</u>	46	57	+11

(1) Estimates/Estimations

82.

TABLE 4/TABLEAU 4

4. Sheep Numbers ('000 head)/Nombre d'ovins ('000 têtes)

	1966	1976	Change/ Variation
<u>OECD Total/Total OCDE</u>	349,112 ⁽¹⁾	331,802	-17,310
<u>North America/Amérique du Nord</u>	24,627	13,172	-11,455
Canada	674	462	-212
United States/États-Unis	23,953	12,710	-11,243
<u>Japan/Japon</u>	113	11	-102
<u>Oceania/Océanie</u>	214,906	205,043	-9,863
Australia/Australie	157,563	148,643	-8,920
New Zealand/Nouvelle-Zélande	57,343	56,400	-943
<u>Europe(OECD)/(OCDE)</u>	109,466 ⁽¹⁾	113,576	+4,110
<u>EEC/CEE</u>	44,669	43,752	-917
Belgium/Belgique	68	82	+14
Luxembourg	4	5	+1
Denmark/Danemark	112	61	-51
France	9,186	10,945	+1,759
Germany/Allemagne	812	1,091	+279
Ireland/Irlande	4,664	2,443	-2,221
Italy/Italie	8,212	8,445	+223
Netherlands/Pays-Bas	558	780	+222
United Kingdom/Royaume-Uni	21,053	19,900	-1,153
<u>Other European countries/ Autres pays européens</u>	64,797 ⁽¹⁾	69,824 ⁽¹⁾	+5,027
Austria/Autriche	138	174	+36
Finland/Finlande	175	111	-64
Greece/Grèce	7,829	8,361 ⁽¹⁾	+532
Iceland/Islande	848	871	+23
Norway/Norvège	1,044	840	-204
Portugal	2,835 ⁽¹⁾	2,420 ⁽¹⁾	-415
Spain/Espagne	16,761	14,776	-1,985
Sweden/Suède	238	390	+152
Switzerland/Suisse	266	377	+111
Turkey/Turquie	34,663	41,504	+6,841
<u>Yugoslavia/Yougoslavie</u>	10,329	7,484	-2,845

(1) Estimates/Estimations.

TABLE 5/TABLEAU 5

5. Spread of Sheep Population/Répartition de la population ovine

	<u>1966</u>	<u>1976</u>
	%	%
<u>Total</u>	100	100
<u>North America (OECD)/ Amérique du Nord (OCDE)</u>	7	4
United States/États-Unis	6.9	3.8
<u>Oceania/Océanie</u>	61.6	61.8
Australia/Australie	45.0	44.8
New Zealand/Nouvelle-Zélande	16.0	17.0
<u>Europe</u>	31.4	34.2
<u>EEC/CEE</u>	12.8	13.2
France	2.6	3.3
Ireland/Irlande	1.3	0.7
Italy/Italie	2.4	2.5
United Kingdom/Royaume-Uni	6.0	6.0
<u>Other European countries/ Autres pays européens</u>	18.6	21.0
Greece/Grèce	2.2	2.5
Norway/Norvège	0.3	
Portugal	0.8	
Spain/Espagne	4.8	4.5
Turkey/Turquie	9.9	12.5

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TABLE 6/TABLEAU 6

6. Sheepmeat Production ('000 Tonnes) Carcase Weight/
Production ovine ('000 Tonnes) Poids de carcasse

	1966	1976	Change Variation
<u>OECD Total/Total OCDE</u>	2,430 ⁽¹⁾	2,528	+98
<u>North America (OECD)</u> <u>Amérique du Nord (OCDE)</u>	306 ⁽¹⁾	181	-125
Canada	10	7	-3
United States/Etats-Unis	296	174	-122
<u>Japan/Japon</u>	1	-	-
<u>Oceania/Océanie</u>	1,070	1,121	+51
Australia/Australie	601	608	+7
New Zealand/Nouvelle-Zélande	469	513	+44
<u>Europe (OECD)/(OCDE)</u>	1,053 ⁽¹⁾	1,266 ⁽¹⁾	+173
<u>EEC/CEE</u>	502	502	0
Belgium/Lux./Belgique/Lux.	3	2	-1
Denmark/Danemark	2	1	-1
France	117	147	+30
Germany/Allemagne	12	15	+3
Ireland/Irlande	51	37	-14
Italy/Italie	36	34	-2
Netherlands/Pays-Bas	9	17	+8
United Kingdom/Royaume-Uni	272	249	-23
<u>Other European countries/</u> <u>Autres pays européennes</u>	551 ⁽¹⁾	724 ⁽¹⁾	+173
Austria/Autriche	3	2	-1
Finland/Finlande	1	1	0
Greece/Grèce	82	116 ⁽¹⁾	+34
Iceland/Islande	13	15	+2
Norway/Norvège	17	16	-1
Portugal	29	22	-7
Spain/Espagne	133	146	+13
Sweden/Suède	2	5	+3
Switzerland/Suisse	3	4	+1
Turkey/Turquie	268	397	+129
Yugoslavia/Yougoslavie	48	61	+13

(1) Estimates/Estimations.

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TABLE I / TABLEAU I

7. Production of sheepmeat as a percentage of all meat produced/
Pourcentage de la production de viande ovine par rapport à
la production totale de viande

	<u>1966</u>	<u>1976</u>
	<u>%</u>	<u>%</u>
<u>OECD Total/Total OCDE</u>	5.4	4.2
<u>North America (OECD)/</u> <u>Amérique du Nord (OCDE)</u>	1.4	0.7
Canada	0.5	0.3
United States/États-Unis	1.5	0.7
<u>Japan/Japon</u>	-	-
<u>Oceania/Océanie</u>	40.3	26.0
Australia/Australie	33.4	19.7
New Zealand/Nouvelle-Zélande	55	40.4
<u>Europe (OECD)/(OCDE)</u>	5.4	4.6
<u>EEC/CEE</u>	3.2	2.4
Belgium/Belgique	-	-
Luxembourg	-	-
Denmark/Danemark	-	-
France	2.8	3.0
Germany/Allemagne	-	-
Ireland/Irlande	9.4	5.5
Italy/Italie	2.0	1.2
Netherlands/Pays-Bas	-	-
United Kingdom/Royaume-Uni	10.7	8.4
<u>Other European countries/</u> <u>Autres pays européens</u>	14.8	11.8
Austria/Autriche	-	-
Finland/Finlande	-	-
Greece/Grèce	31.0	23.0
Iceland/Islande	-	-
Norway/Norvège	-	-
Portugal	11.9	5.8
Spain/Espagne	12.1	6.8
Sweden/Suède	-	-
Switzerland/Suisse	-	-
Turkey/Turquie	50.0	40.0
<u>Yugoslavia/Yougoslavie</u>	6.6	4.6

TABLE 8/TABLEAU 8

8. Rates of Self-Sufficiency in Sheepmeat/Taux d'autosuffisance en viande ovine

	1966	1976
	%	%
<u>OECD Total/TOTAL OCDE</u>	104.2 (1)	113.7 (1)
<u>North America</u> <u>Amérique du Nord</u>	79 (1)	88.7 (1)
Canada	28	28
United States/États-Unis	84.3 (1)	97.2 (1)
<u>Japan/Japon</u>	1	0
<u>Oceania/Océanie</u>	196	317
Australia/Australie	135	243
New Zealand/Nouvelle-Zélande	469	493
<u>Europe (OECD)/(OCDE)</u>	74 (1)	80 (1)
<u>EEC/CEE</u>	60	64
Belgium/Belgique	50	12.5
Luxembourg	-	-
Denmark/Danemark	100	50
France	87.5	75
Germany/Allemagne	80	38.5
Ireland/Irlande	165	112
Italy/Italie	76.5	54
Netherlands/Pays-Bas	300	566
United Kingdom/Royaume-Uni	45.8	56.8
<u>Other European countries/</u> <u>Autres pays européens</u>	94.3 (1)	67.8 (1)
Austria/Autriche	100	100
Finland/Finlande	100	100
Greece/Grèce	70.7	90
Iceland/Islande	130	136
Norway/Norvège	100	80
Portugal	107	110
Spain/Espagne	100	97
Sweden/Suède	67	83
Switzerland/Suisse	60	57
Turkey/Turquie	100 (1)	100 (1)
<u>Yugoslavia/Yougoslavie</u>	104	107

(1) Estimates/Estimations.

TABLE 9/TABLÉAU 9

9. Foreign Trade - Imports/Commerce extérieur - importations

(Mutton, lamb and goatmeat, including meat equivalent of live animals - '000 tonnes (carcase weight))/(Viande de mouton, d'agneau et de chèvre y compris l'équivalent en viande des animaux vivants (poids de carcasse)).

	1966	1975
<u>OECD Total/Total OCDE</u>	584	568 ⁽¹⁾
<u>North America/Amérique du Nord</u>	92	36 ⁽¹⁾
Canada	30	18
United States/États-Unis	62	18 ⁽¹⁾
<u>Japan/Japon</u>	92	136
<u>Oceania/Océanie</u>	-	-
Australia/Australie	-	-
New Zealand/Nouvelle-Zélande	-	-
<u>Europe OECD/OCDE</u>	400	396 ⁽¹⁾
<u>EEC/CEE</u>	362	370
Belgium	3	15
Luxembourg	-	-
Denmark/Danemark	-	1
France	18	50
Germany/Allemagne	4	39
Ireland/Irlande	3	5
Italy/Italie	11	30
Netherlands/Pays-Bas	1	2
United Kingdom/Royaume-Uni	322	228
<u>Other European countries/ Autres pays européens</u>	38	26 ⁽¹⁾
Austria/Autriche	-	-
Finland/Finlande	-	-
Greece/Grèce	34	13
Iceland/Irlande	-	-
Norway/Norvège	-	4
Portugal	-	-
Spain/Espagne	-	5
Sweden/Suède	-	1
Switzerland/Suisse	-	3
Turkey/Turquie	-	-
<u>Yugoslavia/Yougoslavie</u>	-	-

(1) Estimates/Estimations.

TABLE 10/TABLEAU 10

10. Foreign Trade - Exports/Commerce extérieur - Exportations

(Mutton, lamb and goatmeat, including meat equivalent of live animals - '000 tonnes (carcase weight))/(Viande de mouton, d'agneau et de chèvre, y compris l'équivalent en viande des animaux vivants (poids de carcasse)).

	1966	1976
<u>OECD Total/Total OCDE</u>	572 ⁽¹⁾	869 ⁽¹⁾
<u>North America/Amérique du Nord</u>	3 ⁽¹⁾	11 ⁽¹⁾
Canada	3 ⁽¹⁾	11 ⁽¹⁾
United States/États-Unis		
<u>Japan/Japon</u>		
<u>Oceania/Océanie</u>	577	767
Australia/Australie	158	358
New Zealand/Nouvelle-Zélande	369	409
<u>Europe OECD/OCDE</u>	42	91
<u>EEC/CEE</u>	40	82
Belgium/Belgique	-	1
Luxembourg	-	-
Denmark/Danemark	-	-
France	-	2
Germany/Allemagne	1	15
Ireland/Irlande	23	9
Italy/Italie	-	1
Netherlands/Pays-Bas	7	16
United Kingdom	9	38
<u>Other European countries/ Autres pays européens</u>	2	9
Austria/Autriche	-	-
Finland/Finlande	-	-
Greece/Grèce	-	-
Iceland/Islande	2	5
Norway/Norvège	-	-
Portugal	-	-
Spain/Espagne	-	1
Sweden/Suède	-	-
Switzerland/Suisse	-	3
Turkey/Turquie	-	-
Yugoslavia/Yougoslavie	3	5

(1) Estimates/Estimations.

TABLE 11/TABLEAU 1111. Production of ewes' milk in selected countries - '000 tonnes
Production de lait de brebis dans quelques pays - '000 tonnes

	1966	1976
Greece/Grèce	398	564 (1975)
Spain/Espagne	506	234
Portugal	75	77
Turkey/Turquie	804	1,004
Italy/Italie	518	497
France	669	880

Source: Milk, Milk Products and Egg Balances in OECD Member Countries, 1963-1976. OECD.
Bilans du lait, des produits laitiers et des oeufs dans les pays membres de l'OCDE.

TABLE 12/TABLEAU 1212. Milk produced from cows, sheep and goats in selected countries/Production de lait de vache, de brebis et de chèvre dans quelques pays.

	<u>Cows' milk/ Lait de vache</u>	<u>Ewes' milk/ Lait de brebis</u>	<u>Goats' milk/ Lait de chèvre</u>
Greece/Grèce (1975)	712	564	415
Spain/Espagne	5,374	234	296
Portugal	544	77	136
Turkey/Turquie	3,378	1,004	624
Italy/Italie	9,625	497	111
France	29,536	880	385

B) Other Sources/Autres sources

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The OECD Member countries account for 47.5% of the total world sheep stock, but for 56% of the total world production of sheep meat (including goat meat). This reflects the more developed state of the sheep industry in this region and thus the greater overall rate of productivity.

20% of the world sheep population is held in the USSR, making this region a major world producer of sheep meat or 855,000 tonnes in 1976, compared to 594,000 and 511,000 tonnes in Australia and New Zealand respectively.

Australia and New Zealand hold 30% of the world sheep stock (62% of that of the OECD) and produce 1,105,000 tonnes of sheepmeat (1976) or 24.5% of total world production (44% of the OECD total). The lower percentage for sheep meat production is explained by the fact that wool is the primary object of sheep rearing in Australia.

World production of sheepmeat accounts for less than 10% of total world meat production.

Les pays Membres de l'OCDE possèdent 47,5% du cheptel ovin mondial et assurent 56% de la production totale mondiale de viande de mouton (y compris la viande de chèvre). Ceci indique que l'élevage ovin est plus développé dans cette zone et que par voie de conséquence le taux général de productivité y est plus élevé.

20% du cheptel ovin mondial se trouve en URSS, qui est ainsi un des grands producteurs mondiaux de viande ovine avec 855,000 tonnes en 1976 contre 594,000 et 511,000 tonnes en Australie et Nouvelle-Zélande respectivement.

L'Australie et la Nouvelle-Zélande possèdent 30% du cheptel ovin mondial (62% de celui de l'OCDE) et produisent 1,105,000 tonnes de viande ovine (1976) soit 24,5% de la production mondiale totale. (44% du total de l'OCDE). Le pourcentage plus faible de la production de viande ovine s'explique par le fait que la laine est l'objectif essentiel de l'élevage ovin en Australie.

La production mondiale de viande ovine représente moins de 10% de la production mondiale totale de viande.

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TABLE 1/TABLEAU 1

(A) World Sheep numbers ('000 head)/Nombre de têtes d'ovins dans le monde ('000 têtes)

	1975	1976
United States/Etats-Unis	15	13
Mexico/Mexique	5	5
Canada	1	1
Other/Autres	1	1
Total above North and Central American Countries/ Total pays Amérique du nord et Amérique centrale ci-dessus	21	20
Brazil/Brésil	25	25
Argentina/Argentine	37	37
Colombia/Colombie	2	2
Uruguay	15	15
Venezuela	(a)	(a)
Chile/Chili	6	6
Peru/Pérou	14	14
Ecuador/Equateur	2	2
Total above South American Countries/Total pays sud-Américains ci-dessus	101	101
France	11	11
Germany West/Allemagne (R.F.A.)	1	1
United Kingdom/Royaume-Uni	20	20
Italy/Italie	8	8
Ireland/Irlande	3	3
Netherlands/Pays-Bas	1	1
Denmark/Danemark	(a)	(a)
Belgium/Luxembourg/Belgique/Luxembourg	(a)	(a)
Total EEC/Total CEE	43	43
Other Western Europe/Autres pays Europe de l'Ouest	29	29
Total Western Europe/Total Europe de l'Ouest	72	72
Poland/Pologne	3	3
Yugoslavia/Yougoslavie	8	8
Romania/Roumanie	14	14
Czechoslovakia/Tchécoslovaquie	1	1
Germany East/Allemagne de l'Est	2	2
Bulgaria/Bulgarie	10	10
Hungary/Hongrie	2	2
Total Above Eastern European Countries/Total pays Europe de l'est ci-dessus	39	39
USSR/URSS	145	141
Turkey/Turquie	41	41
Philippines	(a)	(a)
Iran	37	38
Japan/Japon	(a)	(a)
Korea, Republic of/Republique de Corée	(a)	(a)
Taiwan/Formose	(a)	(a)
Israel/Israël	(a)	(a)

Table 1 (Contd.)/Tableau 1 (Suite)

	1975	1976
Total Above Asian Countries/Total pays asiatiques ci-dessus	77	79
South Africa, (Republic of)/Afrique du Sud, (Republique d')	34	35
Australia/Australie	152	155
New Zealand/Nouvelle-Zélande	56	57
Grand Total/Total Général	698	698

(a) Less than half million/Inférieur à un demi-million.

Source: USDA Foreign Agricultural Circular FLMS-76, 1975, revised since last report./USDA Foreign Agricultural Circular FLMS-76, 1975, révisée en fonction du dernier rapport.

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(B) WORLD SHEEP MEAT PRODUCTION ('000 tonnes). Including Goat Meat/
 PRODUCTION DE VIANDE OVINE DANS LE MONDE ('000 tonnes)
 Y compris viande caprine

	1975	1976
United States/Etats-Unis	186	169
Mexico/Mexique	56	56
Canada	8	8
Other/Autres	(b)	(b)
Total above North and Central American Countries/ Total pays Amérique du Nord et Amérique centrale ci-dessus	250	233
Brazil/Brésil	56	52
Argentina/Argentine	123	134
Columbia/Colombie	4	4
Uruguay	62	60
Venezuela	3	3
Chile/Chili	18	16
Peru/Pérou	32	33
Ecuador/Equateur	5	3
Total above South American Countries/Total pays sud-Américains ci-dessus	304	306
France	139	155
Germany West/Allemagne (R.F.A.)	21	22
United Kingdom/Royaume-Uni	260	243
Italy/Italie	47	48
Ireland/Irlande	46	39
Netherlands/Pays-Bas	16	16
Denmark/Danemark	1	1
Belgium/Luxembourg/Belgique/Luxembourg	3	3
Total EEC/Total CEE	555	526
Other Western Europe/Autres pays Europe de l'Ouest	311	310
Total Western Europe/Total Europe de l'Ouest	844	836
Poland/Pologne	22	22
Yugoslavia/Yougoslavie	55	56
Hungary/Hongrie	7	7
Czechoslovakia/Tchécoslovaquie	7	7
Germany East/Allemagne de l'Est	14	14
Bulgaria/Bulgarie	78	87
Total above Eastern European Countries/Total pays Europe de l'Est ci-dessus	182	192
USSR/URSS	926	855
Israel/Israël	4	5
Korea, Republic of/Republique de Corée	-	-
Turkey/Turquie	397	426
Philippines	4	4
Iran	295	287
Japan/Japon	(b)	(b)
Taiwan/Formose	1	1
Total above Asian Countries/Total pays Asiatiques ci-dessus	701	723
South Africa, Republic of/Afrique du Sud, Rep.	166	184
Morocco/Maroc	71	73
Total above African Countries/Total pays africains ci-dessus	237	257
Australia/Australie	549	594
New Zealand/Nouvelle-Zélande	509	511
Grand Total/Total Général	4,502	4,307

(b) Less than 500 tonnes/Inférieur à 500 tonnes.

Source: USDA Foreign Agricultural Circular FLM 12-77, 1976
 figures preliminary.

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Australia and New Zealand alone account for 82% of total world export of mutton and lamb (88% of OECD export). These two countries are by far the most important exporting countries:-

L'Australie et la Nouvelle-Zélande assurent à elles seules 82% des exportations totales mondiales de mouton et d'agneau (88% des exportations OCDE). Ces deux pays sont de loin les exportateurs les plus importants:-

	<u>tonnes</u>
<u>1975</u> New Zealand/Nouvelle-Zélande	485,000
Australia/Australie	242,000
United Kingdom/Royaume-Uni	34,000
Argentina/Argentine	22,000
Netherlands/Pays-Bas	14,000
Ireland/Irlande	12,000
Uruguay	10,000

The main world importers of mutton and lamb may be listed as follows:-

Les principaux importateurs mondiaux de mouton et d'agneau peuvent se répartir aussi:

	<u>tonnes</u>
United Kingdom/Royaume-Uni	245,000
Japan/Japon	183,000
France	52,000
USSR/URSS	37,000
Canada	25,000
West Germany/Allemagne, RFA	20,000
United States/États-Unis	12,000
Italy/Italie	12,000
Greece/Grèce	12,000

TABLE 3/TABLEAU 3

MAIN EXPORTING COUNTRIES ('000 tonnes carcass weight)/
 PRINCIPAUX PAYS EXPORTATEURS ('000 tonnes poids carcasse)

Exporting Countries/ Pays exportateurs	Mutton/Lamb/Goatmeat Viande de mouton, d'agneau et de chèvre	
	1974	1975
Australia/Australie	140	242
New Zealand/Nouvelle-Zélande	396	405
Argentina/Argentine	24	22
Denmark/Danemark	-	-
Netherlands/Pays-Bas	13	14
Brazil/Brésil	1	3
Belgium/Luxembourg/Belgique/Lux.	-	1
Ireland/Irlande	11	12
France	-	-
Poland/Pologne	-	-
Uruguay	4	10
Yugoslavia/Yougoslavie	2	3
Hungary/Hongrie	4	4
Canada	-	-
USSR/URSS	-	-
United Kingdom/Royaume-Uni	28	34
Sweden/Suède	-	-
United States/Etats-Unis	2	2
S. Africa, Rep./Afrique du Sud, Rep.	1	1
West Germany/Allemagne, R.F.A.	2	6
Mexico/Mexique	-	-
Other Countries/Autres Pays	25	27
Grand Total/Total Général	653	786

Source: USDA, Foreign Agriculture Service FLM 3-77.

TABLE 4/TABLEAU 4

MAIN IMPORTING COUNTRIES ('000 tonnes carcase weight)
PRINCIPAUX PAYS IMPORTATEURS ('000 tonnes poids carcasse)

Importing countries/ Pays importateurs	Mutton/Lamb/Goatmeat Viande de mouton, d'agneau et de chèvre	
	1974	1975
United Kingdom/Royaume-Uni	215	245
United States/Etats-Unis	12	12
West Germany/Allemagne, RFA	10	20
Italy/Italie	6	12
France	44	52
Japan/Japon	126	183
Spain/Espagne	4	1
Canada	22	25
Netherlands/Pays-Bas	1	1
Greece/Grèce	8	12
Belgium/Lux./Belgique/Lux.	8	11
USSR/URSS	95	37
Poland/Pologne	2	2
Switzerland/Suisse	4	3
East Germany/Allemagne de l'Est	-	-
Chile/Chili	10	1
All other countries/Tous les autres pays	50	66
Total	615	670

Source: USDA Foreign Agriculture Circular FLM 3-77.

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The distinction should be made between trade in mutton and lamb.

Il y a lieu de distinguer le marché du mouton de celui de l'agneau.

In 1976 Australia and New Zealand export may be broken down as follows:-

En 1976, les exportations en provenance d'Australie et de Nouvelle-Zélande peuvent se répartir comme suit:

	Mutton in tonnes/ Mouton en tonnes	% of total % du total	Lamb in tonnes Agneau en tonnes	% of total % du total	Total
Australia/ Australie	162,400	82.5	34,400	17.4	196,800
New Zealand/ Nouvelle-Zélande	87,648	22	310,885	78	398,533

Thus it may be seen that Australia exports mainly mutton (82.5%) and New Zealand exports are mainly of lamb (78%).

Il apparaît donc que l'Australie exporte principalement du mouton (82,5%) et la Nouvelle-Zélande de l'agneau (78%).

See Tables 5 and 6 for the breakdown of Australian and New Zealand exports by Principal Destinations.

Cf. Tableaux 5 et 6 pour le détail des principaux pays destinataires des exportations Australienne et néo-Zélandaises.

TABLE 5/TABLEAU 5

**AUSTRALIAN EXPORT BY DESTINATION/
DESTINATION DES EXPORTATIONS AUSTRALIENNES**

MUTTON ('000 TONNES SHIPPED WEIGHT)/
MOUTON ('000 TONNES EXPEDIEES)

DESTINATION	1975	1976
United Kingdom/Royaume-Uni	4.4	12.3
United States/Etats-Unis	0.3	0.2
Canada	8.6	5.1
Japon/Japan	68.7	95.6
Malaysia/Singapore/Malaisie/Singapour	4.0	4.4
Iran	7.0	11.9
Other Middle East/Autres pays du Moyen-Orient	11.6	16.5
Other/Autres	8.8	16.4
Total	113.4	162.4

LAMB ('000 TONNES SHIPPED WEIGHT)/
AGNEAU ('000 TONNES EXPEDIEES)

United Kingdom/Royaume-Uni	1.7	1.6
United States/Etats-Unis	2.7	3.0
Iran	17.7	19.2
Other Middle East/Autres pays du Moyen-Orient	6.8	7.7
Other/Autres	3.2	2.9
Total	32.1	34.4

LIVE SHEEP ('000 HEAD)/
MOUTONS VIVANTS ('000 TETES)

Iran	680.5	1125.0
Kuwait/Koweit	605.3	664.1
United Arab Emirates/Emirats Arabes Unis	18.2	24.0
Qatar/Qatar	27.8	33.0
Bahrain/Bahreïn	6.0	27.9
Saudi Arabia/Arabie Saoudite	34.0	276.5
Total Middle East/Total Moyen-Orient	1371.8	2150.5
Singapore/ Singapour	111.0	130.4
Malaysia/Malaisie	6.6	12.5
Other/Autres	10.6	41.7
Total	1500.0	2335.1

Sources : AMB, Meat Producer and Exporter (various issues) ;
ABS, Exports Statistics (various issues).

TABLE 6/TABLEAU 6

NEW ZEALAND EXPORTS BY DESTINATION/
DESTINATION DES EXPORTATIONS NEO-ZELANDAISES

	TONNES			
	LAMB/AGNEAU		MUTTON/MOUTON	
	1976	1977	1976	1977
<u>EEC/CEE</u>	217,000	221,405	12,615	8,284
Belgium/Luxemburg				
Belgique/Luxembourg	1,132	1,530	189	241
Denmark/Danemark	1,129	1,666	39	-
France	850	1,082	271	101
Germany/Allemagne	3,741	3,718	189	76
Italy/Italie	2,881	1,370	233	42
Netherlands/Pays-Bas	2,998	1,972	206	88
United Kingdom/ Royaume-Uni	204,069	210,067	11,488	7,736
OTHER EUROPE/ AUTRES PAYS EUROPEENS	2,161	2,226	248	302
MEDITERRANEAN/ PAYS MEDITERRANEENS	16,442	5,880	283	71
Greece/Grèce	15,127	4,399	149	-
EASTERN EUROPE/ EUROPE DE L'EST	-	-	27,659	44,951
USSR/URSS	-	-	27,659	44,951
NORTH AMERICA/ AMERIQUE DU NORD	21,070	14,729	9	32
CARIBBEAN/ CARAIBES	2,188	2,088	1,637	1,601
SOUTH AMERICA/ AMERIQUE DU SUD	54	29	2,782	-
MIDDLE EAST/ MOYEN-ORIENT	34,322	39,676	1,608	442
Iran	19,408	27,384	194	34
Iraq	12,782	9,051	1,193	6

TABLE 6 (CONTD.)/TABLEAU 6 (SUITE)

	TONNES			
	LAMB/AGNEAU		MUTTON/MOUTON	
	1976	1977	1976	1977
AFRICA/AFRIQUE	1,146	1,199	2	8
ASIA/ASIE	13,470	17,220	32,240	38,560
Japan/Japon	10,499	14,305	20,986	25,592
South Korea/ Corée du Sud	1,047	717	10,919	12,651
PACIFIC/ PACIFIQUE	7,411	6,925	972	710
TOTAL	315,263	311,377	80,053	94,961

It is interesting to note that while only 7 % of Beef and Veal production and 7 % of Pigmeat Production enters World Trade, 15 % of world production of mutton and lamb enters the world market.

Il est intéressant de noter que le commerce mondial ne porte que sur 7 % des productions bovines et porcines alors qu'il porte sur 15 % de la production mondiale de mouton et d'agneau

Source : 55th Annual Report and Statement of Accounts for year ended September 30th 1977, New Zealand Meat Producers Board.

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TABLE 7/TABLEAU 7

PROPORTION OF SHEEP PRODUCTION ENTERING WORLD TRADE/
PART DE LA PRODUCTION OVINE DANS LE COMMERCE MONDIAL

Carcase Equivalent/
Equivalent carcasse ('000 tonnes)

	Beef, veal/ Boeuf, veau		Mutton, Lamb, Goatmeat/ Viande de mou- ton, d'agneau, de chèvre		Pigmeat/ Viande porcine		Total	
	1974	1975	1974	1975	1974	1975	1974	1975
Production of meat in selected countries including all countries listed as exporting or importing countries/ Production de viande dans quelques pays y compris tous les pays figurant sur la liste des pays exportateurs ou importateurs	37,107	38,992	4,129	4,386	28,070	26,813	69,568	70,444
Meat entering world trade as % approx. world production/ % approx. du commerce mondial de la viande par rapport à la production mondiale	7	7	15	15	7	7	7	8

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Annex/Annexe II

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TABLE 8/TABLEAU 8

World Production of Wool/Production mondiale de laine

Australia and New Zealand are also major world producers of Greasy Wool, producing almost 40% of the world total/
L'Australie et la Nouvelle-Zélande sont également les principaux producteurs mondiaux de laine en suint, assurant presque 40% de la production mondiale.

GREASY WOOL/LAINE EN SUINT	1975 tonnes	1976 tonnes	1977 tonnes
WORLD/MONDE	2648026	2606769	2587885
AFRICA/AFRIQUE	195010	197019	201010
NORTH AMERICA/AMERIQUE DU NORD	67356	61517	58218
SOUTH AMERICA/AMERIQUE DU SUD	291215	299981	307514
ASIA/ASIE	279334	285142	294220
Turkey/Turquie	52325	53915	54500
<u>EUROPE</u>	260932	264236	263723
France	21900	22100	22200
Germany Fed./Allemagne RFA	4000	4000	4000
Greece/Grèce	9094	11304	11380
Ireland/Irlande	9300	9300	8000
Italy/Italie	11600	11900	12100
Netherlands/Pays-Bas	1200	1175	1200
Portugal	7487	8697	8500
Spain/Espagne	29154	28561	27800
United Kingdom/Royaume-Uni	49260	47627	46900
Yugoslavia/Yougoslavie	10664	9896	9500
<u>OCEANIA/OCEANIE</u>	1087579	1066074	1005200
Australia/Australie	793479	754274	702700
New Zealand/Nouvelle-Zélande	294100	311800	302500
<u>USSR/URSS</u>	466600	432800	458000

Source: FAO Annual Yearbook 1978.

Australia and New Zealand dominate the world wool trade. During 1975/6, Australia accounted for 58% of the total exports from the 5 major wool-exporting countries, New Zealand for 25% followed by S. Africa, Argentina and Uruguay./L'Australie et la Nouvelle-Zélande dominent le commerce mondial de la laine. En 1975/6, parmi les pays exportateurs de laine, l'Australie assurait 58% des exportations, suivie de la Nouvelle-Zélande (25%), de l'Afrique, de l'Argentine et de l'Uruguay.

World Production of Sheep Milk/Production mondiale de lait de brebis

In 1977, World Production of Sheep Milk reached 7.2 million tonnes, over half of which was produced in Europe. Some major producers include. /En 1977, la production mondiale de lait de brebis atteignait 7.2 millions de tonnes, plus de la moitié étant produite en Europe. Les principaux pays producteurs sont les suivants:

	<u>'000 Tonnes</u>
Turkey/Turquie	1,065
France	892
Greece/Grèce	578
Italy/Italie	500
Spain/Espagne	242
Yugoslavia/Yougoslavie	146

These countries alone account for 47% of World Production. / Ces pays représentent à eux seuls 47% de la production mondiale.

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TABLE 9/TABLEAU 9

WORLD SHEEP MILK PRODUCTION/
PRODUCTION MONDIALE DE LAIT DE BREBIS

	'000 tonnes		
	1975	1976	1977
WORLD/MONDE	6922	7081	7268
AFRICA/AFRIQUE	523	545	558
SOUTH AMERICA/AMERIQUE DU SUD	31	31	32
ASIA/ASIE	2910	3009	3106
Turkey/Turquie	993	1004	1065
EUROPE	3358	3396	3472
France	849	880	892
Greece/Grèce	564	561	578
Italy/Italie	473	497	500
Spain/Espagne	239	234	242
Yugoslavia/Yougoslavie	149	145	146
USSR/URSS	100	100	100

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USDA figures on per capita consumption illustrate the importance of sheepmeat consumption in some countries :/
Les statistiques de l'USDA sur la consommation per capita illustrent l'importance de la consommation de viande ovine dans quelques pays :

	<u>1977</u>
	<u>Kg.</u>
New Zealand/Nouvelle-Zélande	34.3
Australia/Australie	20.3
Greece/Grèce	13.4
Iran	12.5
Ireland/Irlande	10.2
Turkey/Turquie	9.4
Bulgaria/Bulgarie	7.5
United Kingdom/Royaume-Uni	7.3

In all of these countries, however, except Iran and Turkey, consumption per head has fallen, mainly due to the share of total consumption taken by other meats./ Cependant, à l'exception de l'Iran et de la Turquie, la consommation per capita a baissé dans chacun de ces pays, principalement en raison de la place prise par d'autres viandes dans la consommation globale.

In other countries of traditionally low per capita sheepmeat consumption, such as West Germany, Belgium, Luxemburg, Sweden, etc., significant increases have taken place. In these countries lamb is considered a luxury product./ Dans d'autres pays ayant traditionnellement une faible consommation de viande ovine per capita, tels l'Allemagne de l'Ouest, la Belgique, le Luxembourg, la Suède, la consommation a considérablement augmenté. Dans ces pays, la viande d'agneau est considérée comme un produit de luxe.

TABLE 10/TABLEAU 10

PER CAPITA CONSUMPTION OF SHEEP/GOATMEAT/
CONSUMMATION DE VIANDE OVINE ET CAPRINE PER CAPITA

(Kilogrammes)

	1966	1976	1977
<u>NORTH AMERICA/AMERIQUE DU NORD</u>			
Canada	1.8	1.1	0.9
Guatemala	0.1	2.0	2.0
Mexico/Mexique	1.4	0.9	0.9
United States/Etats-Unis	1.8	0.8	0.8
<u>SOUTH AMERICA/AMERIQUE DU SUD</u>			
Argentina/Argentine	5.4	3.4	3.9
Brazil/Brésil	0.6	0.5	0.4
Chile/Chili	3.0	2.2	2.4
Colombia/Colombie	0.3	0.4	0.4
Peru/Pérou	3.5	2.2	2.1
Uruguay	17.7	19.8	7.5
Venezuela	0.3	0.4	0.4
<u>EUROPE : WESTERN/ EUROPE OCCIDENTALE :</u>			
<u>EEC/CEE</u>			
Bel.-Lux.	0.5	1.4	1.6
Denmark/Danemark	0.5	0.4	0.5
France	2.7	3.7	3.8
Germany/Allemagne	0.2	0.6	0.7
Ireland/Irlande	10.8	10.3	10.2
Italy/Italie	0.9	1.1	1.1
Netherlands/Pays-Bas	0.2	0.2	0.3
United Kingdom/Royaume-Uni	10.9	8.0	7.3
<u>EEC Average/Moyenne CEE</u>			
	3.4	3.1	3.0
Austria/Autriche	0.4	0.4	0.4
Finland/Finlande	0.3	0.2	0.2
Greece/Grèce	14.4	14.1	13.4
Norway/Norvège	4.6	5.1	5.3
Portugal	3.2	2.4	2.5
Spain/Espagne	4.1	4.2	4.1
Sweden/Suède	0.3	0.7	0.7
Switzerland/Suisse	0.9	1.2	1.2

TABLE 10 (CONTD.)/TABLEAU 10 (SUITE)

(Kilogrammes)

	1966	1976	1977
<u>EUROPE : EASTERN/ EUROPE DE L'EST</u>			
Bulgaria/Bulgarie	10.0	8.3	8.1
Czechoslovakia/Tchécoslovaquie	0.5	0.5	0.5
Germany (D.R.)/Allemagne (R.D.)	0.9	0.8	0.8
Hungary/Hongrie	0.9	0.2	0.2
Poland/Pologne	0.8	0.6	0.7
Yugoslavia/Yougoslavie	2.1	2.6	2.3
<u>USSR/URSS</u>	3.8	3.6	3.6
<u>ASIA AND AFRICA/ASIE ET AFRIQUE</u>			
China (Rep. of)/Chine (Rép. de)	0.1	0.1	0.1
Iran	6.2	12.2	12.5
Israel/Israël	1.2	1.2	1.0
Japan/Japon	1.9	2.5	2.6
Philippines	0.1	0.1	0.1
Turkey/Turquie	9.6	9.6	9.4
South Africa/Afrique du Sud	6.6	6.4	6.2
<u>OCEANIA/OCEANIE</u>			
Australia/Australie	37.6	23.6	20.3
New Zealand/Nouvelle-Zélande	46.1	33.2	34.3

FAO Commodity Projections

There are two sets of projections made to 1985. The basic projections assume that economic growth up to 1985 will be broadly in line with past trends and the supplementary projections a faster economic growth rate. Both sets of projections assume the continuation of present policies.

Growth Rate

The annual growth rate of production of all meat (four main meats) is expected to slow down to 2.4% per annum between 1972/4 up to 1985 (basic projection) as compared to 3.2% between 19 2/4 and 1972/4.

Production of sheepmeat

The world production of sheep and goat meat averaged 7 million tonnes between 1975 and 1977. According to the basic FAO forecasts, production in 1985 is expected to increase by 16.5% to 8.2 million tonnes.

Demand

The world per capita consumption of sheep and goatmeat is expected to decline slightly from 1.8 kg. between 1972/74 to 1.7 kg. in 1985.

Trade

The basic projections suggest increases of 75-80% in export availabilities and import requirements by 1985.

Projections de la FAO sur les produits

Deux séries de projections ont été faites pour 1985. Les projections de base partent de l'hypothèse que la croissance économique jusqu'en 1985 sera à peu près la continuation de la tendance passée et les projections supplémentaires indiquent un taux de croissance économique plus rapide. Les deux séries de projections partent de l'hypothèse que les politiques actuelles continueront à être appliquées.

Taux de croissance

Le taux de croissance annuel de la production de toutes les viandes (les quatre principales viandes) devrait se ralentir et tomber à 2.4% par an entre 1972/74 jusqu'en 1985 (projection de base) contre 3,2% entre 1962/64 et 1972/74.

Production de viande ovine

La production mondiale de viande ovine et caprine atteignait en moyenne 7 millions de tonnes entre 1975 et 1977. D'après les prévisions de base de la FAO, la production de 1985 devrait augmenter de 16.5% et atteindre 8,2 millions de tonnes.

Demande

La consommation mondiale par habitant de viande de mouton et de chèvre devrait diminuer légèrement et passer de 1,8 kg en 1972/74 à 1,7 kg en 1985.

Echanges

Les projections de base proposent une augmentation de 75 à 80% des disponibilités exportables et des besoins d'importation d'ici à 1985.

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TABLE 11/TABLEAU 11

Sheep and Goatmeat: Actual and Projected Production/Viande ovine et caprine: production réelle et projetée

	1962-64 average moyenne	1972-74 average moyenne ('000	1975-77 average moyenne tonnes)	Projected Projetée 1985	
				Basic Min.	Supp. Max.
<u>WORLD/MONDE</u>	6580	7005	7094	8270	8970
<u>DEVELOPING/EN DEVELOPPEMENT</u>	2993	3385	3612	4200	4720
<u>Latin America/Amérique Latine</u>	416	391	416	470	550
Argentina/Argentine	172	135	136	160	190
Brazil/Brésil	45	59	62	70	80
Colombia/Colombie	5	5	6	10	10
Mexico/Mexique	25	34	36	40	50
Uruguay	56	52	48	60	70
<u>Africa/Afrique</u>	603	676	767	840	940
Algeria/Algérie	36	51	57	60	70
Ethiopia/Ethiopie	140	131	129	150	170
Nigeria	88	84	101	120	120
Southern Africa/Afrique du Sud	23	33	37	40	40
<u>Near East/Proche Orient</u>	819	1031	1061	1330	1480
Iran	149	208	201	280	320
Sudan/Soudan	61	98	119	140	170
Turkey/Turquie	300	320	348	410	440
<u>Far East/Extrême-Orient</u>	506	575	618	680	770
<u>Asian CPE/Asie EPC</u>	648	711	750	890	980
China/Chine	525	589	622	760	840
<u>Other Developing/Autres en développement</u>	1	0	1	0	0
<u>DEVELOPED/DEVELOPPES</u>	3587	3619	3482	4060	4260
<u>North America/Amérique du Nord</u>	379	241	185	100	90
Canada	14	8	7	10	10
United States/Etats-Unis	365	233	178	100	90

TABLE 11 (Contd.)
TABLEAU 11 (Suite)

	1962-64 average moyenne	1972-74 average moyenne	1975-77 average moyenne	Projected/ Projetée 1985	
				Basic Min.	Supp. Max.
	('000 tonnes)				
<u>Western Europe/Europe Occidentale</u>	769	802	890	970	1040
<u>EEC/CEE</u>	473	474	505	560	600
Denmark/Danemark	1	1	1	0	0
France	107	130	139	150	160
Germany, Fed. Rep./Allemagne, RFA	16	18	20	20	30
Ireland/Irlande	43	43	40	50	50
Italy/Italie	41	30	34	50	60
Netherlands/Pays-Bas	8	12	18	20	20
United Kingdom/Royaume-Uni	254	237	250	270	280
<u>Other W. Europe/Autre Europe Occidentale</u>	296	358	385	400	440
Spain/Espagne	115	145	147	150	160
Yugoslavia/Yougoslavie	53	50	59	70	80
<u>E. Europe and USSR/Europe de l'Est et URSS</u>	1248	1192	1189	1390	1480
<u>USSR/URSS</u>	1042	931	936	1070	1130
<u>Eastern Europe/Europe Occidentale</u>	206	261	253	320	350
Czechoslovakia/Tchecoslovaquie	7	8	4	10	10
German, Dem. Rep./Allemagne de l'Est	22	13	17	20	20
Hungary/Hongrie	14	21	17	30	30
Poland/Pologne	28	27	20	40	40
Romania/Romanie	53	87	91	120	130
<u>Oceania/Océanie</u>	1064	1178	1049	1420	1440
Australia/Australie	599	636	538	770	790
New Zealand/Nouvelle-Zélande	465	542	511	640	660
<u>Other Developed/Autres Développés</u>	128	176	169	190	200
Japan/Japon	3	1	0	0	0
South Africa/Afrique du-Sud	122	171	166	190	200

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TABLE 12/TABLEAU 12

SHEEP AND GOATMEAT : CONSUMPTION AND PROJECTED DEMAND/VIANDES OVINE ET CAPRINE : CONSOMMATION ET DEMANDE PROJETEE

	1972-74	Total 1985 P	1985 S	1972-74	Per capita 1985 B	1985 S
	('000 MT)			(kg/year/kg/an)		
<u>WORLD/MONDE</u>	7002	8300	8920	1.8	1.7	1.9
<u>DEVELOPING/EN DEVELOPPEMENT</u>	3451	4750	5330	1.3	1.3	1.5
<u>Latin America/Amérique latine</u>	370	450	480	1.2	1.1	1.1
Argentina/Argentine	101	100	100	4.1	3.4	3.4
Brazil/Brésil	58	90	90	0.6	0.6	0.6
Colombia/Colombie	5	10	10	0.2	0.2	0.2
Mexico/Mexique	31	40	50	0.6	0.5	0.6
Uruguay	48	40	30	15.8	10.6	10.2
Venezuela	8	10	10	0.7	0.7	0.8
<u>Africa/Afrique</u>	660	880	1010	2.1	2.0	2.3
Algeria/Algérie	51	90	110	3.5	4.0	5.0
Marocco/Maroc	76	100	120	4.6	4.3	5.2
Nigeria/Niger	86	140	170	1.2	1.4	1.6
<u>Near East/Proche-Orient</u>	1166	1840	2070	6.4	7.2	8.1
Egypt/Egypte	48	60	70	1.3	1.3	1.5
Iran	289	590	640	9.3	13.2	14.3
Saudi Arabia/Arabie Saoudite	27	60	70	4.8	7.8	9.0
Turkey/Turquie	308	400	450	8.1	7.7	8.6
<u>Far East/Extrême-Orient</u>	596	720	820	0.6	0.5	0.6
India/Inde	382	420	480	0.7	0.6	0.6
<u>Asian CPE/Asie EPC</u>	653	850	940	0.7	0.8	0.9
China/Chine	587	760	840	0.7	0.8	0.9
<u>Other Developing/Autres en développement</u>	7	10	10	1.6	1.5	1.5

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TABLE 12 (CONTD.)/TABLEAU 12 (SUITE)

	1972-74	Total 1985 B	1985 S	Per capita		
		('000 MT)		1972-74	1985 B	1985 S
				(kg/year/kg/an)		
<u>DEVELOPED/DEVELOPPES</u>	3551	3550	3590	3.2	2.9	3.0
<u>North America/Amérique du Nord</u>	289	280	290	1.2	1.1	1.1
Canada	36	50	50	1.6	1.8	1.8
United States/Etats-Unis	253	230	240	1.2	1.0	1.0
<u>Western Europe/Europe occidentale</u>	1185	1180	1200	3.3	3.1	3.2
<u>EEC/CEE</u>	784	750	760	3.1	2.9	2.9
France	174	200	210	3.3	3.7	3.8
Germany/Allemagne	23	40	40	0.4	0.7	0.7
Italy/Italie	58	70	70	1.1	1.1	1.2
Netherlands/Pays-Bas	3	10	10	0.2	0.3	0.3
United Kingdom/Royaume-Uni	480	380	380	8.5	6.6	6.6
<u>Other W. Europe/Autres Europe occid.</u>	401	430	440	3.8	3.8	3.8
Greece/Grèce	138	130	130	15.5	14.2	14.4
Spain/Espagne	147	160	160	4.2	4.1	4.2
Sweden/Suède	5	0	0	0.6	0.5	0.5
Switzerland/Suisse	8	10	10	1.2	1.1	1.1
Yugoslavia/Yougoslavie	46	60	60	2.2	2.7	2.7
<u>East Europe and USSR/Europe de l'Est et URSS</u>	1183	1310	1330	3.3	3.3	3.3
USSR/URSS	962	1080	1090	3.9	3.8	3.9
<u>Eastern Europe/Europe de l'Est</u>	221	230	240	2.1	2.0	2.1
Czechoslovakia/Tchécoslovaquie	8	10	10	0.5	0.5	0.5
Germany (D.R.)/Allemagne (R.D.)	16	20	20	0.9	1.0	1.0
Poland/Pologne	24	30	30	0.7	0.8	0.8
<u>Oceania/Océanie</u>	588	400	380	36.0	20.3	19.3
Australia/Australie	464	280	270	34.7	17.8	16.9
New Zealand/Nouvelle-Zélande	124	110	110	41.8	31.3	30.2

TABLE 12 (CONTD.) / TABLEAU 12 (SUITE)

	1972-74	Total 1985 B	1985 S	Per capita		
		('000 MT)		1972-74	1985 B	1985 S
				(kg/year/kg/an)		
<u>Other Developed/Autres développés</u>	306	390	410	2.3	2.4	2.5
Japan/Japon	126	180	190	1.2	1.4	1.5
South Africa/Afrique du Sud	176	210	220	7.5	6.3	6.5

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 Annex/Annexe II

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TABLE 13/TABLEAU 13

SHEEP AND GOATMEAT : INTERNATIONAL TRADE AND ADJUSTED EXPORT AVAILABILITIES AND IMPORT REQUIREMENTS/
 VIANDES OVINE ET CAPRINE : COMMERCE EXTERIEUR ET DISPONIBILITES A L'EXPORTATION ET BESOINS D'IMPORTATION
 (Thousand tons/Milliers de tonnes)

	Actual net Exports 1972-74 average/Exportations réelles nettes 1972-74 moyenne	Adjusted Export Availabilities/Disponibilités à l'exportation révisées - 1985		Actual net Imports 1972-74 average/Importations réelles nettes 1972-74 moyenne	Adjusted Import Requirements 1985/Besoins d'importation révisés 1985	
		Basic/Maximum	Supp./Minimum		Basic/Maximum	Supp./Minimum
<u>WORLD/MONDE (1)</u>	812	1430	1610	810	1460	1560
<u>DEVELOPING/EN DEVELOPPEMENT</u>	154	270	340	221	820	960
<u>Latin America/Amérique latine</u>	44	90	140	22	80	80
<u>Africa/Afrique</u>	35	80	90	19	120	170
<u>Near East/Proche-Orient</u>	17	50	50	152	560	640
Sudan/Soudan	5	40	50	0	0	0
Iran	0	0	0	81	320	320
Saudi Arabia/Arabie Saoudite	0	0	0	17	50	60
<u>Far East/Extrême-Orient</u>	0	20	20	21	50	60
<u>Other Developing/Autres en développement</u>	0	0	0	6	0	0
<u>DEVELOPED/DEVELOPPES</u>	658	1160	1270	589	640	610
<u>North America/Amérique du Nord</u>	0	0	0	48	180	190
United States/Etats-Unis	0	0	0	20	130	150
<u>Western Europe/Europe occidentale</u>	25	30	50	377	240	200
<u>EEC/CEE</u>	19	20	20	329	210	190
France	0	0	0	44	50	50
United Kingdom/Royaume-Uni	0	0	0	243	110	100
Other W. Europe/ Autres Europe occ.	6	10	20	48	40	20

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TABLE 13 (CONTD.)/TABLEAU 13 (SUITE)

(Thousand tons/Milliers de tonnes)

	Actual net Exports 1972-74 average/ Exportations réelles nettes 1972-74 moyenne	Adjusted Export Availabilities/ Disponibilités à l'exportation révisées - 1985		Actual net Imports 1972-74 average/ Importations réelles nettes 1972-74 moyenne	Adjusted Import Requirements 1985/ Besoins à l'importation révisés 1985	
		Basic/Maximum	Supp./Minimum		Basic/Maximum	Supp./Minimum
<u>E. Europe and USSR/Europe de l'Est et URSS</u>	43	110	160	34	30	0
USSR/URSS	0	0	40	31	10	0
<u>Eastern Europe/Europe de l'Est</u>	43	110	120	3	20	0
<u>Oceania/Océanie</u>	590	1020	1070	0	0	0
Australia/Australie	172	490	520	0	0	0
New Zealand/Nouvelle-Zélande	418	530	550	0	0	0
<u>Other Developed/Autres développés</u>	0	0	0	130	200	200
Japan/Japon	0	0	0	125	180	180

(1) Including intra-EEC trade./Y compris le commerce intra-communautaire.

C) Distribution of Breeds/Répartition des races

	%
<u>Australia/Australie</u>	
Marino	75
Corriedale/Polwarth	6.6
Border Leicester	1.8
Dorset Horn	0.8
Marino Comeback	2.0
Crossbred/Croisement	10.9
Other/Autres	2.8
<u>Denmark/Danemark</u>	
Texel	25
White Marsk	20
Oxford Down	10
Shropshire	10
<u>France</u>	
Lacaune	14
Southdown	12
Charmoise	9
Berrichon du Cher	7
Ile de France	6
Préalpes du Sud	6
Texel	4
Manech	4
Mérinos d'Arles	4
Others and Cross-Breds/ Divers et croisement	34
<u>Germany/Allemagne</u>	
Local Marino	42.10
Black-head Mutton	26.27
White-head Mutton	9.33
Texel	6.89
Marino Mutton	3.32
Blue-head Mutton	-
Milk sheep	2.56
Moorland sheep	1.43
Rhön	0.35
Mountain Sheep	0.97
Leine Sheep	0.09
Local Sheep	0.05
Others/Divers	0.07
Cross-breed/Croisement	6.57
Total	100.00
<u>Greece/Grèce</u>	
Vlachico	21.4
Karagouniko	13.2
Cretan	4.6
Serres	2.6
Thraki	2.0
Chios	1.6
Mytilene	1.1

Ireland/Irlande

Blackface Mountain	33.5
Galway	28.9
Wicklow Cheviot	19.3
Others (mainly Suffolk)/ Divers (principalement Suffolk)	18.3

Total (June 1975)

Luxembourg/Luxembourg

Texel	90
Others/Divers	10

Netherlands/Pays-Bas

Texel	99.0
Others/Divers	1.0

Portugal

Merina	47
Serra de Istrela	11
Badano	12.9
Merino de Beira Baixa	6

Spain/Espagne

Merino	23
Manchega	16
Castellana	12
Churra	13
Lacha	2
Aragonesa	12
Talaverana	5
Other local breeds/ Autres races locales	6
Foreign Breeds/ Races étrangères	0.2
Cross-breed/Croisements	10

Sweden/Suède

Gray Landrace	50-60
Crossbreeds	20-40
White Landrace	10-20

Switzerland(1973)

Blanc des Alpes	72.1
Tête Brune	9.4
Brun Noir	7.1
Nez noir du Valais	7.2
Other breeds/Autres races	4.2

Suisse (1973)

Turkey/Turquie

Akkaraman	42	(Meat and milk/ Viande et lait)
Moakaraman	19.2	
Daglié	19.2	
Kivirich	7.2	(Meat and wool/ Viande et laine)
Karayaka	3.6	(Meat and milk/ Viande et lait)
Iue Si	1.4	
Mixed	4.8	
Marino	2.4	(High quality wool/ Laine de qualité)

Yugoslavia/Yougoslavie

Pramenka	80%
"Cigaya"	
"Soltchavska"	
Dubrovnik	20%
Domestic Marino	
Pramuka/Marino	

Category/ Catégories	Breed/ Races	Function/Fonction	
<p>a. Hill Flocks Troupeaux des régions de colline</p>	<p>Blackface Black Welsh Cheviot Dales Bred Dartmoor Derbyshire Gritstone Exmoor Horn Herdwick Hill Radnor Lonk North Country Cheviot Rough Fell Shetland Swale Dale Welsh Mountain White Face Dartmoor</p>	<p>Mainly kept on hill and mountain land and bred pure to maintain an adequate flow of replacements. In many areas, ewes are drafted out of the hill flock after 3, 4 or 5 lamb crops and moved to upland and marginal areas for the production of crossbred offspring which in turn are sold to the lowlands as breeding ewes.</p> <p>In hill flocks, required characteristics are hardiness, ability to rear 100 % lam crop and satisfactory weight and quality of fleece commensurate with hardiness.</p>	<p>Ils sont principalement élevés sur les pâturages de colline et de montagne et sont de race pure afin d'assurer régulièrement les remplacements. Dans de nombreuses régions, les brebis sont retirées des troupeaux des régions de colline au bout de 3, 4 ou 5 agnelages et sont transférées dans les zones de montagne et les zones marginales pour produire des agnelles issues de croisement qui à leur tour sont vendues dans des régions de plaine comme brebis reproductrices.</p> <p>Dans les troupeaux des régions de colline, les caractéristiques requises sont la rusticité, la possibilité de donner 100 % d'agneaux, un poids satisfaisant et une qualité de toison compatible avec la rusticité.</p>
<p>b. Flocks producing sires of crossbred ewes Troupeaux produisant des béliers issus de brebis croisées</p>	<p>Blue Faces Leicester Border Leicester Colored Tees Water Wensleydale</p>	<p>These are flocks (usually small) which produce rams for crossing with draft hill ewes. These rams put size, growth rate and prolificacy into the resulting crossbred offspring.</p>	<p>Ce sont des troupeaux (généralement peu nombreux) qui produisent des béliers qui sont croisés avec les brebis retirées des régions de colline. Ces béliers transmettent leur taille, leur taux de croissance et leur prolificité à leur descendance issue d'un croisement.</p>

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Category/ Catégories	Breed/ Races	Function/Fonction	
<p>c. Flocks producing terminal sires</p> <p>Troupeaux produisant les béliers des centres de reproduction</p>	<p>Cotswold Dorset Down Hampshire Down Lincoln Longwool Leicester Oxford Down Ryeland Shropshire South Down Suffolk Wiltshire Horn</p>	<p>These flocks are usually kept in lowland areas and produce the terminal sires required for use on the lowland flocks of pure and crossbred ewes. These rams impart growth and carcass quality to their offspring.</p>	<p>Ces troupeaux sont généralement élevés dans les régions de plaines et produisent les béliers des centres de reproduction qui sont nécessaires pour saillir les brebis des troupeaux de plaine de races pures et de races croisées. Ces béliers confèrent à leur descendance des qualités de croissance et de carcasses.</p>
<p>d. Self contained flocks producing own replacements, females for sale and fat lambs</p> <p>Troupeaux vivant en circuit fermé produisant leurs propres remplaçants, des femelles pour la vente et des agneaux gras</p>	<p>Beulah Speckled Face Clun Forest Devon Closewool Devon Longwool Kent or Romney Kerry Hill Llanwener North Country Cheviot South Devon</p>	<p>These flocks are found in upland and lowland areas and are self contained. Either ewe lambs or draft ewes may be sold for breeding and the remainder sold for slaughter. Such flocks are usually quite productive but not as highly productive as the crossbred ewe flock.</p>	<p>Ces troupeaux se trouvent sur les hautes terres et les régions de plaine et vivent en circuit fermé. Les agnelles ou les brebis peuvent être vendues pour la reproduction et le reste vendu pour la boucherie. Ces troupeaux sont généralement très productifs mais ne sont pas aussi productifs que les brebis issues de croisements.</p>
<p>e. Out of season breeding flocks</p> <p>Troupeaux se reproduisant hors saison</p>	<p>Dorset Horn Polled Dorset</p>	<p>Usually found in areas of favourable climate where lambs are born in the autumn for early spring sale.</p>	<p>Se trouvent généralement dans des régions à climat favorable où les agneaux naissent à l'automne pour être vendus au début du printemps.</p>

ANNEX III

MOUNTAIN AND LESS-FAVOURED AREAS

Mountain and less-favoured areas

On 28th April, 1975, the Council of Ministers of the European Economic Community passed the Directive 268 on mountain and hill farming in certain less-favoured areas.

Article 1 states:

"In order to ensure the continuation of farming, thereby maintaining a minimum population level or concerning the countryside in certain less-favoured areas ... member states are authorised to introduce the special system of aids ... to encourage farming and to raise farm incomes in these areas."

Mountain areas are defined as those areas which are

Characterised by a considerable limitation of the possibilities for using the land and an appreciable increase in the cost of working it, due:

- either to the existence, because of the altitude, of very difficult climatic conditions, the effect of which is substantially to shorten the growing season,
- or at a lower altitude, to the presence, over the greater part of the district in question, of slopes too steep for the use of machinery or requiring the use of very expensive, special equipment.
- or to the combination of these two factors.

Less-favoured areas in danger of depopulation and where the conservation of the countryside is necessary, shall be made up of farming areas which are homogeneous from the point of view of natural production conditions and must simultaneously exhibit all of the following characteristics.

- (a) the presence of infertile land, unsuitable for cultivation or intensification, with a limited potential which cannot be increased except at excessive cost and mainly suitable for extensive livestock farming.
- (b) because of this low productivity of the environment, results which are appreciably lower than the mean as regards the main indices characterising the economic situation in agriculture.
- (c) either a low or dwindling population predominantly dependent on agricultural activity, and the accelerated decline of which would jeopardise the viability of the area concerned and its continued habitations.

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Rapporteur Mr. Michael Herbert

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