

### The animal feed situation in the Community:

#### Study of feedingstuffs resources and utilization

##### Importance of feedingstuffs in agriculture

In 1987, according to the results of Eurostat's Economic Accounts for Agriculture and Forestry, animal production accounted for a good 53% of total agricultural output in EUR 10.

In terms of value, animal feed consumption corresponds to around 25% of total gross agricultural output in the Community, according to Eurostat's sectoral production and income model for agriculture (SPEL).

It is estimated that more than two thirds of utilized agricultural area is used for feedingstuffs production. This includes not only grasslands, but also a large part of the area under cereals, a good half of the Community cereals harvest being used as feed.

Furthermore, a considerable proportion of the EC's feed requirements is imported from outside the Community (nearly one-fifth of total resources in terms of protein). In terms of value, feedingstuffs represent a major item in the list of imported agricultural products.

Eurostat has commissioned a study from the Research Centre of the University of Louvain (Belgium) to update the 'Feed balance sheet' project.

With the reform of the European agricultural policy and the GATT negotiations in the Uruguay Round, the economic significance of the animal feed sector as a link between crop and animal production has led to an increased demand for information. Like other international organizations such as the FAO and OECD, Eurostat, on behalf of the Community, is working on improving animal feed statistics in its 'Feed balance sheets' project. A feed balance sheet provides an overall view of feed supply (marketed and non-marketed such as roughages) and consumption by animal category.

With the help of the University of Louvain and the Member States, Eurostat has compiled an inventory of the statistics which have been kept since 1970, designed a new classification system and created a balance sheet utilization side for the years 1981-1987 (the detailed aspects of which have still to be developed). The main results of the two-year project are contained in a recently published study and are outlined below.

## **General information**

The study gives a detailed analysis of the EUR 10 feed balance sheets over the period 1979/80 to 1986/87 and contains a large number of graphs. Some 150 (groups of) products were chosen to represent the range of livestock feedingstuffs, including roughages. Depending on their composition, feedingstuffs were divided into concentrates (subdivided into (a) 'energy-rich' and (b) 'protein-rich') and roughages, etc.

The basic data, expressed in metric tonnes, are systematically converted into two units: energy content (metabolizable energy) and protein content (digestible crude protein).

## **Increased importance of protein-rich feedingstuffs**

Whilst total supplies, expressed in energy units, have remained relatively constant over the years, there is an increasing shift from roughages to protein-rich feedingstuffs. Compared with 1979/80, consumption of protein-rich feedingstuffs rose by almost one-fifth. Looking at this increase in more detail, the most striking aspect is the almost five-fold increase in oil cakes and protein plants over the period 1979/80 to 1986/87. Import trends are similar, and it is also interesting in this connection to compare total resources with imports from outside the Community. The Netherlands is only in fifth place as regards feed resources (behind F, D, UK and I), but is the largest importer (followed by D, I, F and B/L).

There is also a general trend towards higher energy and protein contents in feeds, particularly in concentrates. Cereals account for about 50% of concentrates in terms of energy content (MJ); whilst the cereals sector has remained fairly constant at around 20% of total resources, there has been a noticeable shift within it towards wheat.

However, in considering these changes, the basic orders of magnitude should not be forgotten. In terms of energy units (protein units), the contribution of roughages to total supply in 1987 was 62% (55%) followed by energy-rich feedingstuffs with 27% (17%) and protein-rich feedingstuffs with 11% (28%).

## **The theoretical requirements of the livestock population as a reflection of trends in animal production**

The feed requirements expressed in terms of energy and protein units were calculated for the eight animal categories: dairy cattle, other large cattle, veal calves, pigs, sheep/goats, horses and poultry (laying hens/broilers for slaughter). The figures were compiled from Eurostat's population and production data. In addition, a number of physiological parameters such as average daily weight increase, average live weight, etc., had to be estimated on the basis of information found in the literature.

Of course, the general structural aspects and trends in the animal sector are also reflected by the calculated requirements. For example, a comparison of the breakdown of feed requirements by animal categories in the different Member States is very informative. On average for EUR 10, 62% of feed in terms of energy units is needed for cattle (of which 42.7%, or more than two-thirds, for dairy cattle), 18.9% for pigs, 9.6% for poultry, 8.4% for sheep and goats, and only 1.1% for horses. However, the differences in the make-up of national livestock populations, as reflected in feed requirements, are considerable. Greece is completely different from the rest of EUR 10 in that more than half the feed needed there is for sheep and goats, with dairy cattle, pigs and poultry each accounting for around one-tenth. In the other countries cattle account for at least half the feed requirements - around 85% in Ireland, followed by France with a good 72%. At the other end of the scale the figures for Denmark and the Netherlands are just under and just over 50% respectively. Denmark is also the only country where the feed requirement for pigs is greater than for dairy cattle. The pig sector is also important in the Netherlands, the Federal Republic of Germany and Belgium, but of relatively minor significance in Ireland, the United Kingdom and France. Apart from Greece, sheep and goats are also important in the United Kingdom, Italy, France and Ireland, but not so much in the remaining countries.

As far as trends in time are concerned, the changes in feed requirements for cattle are particularly noticeable. Between 1983/84 and 1986/87 they fell by between 3% and 10%, depending on the Member State, due to the introduction of the milk quota system. On the other side of the coin, the feed requirement for the other cattle categories rose during the same period in the Netherlands, Belgium, the Federal Republic of Germany and Italy. The increase in the pig population in recent years - a considerable increase over a long period - in the Netherlands, France, Denmark and the Federal Republic of Germany in particular, and a rise in the sheep and goat populations of the United Kingdom and Ireland, are both reflected in the overall feed requirement.

Whereas the total animal population of EUR 10 as a whole increased - most sharply in Belgium and the Netherlands - it fell considerably in France and slightly in Denmark. The situation in France is the result of a fall in the dairy cattle population and a large reduction in the sheep population (NB: these figures will have to be revised in the light of the results of the last agricultural census, which were forwarded after the study had been set up).

It is not surprising to note that total feed resources exceed requirements, since, unlike in many Third World countries, the availability of feed is not a limiting factor in animal production. On the other hand, it is surprising that there is a shortfall in Greece, though this is probably a statistical problem.

A detailed comparison of supply and consumption of feedingstuffs in the form of utilization matrices is one of the next subjects to be tackled by Eurostat in the field of feed statistics.

The study 'ANIMAL FEED - Supply and Demand of Feedingstuffs in the European Community' is available, in English only, from the Publications Office of the European Communities, 2 Rue Mercier, Luxembourg L-2985.

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