CARLO SESSA (*)

Situation and Prospects Regarding the Italian Market of Medicinal and Aromatic Plants (**) 

On behalf of ASSOERBE I would like to thank the President as well as the Organizing Committee for offering me the opportunity to express the opinion of the growers, collectors, importers, exporters, wholesalers and agents on the industrial, commercial and economic problems existing in the botanical drugs market.

Our association represents about 85% of all the Italian companies involved in this business and about 90% of the total turnover, which means that we can give quite an exact picture of the present situation as well as of the future prospects of our sector.

First of all and in order to avoid any misunderstanding, it would be important to specify what exactly is meant by "botanical drug" market; i.e., it is necessary to indicate those fields which use medicinal and aromatic plants (the so-called "drugs") or part of them, as raw materials for the manufacturing of:

- pure pharmaceutical substances (alkaloids, glycosides, flavonoids, etc.);
- spirit and soft drinks;
- vegetable extracts for therapeutic use;
- infusions and herbal teas;
- essential oils;
- natural cosmetics;
- flavours and seasonings.

Therefore products like coffee, cocoa, spices, as well as tanning natural derivatives, oil seeds, natural insecticides, etc., must not be included.

Consequently, the real turnover of the drug market is considerably lower than the so-called official data, perhaps intentionally exaggerated.

(*) President of ASSOERBE, Milan.
(**) Presented at the International Congress on Medicinal Plants (Sansepolcro (AR), 17-19 October - Roma, October 20th 1987), organized by the Accademia Nazionale delle Scienze detta dei XL.
Unfortunately, the lack of reliable official sources allows any kind of interpretation. Actually, the statistics given by ISTAT (Italian official statistics bureau) are rather incomplete and especially not up-to-date.

The Brussels Nomenclature classifies almost all drugs in only two groups, making it practically impossible to obtain detailed information at least for the most important products. It would be appreciable if the Customs Tariff included more detailed classifications as already realized by other European countries.

Considering accurately the results based on the information given by the different Customs, you can easily notice huge contrasts probably due to human error. It seems, for instance, that in 1984 Italy imported vanilla beans at Lit. 110,000/kg and reexported the same product at Lit. 19,000/kg. In 1985 Italy exported thyme leaves (a product we usually import, having practically no domestic production) at the incredible price of Lit. 75,000/kg, while the market price is usually about Lit. 1000-1500/kg.

Always according to the ISTAT figures, Italy is regularly exporting huge quantities of saffron powder, but the statistic does not consider that it is an already packed product in small bags and includes the gross weight of the packing, which is at least 8-10 times higher than the powder itself.

Although the information given by official sources is rather incomplete, it is nevertheless possible to quantify fairly well the total value of the Italian “drug” market. Against an import of approx. 50/55 billion liras per year (corresponding to 40-44 million US$), we have an export of 18/20 billion liras (US$ 14-16 million).

The deficit of the commercial balance is therefore about 30 billion liras per year (US$ 24 million).

The imports until 1984 have increased by 10-15% yearly. In 1985 we have had a considerable increase of 43% compared to the year before.

As to exports, there has been a constant increase, ranging from 10-15% a year, peaking at a maximum of 33% in 1985.

On the contrary, 1986 has been a particularly unfavourable year, with 24% less in value for the import and 18% less for the export, compared to 1985. Although there are no official up-to-date figures, we presume that this negative trend has continued also in 1987, particularly with regard to imported goods, due to a certain stagnation of the market.

At present Italy imports the largest part of its requirements of medicinal and aromatic plants; the only two products regularly exported to foreign countries are juniper berries and manna.

As far as imports are concerned, they consist mainly of drugs not belonging to the local “habitat” (e.g., rhubarb roots, chinchona bark, vanilla beans, cascara bark, aloes, etc.) or which, at least for the time being, are not available in Italy in industrial quantities (e.g., camomile flowers, saffron stigmas, etc.).

In any case our business is to be considered in loss only for a very small part, as in Italy many herbal derivatives, like spirits, essential oil, flavours, etc. are exported as added value products.

Until the 50s Italy used, indeed, to export medicinal and aromatic plants,
but that was a period in which the country's economy was mainly based on agriculture. The change of the market trend has different reasons: the increased welfare, the industrialisation, the urbanisation, the desertion of agricultural areas, especially hills and mountain regions.

It also must be taken into account that "drugs", with very few exceptions like vanilla and saffron, have generally a quite low cost: the average prices range between 5000 and 8000 lire per kilo.

It's obvious that at these price levels the labour cost has a fundamental part. For this reason, in the drug market preference is given to wild growing herbs, rather than to cultivated ones and to developing countries, rather than industrialised ones.

In these last ten years, the interest in developing the cultivation and production of medicinal and aromatic plants in Italy has received a considerable impulse; especially for those "drugs" which are the most required by the domestic as well as the international market, for their properties in quality as, for instance, active principle, biological cultivation, free from pesticides, etc.

The establishment of cooperatives and agricultural communities has been encouraged in order to increase the production of medicinal herbs, and little by little this change of direction is showing satisfactory results.

We are, however, still far from being self-sufficient because, as mentioned before, the import of drugs covers mainly plants which do not grow in Italy or which are not remunerative to the farmers and collectors, due to their low value.

It would be desirable — and our association makes particular efforts in this matter — that the increased interest in growing and producing medicinal and aromatic plants might reduce in the near future the existing commercial deficit.

The main sources of supply for the Italian market are: China, India, North Africa, Eastern Europe, Central and South America. Not always the products supplied from these countries correspond to the quality requirements which should be fulfilled for "drugs".

For the trade of medicinal and aromatic plants the following factors should always be considered:

- botanical aspect;
- active principles content;
- pesticide residues;
- bacteria;
- heavy metals.

**Botanical aspect**

Before putting a product on the market, it is necessary to make sure that it has been collected during the right balsamic time and according to well defined procedures. Moreover, it must be well dried and accurately selected, in order to prevent it from deterioration.
Unfortunately, it occurs quite often that products, especially those supplied from developing countries, have not been treated according to the above-mentioned conditions, i.e., the balsamic time has been anticipated or extended for obtaining a higher production (this happens especially in case of whole plants, aerial parts and flowers).

The drying and the storage of the products is not done in suitable places, and often the hygienic conditions are so disastrous that the product is contaminated by an unacceptable bacteria content.

**Active Principle Content**

Guarantee of standard quality must be given, especially for those “drugs” which will be used for therapeutical purposes and those mentioned in the Pharmacopoeias.

The only possible solution would be the cultivating of “drugs”, using selected seeds or plants. This procedure would, however, involve high costs which often do not justify the low commercial value of the item.

As regards the crop of wild growing “drugs”, we depend completely on the freaks of nature, and it is difficult to guarantee a standard quality.

**Pesticide Residues**

This is a subject of great topical interest. Our association has worked out a dossier considering the pesticides which are used mainly in herbal teas, aromatic and culinary herbs; the limits of their residues; the methods for determining them.

It is unavoidable for Italian and foreign producers to respect these limits, reducing the use of pesticides to a minimum and, above all, following exactly the indicated procedures, dosages and specifications.

According to the experience we had on analyzing a great number of products supplied and put on the market, it turned out that the pesticide content generally did not exceed the fixed limits.

Sometimes we have to face pollution problems which do not specifically depend on the use of pesticides during the growing period, but on residues that are in the soil from other previous cultivations; it is therefore possible to find pesticide residues in some “drugs”, although any particular product has been used during their cultivation.

On other occasions pollution is caused during the storage period, when, in order to avoid infestation, the products are treated with fumigating or preserving substances, the residues of which are later found in the analysis.

With regard to pesticide residues in “drugs”, we recently experienced that the Italian control authorities were totally unprepared. The regulations in force at present partly consider the limits of pesticide residue for herbal teas and culinary herbs; however, they do not give any exact indication about the method
to be used for drawing samples, for their purification from volatile or active substances contained, and the analytical methods.

As the "drugs", generally, contain essential oils, alkaloids, flavonoids, glycosides, etc., if the sample has not been properly drawn and purified, there will result on GLC peaks which may easily be mistaken for pesticide residues.

We have a considerable number of disputes with many Official Chemical Control Laboratories, for improper preparation of the samples to be analysed and consequently the misinterpretation of the results.

Moreover, our association, encouraged by the experiments made in several European countries (especially in Germany), believes that the eventual presence of pesticides inside an infusion or a culinary herb, is not so harmful for human health, as the quantity ingested with an herbal tea or a seasoning is practically nil.

We have for this purpose carried out, in cooperation with some Italian universities, a detailed research on the solubility of pesticides in herbal teas and flavourings, and their eventual toxic effects on human beings. When we have gathered enough data, it will be a duty for us to inform immediately the responsible and involved persons.

**Bacteria**

If a "drug" has been harvested, dried and stored in an appropriate way, there should not arise any contamination problem. It is, however, indispensable to keep the hygienic conditions under constant control during the harvest, the storage and the dispatch of the goods.

Very often this is not the case, especially with products coming from developing countries. Many times we found that products of excellent quality, due to carelessness, arrive at their destination completely infested and contaminated by germs, and with an unacceptable bacterial content.

There is little chance of reducing the bacterial content later on, as "drugs" generally have sensitive organoletical properties. A method in use world-wide is, at present, the treatment with Ethylene oxide (ETHO), applying some particular procedures. In some countries the use of Gamma-rays is allowed.

Both methods are disputable, but at present there are no appropriate alternatives (except perhaps the treatment with CO₂ or Nitrogen gas). For our activities it is absolutely necessary that the responsible authorities reach as soon as possible a positive solution of this problem, in order to give us the possibility of getting over the present uncertain situation.

**Heavy Metals**

The analyses made on medicinal and aromatic plants have shown us traces of lead and, on a lower level, of cadmium and arsenic. There have not been found important quantities of any other heavy metal.

At present, no way is known for avoiding this problem, except by destroying the unsuitable lots, but, above all, growers and collectors should be requested
to choose the appropriate places for growing their products, in order to avoid heavy metal pollution.

With regard to the quality of "drugs" we also must not forget the serious problems caused by the Chernobyl nuclear accident. In 1986, all at once, some of the most important sources (practically all the Eastern European countries) were not in a position to supply medicinal and aromatic plants.

According to the information received, it seems as if there were no particular problems of radioactive contamination with the 1987 crops, but it is too early to declare that the emergency has ceased, and besides this we do not know exactly when the effects will end.

From the description given above, it appears clear that the Italian "drug" market is undergoing a period of considerable contrasts. After years of continuous growth, starting from 1986 there has been a decline. The year 1987 has started on a wrong note bringing forward the many problems connected with radioactive contamination and pesticide residues, which will certainly affect the economy of this field.

Presumably, these negative factors will provide a selection, removing certain improvisations which are based more on fashion and dilettantism, rather than on serious training. Only if carried out by serious and professional persons will the herbal business consolidate and develop, putting the emphasis mainly on the quality and the control of the products, and giving thus a guarantee for the consumer.

In spite of all the good-will and the experience we dedicate to our activity, we have the feeling that we are taken in poor consideration by authorities, politicians and mass-media. Of course, we deal with and sell health products and we obviously must not poison the consumer; but it is so easy to make a scoop talking about a "drug", that often the information media put into evidence every negative event, forgetting later on to publish any denial or correction, when the notices were groundless.

We wonder why so many rumours are made for an herbal tea, while, voluntarily, no one talks about the daily contamination caused to human health by ingesting meat, eggs, cheese, vegetables, fruits, etc.

In conclusion, the prospects are at present not particularly encouraging, but the future, especially if it is faced with a great sense of responsibility, might be satisfactory for all persons involved in this business.

We should actually take into account that the consumption in Italy is still considerably lower than that of countries like Germany, France and U.S.A.

The great distribution system has not yet entered Italy, but everything makes one presume that there will be a certain interest in the herbs for the near future. Once the distribution channels will have been extended above the traditional herbal shops and pharmacies, the request for raw materials for infusions, herb derivatives and culinary purposes will increase considerably.

At least we should not forget to stress the extraordinary progress made by biotechnology, which once used on an industrial scale for medicinal and aromatic plants, will dramatically change the present aspect of our market.