

ALIEN PROPERTY CUSTODIAN

METHOD OF STABILIZING ACTIVE SUBSTANCES OF PLANTS

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The present invention relates to a method of stabilizing active substances, for instance volatile oils, alkaloids, hormones or vitamins existing in plants. The invention consists in this, that plants containing active substances are triturated with polysaccharides in a medium the acidity of which is controlled either by the presence of substances having an alkaline reaction, as sodium dicarbonate, mixtures of alkali phosphates or the like, or by substances having an acid reaction, as correspondingly determined electrolyte-buffer-mixtures or other acids or salts having an acid reaction or salt mixtures respectively, whereupon following the trituration drying is effected preferably at temperatures, which are not much higher than that of room temperature and under conditions at which the percentage of moisture of the drying air decreases with progressive temperature.

Under the term "polysaccharides" not only the pure chemical substances, as for instance starch, but also naturally existing mixtures, for instance potato flour, are to be understood. So, for instance, particularly the flour of bulbs of the *Helianthus tuberosus* has proved in practice to be an excellent agent for stabilizing volatile oils.

The preparation of triturations by the aid of trituration agents is well known. So for instance the U. S. Patent 2,128,616 discloses the preparation of triturations by the use of sugars as trituration agent, whereby also polysaccharides may be present. The quantity of these additions, however, is small with regard to the amounts of sugar serving as trituration agent, whereas according to the invention the trituration is carried out in such a manner that the polysaccharides as such must be considered to be the trituration agent. Whereas the known small additions of polysaccharides during the

production of sugar containing triturations act as accelerators of the drying process they have the capacity of fixing volatile active substances if they are present in preponderant quantities.

For this mode of operation it is essential, that the disintegration of the plant is effected together with the polysaccharides so that a polysaccharide aggregate is at once presented to each fracture surface of the plant and the volatile oil may be fixed by the polysaccharide.

One example of the method according to the invention is as follows:

From fresh branches of *Juniperus sabina* 20% triturations with polysaccharides are carried out. As soon as the desired degree of fineness is reached, the trituration is dried in a current of air. In the example chosen, the water content of the fresh plant amounted to 50.6%, the oil content to 1.40%. If the relative oil content of the fresh plant is designated with 100 then it is proved that in the 20% trituration with helianthus-tub-flour 90.5% of the volatile oil are still found, a content which increases to 98.2% if the trituration is carried out in the presence of 2% of sodium carbonate. In the non-disintegrated plant the amount of volatile oil obtained is not as high as in the presence of the polysaccharides, because complete plants dried under the same external conditions resulted in obtaining 76.3% of the volatile oil only as is known also from the production of drugs.

The products obtained may be used for the most different purposes. The volatile oils may easily be obtained in pure state, as the volatile oil is present in enriched condition. They may, however, also be directly employed for curative purposes or other economical uses.

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