

Complex Esters in Plants

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Abstract: Ways to determine the importance of plants with essential oil in medicine and national economy, modern methods.

Keywords: water vapor, anflerage method, composition, use. Mix, hulrang eucalyptus.

Essential oil is said to be a mixture of volatile organic substances that can be driven from plants using water vapor, with a specific smell and flavor. Fragrant plants and some products derived from them (aromatic waters, tar and essential oils obtained from plants with essential oil in their composition) have long been known. People came from these products widely used in the treatment of various diseases, in cooking. In the Middle Ages, Arabs were well aware of the methods of driving essential oils from plants with water and separating ulami from water.

Literature analysis and research methodology: Although from the XVIII century the properties and component of essential oils began to be studied, work in this area is especially acute in the second half of the XIX and early XX centuries. A.M. Butlerov and A.N. Reformatsky (Russia), Gildemeister and Gofman (Germany), Ye. Ye. Wagner and his students (Poland) and other famous scientists made a significant contribution to the study of essential oils. Yasnotkadoshlar-Lamiaceae (labguldashlar-Labiatae), sclderdashlar - Apiaceae (umbrellas - Umbelliferae). astradoshlar - Asteraceae (compound - Compositae). saltbush-cheopodiaceae archadosh (strawberries) - Cupressaceae, myrtadoshs - Myrtaeae, rutadoshs - Rutaceae, raynogulans - Rosaceae and representatives of other families are rich in essential oil. The organiar, which produce and maintain essential oil, mainly belong to two Group: 1. Superficial-exogenous organs are on the surface of plants and are located on top of the epidermal tissue. 2. The Ichld-endogenous organs are located under the epidermal tissues. Exogenous organs that produce essential oils include glandular spots, glandular hairs and special glands. Usually, glandular spots are on the crown of the flower, and the oils produced by them accumulate under the cuticle floor above the epidermal tissue. The result is stains that accumulate a small amount of essential oil and can only be seen under a microscope. Sometimes the growling is glandular heads of hairs found on the leaf, stem and flower bud. These heads can produce essential oil. Therefore, such a feather essential oil is called working lip-extracting bed; tllks. Essential oil accumulates in thejays in the organs of the plant, which is formed by the methods of the cake. As a result of the compression of the cells of the tumor tissue, a gap is formed. Then, on its edges, the essential oil work lip-secreting cells appear, which form the place where the oil accumulates. This method is Scythian.ogen type. Sometimes a drop of essential oil that we produce before in the tissue dissolves the cell around it to form a cavity. As a result, essential oil-secreting cells appear in this cavity tissue, which create the area where the oil accumulates. This method is called lysogenic type. Typically, in plants, from the generalization of these two methods in tissues, it is more common to find an essential oil accumulation site formed in the schizolysogenic type. In this case, the residual cell around the essential oil, which appears in the

space that the cell has compressed and formed, also dissolves, giving rise to the place where the oil accumulates.

Discussion and results:

Methods for obtaining essential oils, their physical properties, chemical composition and analysis.

Essential oils can be obtained in 5 different ways to them:

1. Method of driving essential oil from plants using water or water vapor. To obtain essential oil according to this oldest and simplest method, a crushed plant organ is placed in a cube (and in the laboratory, a flask) and water is poured over it, then the cube (or tube) is combined with a refrigerator and heated. While essential oil vapor cools with water vapor, in the case of turbid water, it is converted into a distillate, which then falls into the receiving vessel. After the distillate has stood for a while, depending on the density of the essential oil, it is collected in specially made florentic containers either over water or under water, and then the essential oil is extracted.

The process of extracting essential oils using water vapor goes as follows. In a special tube or cube, water vapor is formed, which is passed through the base of the container with the plant organ. In doing so, the water vapor takes the essential oil vapor into itself and passes through the refrigerator. The vapors cool, turn into liquid and fall into special containers.

When the essential oil is driven away with water, the plant organ also heats up along with the water. In this case, the plant organ can burn slightly, and the quality of the essential oil can be slightly impaired. And this phenomenon does not occur when the essential oil is expelled with water vapor. Therefore, essential oils, the component of which is perishable, are expelled from plants using water vapor.

2. The method of matsification is based on the melting properties of essential oils in oils. Therefore, this method is used in the oying of essential oils, the component of which changes when heated. Flowers with essential oil in the composition are placed in a special container, poured over with olive oil and heated to 500. As a result, the essential oil in the product goes to olive oil. Oil purified from Flowers is used for special purposes.

3. The anflerage (ingestion) method is based on the absorption of essential oils in solid oils. With this method, essential oils, which are usually of high quality from flowers and break down when heated, oiinize. The absorption process is carried out at a normal temperature, therefore, the essential oil content remains intact and its quality is maintained. In the process of ingestion, which lasts for several days, the flowers can continue to secrete essential oil from themselves. To obtain essential oils with this method, a thick mirror 50x50 CM in height and width is fixed on a special frame 5 cm thick and a high-quality oil mixture (3 parts lard and 2 parts mole oil) is applied thinly on both sides. Flowers or petals are placed on top of the oil. Then the ram alar is installed on special boards, and the flowers on it are renewed on the bar day. If the flowering period of the plant on the plantation lasts more than 1-2 weeks, then the oil on the windowsill is also renewed. So, fragrant oil is prepared. These oils, on the other hand, are used for special purposes. A method of absorbing essential oils into activated charcoal has also been developed.

4. By pressing method, it is obtained from products that contain a large amount of essential oil (fruits of lemon, orange, pomeranes, bergomot and other plants). A certain amount of essential oil is also released when the peel of such plant fruits is squeezed by hand. If the essential oil cracks the areas where it is standing with a toothed disc and the peel of the fruit tightens, more oil will come out. Essential oil is obtained in factories by this method.

5. The extraction method is based on the good solubility of essential oils in most organic solvents. Essential oil is extracted from plant organs using a light volatile organic solvent at low temperatures. Then the organic solvent is expelled and the essential oil is extracted.

Physical properties of essential oils: Essential oils are a volatile clear liquid that is often colorless or sometimes of different colors (green, light yellow, dark blue, red, brown) with a characteristic odor and a pungent flavor. Its density can often be lighter than water, sometimes heavier. Very light essential oil has a density of 0.8; the heaviest is 1.182.

Conclusion

In conclusion, it can be said that the curative composition of essential oils is: essential oils consist of a mixture of organic substances and contain all the saturated and unsaturated compounds, aliphatic, cyclic and aromatic hydrocarbons, terpenes, alcohols, fatty acids, phenols, complex esters, aldehydes, ketones, lactones and other organic substances containing nitrogen and sulfur. The formula for geraniol alcohol in essential oil extracted from roses is as follows:
$$\text{CH}_3\text{-C}=\text{CH-CH}_2\text{-CH}_2\text{-C}=\text{CH-CH}_2\text{OH} \quad | \quad | \quad \text{CH}_3 \quad \text{CH}_3$$

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