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The Extraction Methods of Essential Oils from Medicinal Plants and Their Use in Medicine

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Abstract: It is well known that the plant kingdom is made up of many different kinds of organic compounds. These substances play a key role in the growth of plants. Medicinal plants are widely used in various area of the economy. In particular, in the food industry, in the production of various drugs in medicine, in the construction industry in the production of building materials.

Keywords: Essential oil, aromatherapy, tanning, distillation

I. INTRODUCTION

The flora of Uzbekistan is characterized by its unique properties and medicinal properties. A large part of the flora of the republic is made up of medicinal plants. Many of them are described in detail in Abu Ali ibn Sina's Laws of Medicine. The play deals with the medicinal properties of the plant or the diseases for which it can be used as a medicine. The development of medicine in Uzbekistan, which is developing day by day, is also an effective result of the work being done on plants. If we look at the development of sciences such as bioorganic chemistry, genetic engineering, or the work being done on them to create new plant species, we can quickly create a new variety using cells and tissues, produce agrarian vegetative propagation, or plant hybrid seeds. It gives good results when the production is set up, decorative and otherwise multiplied. Often the upper part of the stem is multiplied, ie cloned (such reproduction does not correspond to the origin of the meristem, because in the final process, other tissues and elements are also involved in the process). In some cases, transplanting tissues to clone the roots, leaves, side buds, and inflorescences works best.

II. LITERATURE ANALYSIS AND METHODOLOGY

Essential oil contains 120 to 500 components. Aromatic substances are mainly extracted from natural sources. Currently, the methods of obtaining are improving. Essential oils are found in the seeds, roots, leaves, fruits, bark, resins, flowers and cups of plants. The composition and amount of oil can vary from day to day during the year. For example, it is better to pick jasmine flowers in the morning. Occasionally, essential oils are extracted from a single plant with different compositions and scents, such as bitter orange: neroli from a flower, petit greun from freshly sprouted twigs, and orange, known as orange. . Unlike others, essential oils deliver closely related substances to the complex patient. They have a gentle effect on the human body, do not cause allergic reactions, and do not accumulate in the body. Essential oils are included in many pharmaceutical preparations and are used in pure form in treatment.

Human nerve cell receptors are distinguished by their ability to perceive odors, which they can detect even over long distances. Scientists have shown that 2% of information is differentiated by smell, 80-85% by visual receptors and 5% by hearing. Studies have shown that the smell has a direct effect on a person's mood. That is why aromatherapy is so important.

Aromatic essential oils primarily normalize a person's mental state, through which it acts on the brain's olfactory receptors. Fragrances evoke positive emotions. This promotes the subsequent therapeutic effect of the oil, improves the balance of life processes in the body, enhances immunity, improves blood circulation, removes metabolic products from the body. Improves the whole organism by reducing or eliminating various diseases. Essential oils are small molecular weight organic compounds with volatile macrostructure. Essential oils are found in melons and fruits. Many of the drugs that smell like strawberries, mangoes, and watermelons are artificial. Essential oils increase the effect of chemicals by 4-10 times, stay in the body for a short time, ie about 20 minutes, do their job and leave without side effects. Essential oils act like a natural filter and prevent toxicity to body tissues, so if you feel any discomfort before using the oil, do not be afraid, it is the release of toxins, heavy metals and toxins from the body.

It is known that prolonged use with antibiotics leads to a decrease in specific self-defense mechanisms; immunological reactivity is shut down, drug allergies develop and candidiasis infection occurs, adverse effects of antibiotics on somatic cells have been identified.

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III. PRACTICAL PART

Extraction of essential oils from medicinal plants is usually done in the following ways.

1) Pressing, for example, citrus fruits are extracted from the skin
2) Distilized or distilled with water vapor (from the surface of the plant, from the bark)
3) Extraction (flower bouquets, rhizomes, leaves)
4) Adsorbed in the adsorbent (lipstick, concretes, resenoids) and then extracted from it to obtain pure essential oils.

IV. DISTILLATION

Most essential oils are obtained by distillation. In this case, the plant material is placed in a container and boiled in water, or exposed to water vapor under pressure. During this process, volatile and insoluble substances are separated. The resulting essential oils and water vapor condense, leaving a greasy residue. Occasionally, the obtained oil is re-distilled or purified from the remaining non-volatile substances. Some oils are re-distilled at different temperatures and the required substances are removed. This method is used in the camphor, which is divided into three fractions: white, yellow and brown. The essential oils obtained can be either solid (savannah-iris) or semi-solid (depending on the temperature of the flower) in some liquids.

V. PRESSING

Essential oils of citrus fruits (orange, lemon, grapefruit, bergamot, mandarin, lime) are obtained by pressing. First, peel the fruit and squeeze it by hand. Machines are now used, but high-quality citrus oils are still squeezed by hand. Extraction with selective solvents. Essential oils, some components of which can be decomposed under strict conditions of distillation, so the raw material is extracted with organic solvents, for example (from jasmine, rose, orange blossom, basil root). Essential oils are soluble in liquid. The solvent is then pumped at low temperature. Residues from driving often remain in the form of waxy or oily masses. high concentration, compared with pure aromatic oils. If the solution obtained by processing with concrete alcohol (usually by boiling) is cooled and the ballast is filtered and separated from the additives, a pure high-quality essential oil (absolute) is obtained. Absolute is often a thick highly concentrated liquid, sometimes solid or semi-solid. In the old methods, ether and benzene were used as solvents in selective extraction.

VI. ANFLERAJ

Anfleraj method is to inhale the oils that evaporate from these flowers in an odorless pork or beef fat that is thinly rubbed into a bottle. Depending on the age of the flowers are replaced with new flowers. The oils are separated from the resulting fragrant mass by a solvent. The commercial method is rarely used because it is time consuming and costly. Aromatic oils derived from many flowers, such as cloves, gardenia, and lilies, are now completely artificial. In the pharmaceutical industry, these synthesized chemicals are called "natural identical." Demand for perfumery products and spices is always high. But even so, “natural copy” and natural essential oils have different details, which is known in the price; artificial analogues are cheaper than natural oils. Often, essential oils, such as lavender or geranium, have relatively few major components and small amounts of various compounds. Many "natural" specimens that are difficult to artificially assemble with such a complex, that is, a mixture with its own elements, return up to 96% of the natural copy, while the remaining 4% of their own elements cause a certain odor. will be. In addition, the unique combination of components, when added to natural oils, leads to its medicinal properties. This is because the substances increase or increase the activity of the main active ingredients. For example, rose oil contains 300 different components, some of which are still unknown. "Natural copies" are not used for treatment, not because they replace aromatic natural material, because they do not maintain the balance of such components, and mainly because natural oils do not have the "life force".

VII. CONCLUSION

In the preparation of various massage creams used in medicine, in the manufacture of medicines, in the gentle application of shampoos to strengthen hair, in the manufacture of raw materials using essential oils is proposed.

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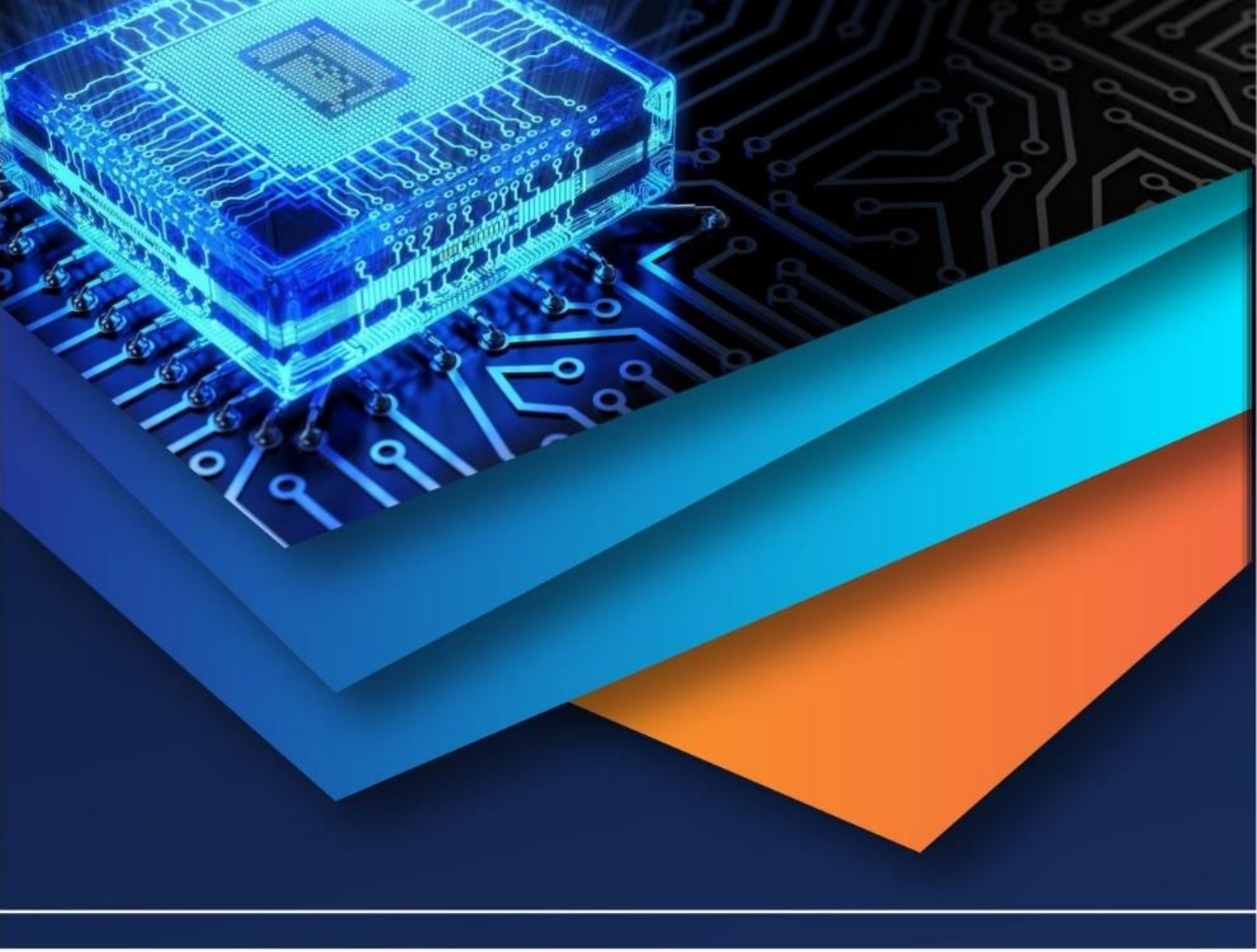
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