BACTERICIDAL AND FUNGICIDAL PROPERTIES OF THE CONSTITUENT COMPONENTS OF ESSENTIAL OIL PLANTS IN AZERBAIJAN

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https://doi.org/10.5281/zenodo.8353278

İn the flora of Azerbaijan includes about 5,000 species of plants, more than 1,500 of which are of medicinal importance. In addition, about 800 species of plants included in the flora of Azerbaijan belong to the essential oil plants.

The presence of biologically active substances with various effects, including bactericidal and fungicidal activity in essential oil plants is the basis of their practical interest and maintains that status today. Nevertheless, the number of species of essential plants studied in one aspect or another is extremely small, and many plants have generally not been involved in research, even if episodic.This idea is confirmed both in the world and in relation to the plants in Azerbaijan.

Therefore, the purpose of the presented work is dedicated to evaluate the constituent components of a number of essential oil plants distributed in Azerbaijan according to their bactericidal and fungicidal properties.

For this purpose were taken and dried samples of plant such as *Achillea millefolium L., Alhagi mourorum Medik, Anethum graveolens L., Apium graveolens L., Artemisia absinthium L., A.vulgaris L., Chenopodium botrys L., Chicorium intybus L., Citrus limon (L.) Osbeck, Daucus carota L.,Dorema qlabrum Fiseh. et C.A.Mey., Foeniculum vulqare Mill., Hypericum perforatum L., Lamium album L., Leucanthemum vulgare Lam., Mentha piperita L., Nepeta cataria L., Leucanthemum vulgare Lam., Rosmarinus officinalis L., Salvia officinalis L., Satureja laxiflora C. Koch. Tanacetum vulqare L., Zosima orientalis Hoffm*. which grow naturally or are cultivated in ecologically different areas of Azerbaijan. Both aqueous extract and essential oil were obtained from dried biomass according to known methods. The antimicrobial activity of the obtained products was evaluated according to the effect (the diameter of the lysis zone) on the test cultures selected according to both classical(*Bac.subtilus, St.aureus, Ps.aureginoza, Ech. coli* and *Candida alpicans*), and modern(*Fuzarium oxysporium, Aspergillus flavus, A.niger, A.ochraseus, A.parasiticus, Penicillium citrinum* and *P.cyclopium*) considerations (according to their toxic activity).

It was clear from the studies conducted on the study of antimicrobial activity that aqueous extracts and essential oils obtaned from the studied plants have a negative effect on the growth of both bacteria and fungi, and their effect can be bacteriostatic and fungistatic or bactericidal and fungicidal, depending on the biological characteristics of both plants and test cultures.

The bactericidal and fungicidal effects of both aqueous extracts and essential oils obtained from essential plants containing thymol and cineol as major components are higher than those containing menthol, and in this regard, the use of extracts from plants such as *Artemisia absinthium L., A.vulgaris L.* and *Salvia officinalis L.* is more is promising.

In the course of research, the bactericidal and fungicidal activity of the compositions prepared with White Naftalan oil obtained from Naftalan oil on the basis of high purification

technology was also studied. The obtained results made it possible to determine the optimal composition of the components used in the preparation of the compositions, which allowed to increase the quantitative indicator of bactericidal and fungicidal activity by up to 20%.