УДК 811.111

Шелінгер А.Ю.
Марковська А.В.

PROSPECTIVE DIRECTIONS FOR THE USE OF CLARY SAGE UNDER THE CONDITIONS OF GROWING IN THE SOUTHERN STEPPE OF UKRAINE (ПЕРСПЕКТИВНІ НАПРЯМКИ ВИКОРИСТАННЯ ШАВЛІЇ МУСКАТНОЇ ЗА УМОВ ВИРОЩУВАННЯ В ПІВДЕННОМУ СТЕПУ УКРАЇНИ)

У публікації розглянуто перспективи вирощування шавлії мускатної (Salvia sclarea) в умовах Південного Степу України. Проаналізовано агротехнічні особливості вирощування цієї культури, а також широкий спектр застосування її ефірної олії в фармацевтичній, парфумерній та харчовій промисловості. Окрему увагу приділено антиоксидантним і лікувальним властивостям олії шавлії мускатної, її використанню для виготовлення косметичних засобів, а також як натурального консерванта для продуктів харчування.

***Ключові слова**: шавлія мускатна, Salvia sclarea, Південний Степ України, ефірна олія, фармацевтична промисловість, парфумерна промисловість, харчова промисловість.*

The publication considers the prospects for growing clary sage (Salvia sclarea) in the conditions of the Southern Steppe of Ukraine. The agrotechnical features of growing this crop are analyzed, as well as a wide range of applications of its essential oil in the pharmaceutical, perfumery and food industries. Special attention is paid to the antioxidant and medicinal properties of clary sage oil, its use for the manufacture of cosmetics, as a natural preservative for food products.

***Keywords:** clary sage, Salvia sclarea, Southern Steppe of Ukraine, essential oil, pharmaceutical industry, perfumery industry, food industry.*

Clary sage (*Salvia sclarea*) is rapidly emerging as a highly promising crop, grabbing the attention of agronomists and entrepreneurs due to its versatile properties and its ability to thrive in the environmental conditions of Ukraine's Southern Steppe. This plant is renowned for its drought resistance, frost tolerance, and adaptability to various soil types, making it particularly well-suited for the region's dry climate. As a result, clary sage has significant potential not only for agricultural development but also for industries such as food production, pharmaceuticals, and perfumery [1].

As a perennial plant, clary sage thrives in the Southern Steppe, where drought resistance is essential. It can adapt to a range of soil types, including poor, stony soils, although it performs best in nutrient-rich chernozem and loamy soils. To ensure high productivity and quality essential oil production, it is crucial to implement proper agrotechnical practices, such as determining optimal seed rates, sowing times, irrigation, and fertilization [2].

The essential oil of clary sage has broad applications in the pharmaceutical and perfume industries. It is valued for its antiseptic, anti-inflammatory, antibacterial, and antioxidant properties. These qualities make it a vital ingredient in medicines and a fixative in perfumes. Additionally, its antioxidant effects make it a valuable addition to cosmetics [3].

In medicine, clary sage oil is commonly used to treat skin diseases such as acne, eczema, and dermatitis. Its anti-inflammatory properties help reduce irritation and inflammation, making it a popular component in skincare products. Furthermore, the oil provides benefits for the nervous system, with calming effects that help reduce stress and anxiety, so it is frequently used in aromatherapy [4].

Clary sage also has potential in the food industry, where its essential oil is used as a flavoring agent in products like confectionery, beverages, and sauces. The oil enhances the sensory qualities of food, increasing their appeal to consumers. Moreover, the antioxidant properties of clary sage essential oil make it an ideal ingredient for functional foods aimed at supporting health. It can also serve as a natural preservative, helping prevent oxidation in food products and extending their shelf life [5].

In summary, clary sage (*Salvia sclarea*) is a promising crop for cultivation in the Southern Steppe of Ukraine due to its drought and frost resistance. These traits make it well-suited for agro-industrial development in the region. With the growing demand for its essential oil in the pharmaceutical, perfumery, and food industries, the cultivation of clary sage also offers significant economic opportunities for the country. However, to fully realize its potential, further research into agrotechnical practices and the development of climate-resilient varieties is necessary.

References:

1. Ushkarenko, V. O., Chaban, V. O., & Chaban, O. V. (2019). Analysis of crop yield and essential oil formation in clary sage (Salvia sclarea) cultivation in the southern Ukraine. *Agrobiology*, (1), 38-46.
2. Dvirna, T. S., Minarchenko, V. M., & Tymchenko, I. A. (2023). The impact of climate change on medicinal plants. *In Proceedings of the IV Scientific and Practical Conference with International Participation dedicated to the 20th anniversary of the Department of Pharmacognosy and Botany of O.O. Bogomolets National Medical University* (1), 230-233.
3. Frolova, N. E., Ukraynets, A. I., Silka, I. M., Naumenko, K. A., & Chepel, N. V. (2017). Relevance and methods of processing domestic essential oil raw materials into food flavorings. *Scientific Works of the National University of Food Technologies*, 23(5), 220-228.
4. Oliinyk, O. O., & Khokhlova, L. M. (2023). The use of clary sage in pharmacy. *National Pharmaceutical University*, 291-292.
5. Senyk, M. B. (2023). The use of clary sage to increase the nutritional value of grain bread and the design of a bakery production workshop: *Master's thesis in the specialty "181 - Food Technologies"*. Ternopil National Technical University, 90.