



## PHYTOCHEMICAL COMPOSITION OF INDIGOFERA TINCTORIA UNDER INTRODUCTORY CONDITIONS

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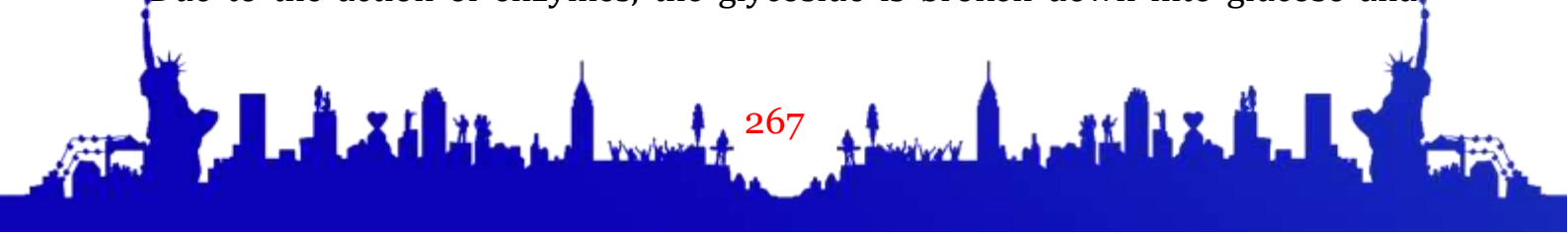
In the world, special attention is paid to the cultivation, propagation and organization of plantations of exportable, dyeable, medicinal, and introduced plants. The needs of the modern medicine, perfumery, textile and food industries demand the cultivation of medicinal plants with high natural activity and the creation of their raw materials. The demand for natural dyes has always been relevant. Analyzing the phytochemical composition and active substances of the raw materials of plants grown under the conditions of introduction, obtaining dye pigments from natural dye-giving plants, their introductory assessment, identifying promising species and putting them into practice are among the urgent problems.

Also, the demand and need for "Indigo" paint pigment, which is considered expensive, is high in all countries of the world. In this place, among the introduced plants, it has a special importance, it has taken the leading place in the world in terms of quality of dyeing. Also, *Indigofera tinctoria* is a plant that is considered a source of nitrogen for increasing the fertility of the land, an antibacterial agent in the pharmaceutical industry and an anti-fungal agent in phytopathology, and has a special place in the world flora [2,3].

The first botanical description of *Indigofera tinctoria* in our republic was given in the monograph "Flora Uzbekistana" (1959). In the monograph "Opredelitel rastenii Sredney Azii" (1983) the species of the genus *Indigofera tinctoria* is listed for Uzbekistan. Scientific research on the cultivation of *Indigofera tinctoria* in the conditions of Uzbekistan was conducted under the leadership of A. Ergashev (2005).

*Indigofera* L. genus. Magnolia family (flowering, closed-seeded) plants (Magnoliophyta, Angiospermae) division, Magnolia-like (dicotyledonous) plants (Magnoliopsida, Dicotyledones) class (ancestor), Rosoidae class (ancestor), Fabales tribe, Fabaceae family, is a species of *Indigofera tinctoria* L. belonging to the *Indigofera* family [4].

*Indigofera tinctoria* contains biologically active substances that are extracted from its leaves. The leaves of *Indigofera* contain a colorless glycoside-indican. Due to the action of enzymes, the glycoside is broken down into glucose and





aglycone indoxyl. Aglycone is also colorless, quickly oxidizes in air and turns into indigotin - blue indigo [1].

Isoprenoids were found in the leaves of *Indigofera tinctoria*. Pharmacological research of identified isoprenoids and creation of medicinal products based on them is of practical importance for medicine.

The presence of isoprenoids in the plant was determined on the basis of quality reactions and experiments. In the study of isoprenoids in the leaf of *Indigofera tinctoria*, better results were obtained when a solvent was used than in an aqueous solution. It is known that most of the physiologically active substances are soluble in organic solvents[1,2].

5 g of finely ground plant leaves were placed in an extraction flask and 50 ml of ethyl alcohol was poured over it. After leaving for a day at room temperature, the first fraction was separated on filter paper. Then we poured another 50 ml of ethyl alcohol on the plant and left it for a day, then filtered the second fraction in the same order as obtained in the first fraction. This was done five times with 50 ml each time until the color intensity disappeared. The separated alcoholic extract was concentrated using a rotary evaporator and 5.4 grams of the extract was isolated.

The precipitate from the fermented leaves is mixed with a strong base of your choice, such as alkali, pressed to a pulp, and then powdered. The powder is mixed with various substances and blue and purple dyes are obtained.

*Indigofera tinctoria* contains biologically active substances that are extracted from its leaves. The leaves of *Indigofera* contain a colorless glycoside-indican, biologically active substances and dyes, their glycosides are extracted and found to have medicinal properties used to treat various diseases.

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