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BIOTEXNOLOGIYA SOHASIDA INNOVATSION TADQIQOTLAR

ISOLATION OF ENDOPHYTIC BACTERIA FROM MEDICINAL PLANTS

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Today, the intensive development of applied microbiology makes it possible to isolate new generation endophytic microorganisms synthesizes many biologically active secondary metabolites (eg proteins, enzymes, vitamins, phytohormones, etc.) and their use in agriculture and medicine opens wide opportunities in the national economy. According to the analysis of the data presented in the literature, endophytic microorganisms are found to be more common in the roots, stems and leaves of plants. Because roots, stems and leaves are rich in nutrients necessary for microorganisms and living condition is favourable for them, the endophytic microorganisms found in plant leaves and roots can move up and down the plant while dissolved in water.

Purpose of the work: Isolation of endophytic bacteria from medicinal plants.

It is known that as a result of the intensive development of applied microbiology and biotechnology, a new generation of endophytic microorganisms has been isolated and their wide use in the national economy is realized. In addition, they are considered useful in biological protection of mankind and have high enzyme production abilities, and obtaining and using probiotics or creating and using biological preparations, based on living culture associations of endophytic bacteria synthesizing biologically active secondary metabolites, are also essential part of the national economy.

Taking into account the above-mentioned information, in order to isolate endophytic bacteria isolates from some medicinal plants found in fields and yards of our country, bacterial isolates were isolated from the tissues of the roots, stems and leaves of medicinal plants included in the list of the pharmacopoeia, such as *Plantago major* L., *Hypericum perforatum* L., *Kalanchoe daigremontiana*, *Cichorium intybus* L., *Melissa officinalis* L., *Mentha piperita* L., *Matricaria recutita* L. etc.

Endophytic bacteria isolates of selected medicinal plants

The name of medicinal plants	Root (R)	Stem (S)	Leaf (L)	Total
<i>Plantago major</i> L.	2	4	1	7
<i>Hypericum perforatum</i> L.	2	2	1	5
<i>Kalanchoe daigremontiana</i>	2	3	3	8
<i>Cichorium intybus</i> L.	2	3	3	8
<i>Melissa officinalis</i> L.	1	3	1	5
<i>Mentha piperita</i> L.	3	3	1	7
<i>Matricaria recutita</i> L.	2	2	1	5

According to the results of the research, a total of 45 isolates were isolated from stems, leaves and roots of the selected medicinal plants. Some isolated endophytic bacterial isolates were studied for their affinity levels for 1% casein and 1% starch and parameters such as hydrolysis zones, color, transparency, colony edges and surface parts.

Among these isolates, it was observed that the size of the hydrolysis zone of the isolate extracted from the leaf of *Kalanchoe daigremontiana* – KD - L7 was 6-10 mm, it possessed clear silk color, flat edge, clear transparency, dense and shiny surface, and it had high affinity for 1% casein, where its affinity level for 1% amylose was relatively less.

It is observed that while hydrolysis zone size of MoL - L5 isolate isolated from leaves of one of the medicinal plants, *Melissa officinalis* L., was 5-8 mm, the color was brown, the edge was flat and its transparency was translucent and it had embossed surface, the isolate MrL - R2 extracted from the root of *Matricaria recutita* L. had a hydrolysis zone size of 4-7 mm and its color was clear, smooth, rough, transparent, and shiny.

Accordingly, KD - L7 isolate extracted from the leaf of *Kalanchoe daigremontiana* L. was selected as an object in our further studies because of its higher affinity for 1% casein and 1% amylose and larger hydrolysis zones comparing to isolates MoL - L5 extracted from the leaf of *Melissa officinalis* L. and MrL - R2 extracted from the root of *Matricaria recutita* L.

In conclusion, among the medicinal plants such as *Plantago major* L., *Hypericum perforatum* L., *Kalanchoe daigremontiana*, *Cichorium intybus* L., *Melissa officinalis* L., *Mentha piperita* L., *Matricaria recutita* L. found in fields and yards, relatively more endophytic bacteria were found in *Kalanchoe daigremontiana* and *Cichorium intybus* L.

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DORIVOR SARSABIL (ASPARAGUS OFFICINALIS L.) O‘SIMLIGINI SHIFOBAXSH XUSUSIYATLARI VA YETISHTIRISH TEXNOLOGIYALARI

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Annotatsiya. Ushbu maqolada sarsabil (sparja) o‘simligining kelib chiqishi va tarqalishi hamda foydalanilishi haqida ma’lumotlar keltirilgan.

Kalit so‘zlar: sparja (sarsabil), sabzavot, lolaguldoshlar, kaltabarg, ko‘p yillik sarsabil novdalari, hosildorlik.

Dorivor sarsabil (*Asparagus officinalis* L.) –lolaguldoshlar oilasiga mansub sabzavot va manzarali dorivor o‘simlikdir [1, 2]. Uning Yevropa, Osiyo va Afrikada 150 turi bor. O‘zbekistonda 2 turi yovvoyi holda uchraydi. Kaltabarg sarsabil (*A.Brachyphyllus* Turez.), persid sarsabil (*A. Persicus* Baker.) ko‘p yillik, chirmashib o‘sadigan o‘t. Ikkala turi ham boshqa belgilari bilan bir-biriga o‘xshash, bo‘yi 50-150 sm. Barglari mayda, barg qo‘ltig‘ida ninasimon ko‘rinishda. Shakli o‘zgargan shoxchalar –kladodiyalar hosil qiladi. Mevasi rezavor, rangi qizil. May oyida gullab, iyunda meva beradi. To‘qaylarda o‘sadi [3, 4]. Kimyoviy tarkibi. Tarkibida 2% oqsil, 2,4% uglevodlar (klechatkadan tashqari), vitaminlar B, B2, PP, provitamin A mavjud. Sarsabil vitamin va minerallarga boy, ko‘p miqdorda foliy kislotasiga ega. Sarsabildan asparagin olinadi. Hosildorligi 30–35 s/ga. Sarsabil ekilgan maydonlardan 10–15 yil hosil olinadi. Sarsabil *asparagus* nomi bilan manzarali o‘simlik sifatida ham o‘stiriladi [5]. Ayniqsa u bog‘da yetishtirilganda uning poyalarining balandligi bir metr dan oshadi. Gullari mayda, qo‘ng‘iroqsimon, yashil-sariq, mevasi sharsimon qizil rezavordir. Dorivor xomashyo ildiz va yosh kurtaklar, mevalardir. Ildiz va ildizlarda asparagin va saponin, kurtaklarda –asparagin, karotin va B, C vitaminlari, yog‘lar va shakar mevalarda uchraydi. Eng qizig‘i, ko‘p mamlakatlarda sarsabil dorivor o‘simliklar sirasiga kiradi. U arterial qon bosimini pasaytirib, yurak qisqaruvi ritmini sekinlashtiradi, periferik tomirlarni kengaytiradi va charchoqni oladi. Qolaversa, sarsabil organizmdan zararli moddalarni chiqarib tashlashga yordamlashadi, shuning uchun u buyrak, yurak, bod, podagra va boshqa kasalliklarda tavsiya qilinadi. U immunitetni mustahkamlash va ko‘rish qobiliyatini yaxshilashga xizmat qiladi. Sarsabil qadimgi Misrda xudolar ozuqasi, deb hisoblangan bo‘lsa, Fransiyada “sabzavotlar qiroli” deb atalgan. Uni iste’mol qilish borasida Germaniya yetakchi