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PAEONIA TURKUMIGA MANSUB AYRIM TURLARNING AREALI VA XO‘JALIKDAGI AHAMIYATI

Annotatsiya

Maqolada *Paeonia* turkumiga mansub ayrim turlarning areali, xalq xo‘jaligidagi ahamiyati, turli ekologik sharoitlarga moslashish xususiyatlari yoritilgan bo‘lib, tahlilllar asosida turlarning ekologik guruhlari va boshqa xususiyatlari tavsiflangan.

Kalit so‘zlar: *Paeonia, Paeonia rockii, Paeonia tenuifolia* L., terofit, kriptofit, gemikriptofit, endemik, antioksidant, dorivor, oqsil, aminokislota, terpenoid.

ХОЗЯЙСТВЕННОЕ ЗНАЧЕНИЕ И АРЕАЛ НЕКОТОРЫХ ВИДОВ РОДА *PAEONIA*

Аннотация

В статье выделены территории некоторых видов, рода к *Paeonia*, их значение в жизни человека, особенности адаптации к различным экологическим условиям, а также на основе анализа описаны экологические группы и другие характеристики видов.

Ключевие слова: *Paeonia, Paeonia rockii, Paeonia tenuifolia* L., терофит, криптофит, гемикриптофит, эндемик, антиоксидант, лекарственный, белок, аминокислота, терпеноид.

ECONOMIC IMPORTANCE AND AREAL OF SOME SPECIES OF THE GENUS *PAEONIA*

Annotation

In the article, the research fields of some species belonging to *Paeonia*, their significance in human life, adaptation features to various ecological conditions are highlighted, and the ecologist groups and other characteristics of the species are described based on the analysis.

Key words: *Paeonia, Paeonia rockii, Paeonia tenuifolia* L., therophyte, cryptophyte, hemicryptophyte, endemic, antioxidant, medicinal, protein, amino acid, terpenoid.

Paeonia turlari yorqin ranglar va boy navlarga ega bo‘lib, Xitoyda uni “Gullar shohi” deb atashadi. Xitoyda pionni yetishtirish uzoq tarixiy davrga ega bo‘lib, eramizning ikkinchi asridayoq “Shennongs Herbal Classic” jurnalida dorivor o‘simliklar sifatida qayd etilgan. Kitob Song Dynasty sulolasi davrida Yu Renzhong tomonidan nashr etilgan. “Chinese” rasmlari hovliga ekilgan pionlarni tasvirlaydi. Ko‘rinib turibdiki, pionlar 2000 yildan ortiq muddatda dorivor o‘simliklar sifatida ishlatilib kelinmoqda va 1600 yildan ortiq vaqt davomida manzarali o‘simliklar sifatida yetishtiriladi [1]. Gullar shohi sifatida pion Tang Dynasty sulolasi davrida gullab yashnagan va pionni yetishtirish madaniyati o‘zining eng yuqori cho‘qqisiga chiqqan. Uning eng yuqori cho‘qqisi Tang sulolasiga davriga to‘g‘ri kelgan [2].

Paeonia rockii tabiatda yo‘qolish xavfi ostida bo‘lib, u o‘zining gulbarglaridagi noyob binafsharang dog‘lari bilan mashhur va pionlarning eng qadimgi turi hisoblanadi [3].

Binafsharang pion Xitoyning Qinling tog‘lari uchun endemik hisoblanadi. Ningxia va janubiy Gansu hududlarida madaniy holda yetishtiriladi. U salqin va quruq iqlimga mos keladi va manzarali hamda dorivor ahamiyatga ega. Pion turlari terpenoidlar kabi tabiiy kimyoviy tarkibiy qismlarni o‘z ichiga oladi, ular ma’lum dorivor ahamiyatga ega va ma’lum antioksidant, o‘smaga qarshi, grippga qarshi vosita sifatida foydalaniladi [4,5,6].

Binafsha pionning ildizi dorivor xususiyatga ega bo‘lib, an’anaviy Xitoy tabobatida “*Peonia*” deb yuritiladi. *Peonies* qon aylanishini faollashtiradi va qonning turg‘unligini bartaraf qiladi, shishlarni kamaytiradi va og‘riqni yo‘qotadi. Pion ildizida metanol ekstrakti va fenol mavjud. Metanol ekstrakti trombotsitlarni hosil qiluvchi ta’sirga ega. Pion tarkibidagi fenol birikmasi tinchlantiruvchi, sovutuvchi, isitmani tushiruvchi, og‘riq qoldiruvchi va spazmolitik ta’sir ko‘rsatadi [7].

Paeonia ga mansub turlar doirasida klonlar hosil qilib, samarali ko‘paytirish usullari ishlab chiqilgan. O‘simliklar qoplamini tiklash maqsadida *Paeonia tenuifolia* L. - mayda bargli piyonni ko‘paytirish bo‘yicha tadqiqotlar olib borilgan [8].

Paeonia gibrid Pall. – Oltoy tizmasining tog‘ etaklarida, shimoli-sharqiy, sharqiy qismlarida tarqalgan bo‘lib, senopopulyatsiyasi fitotsenozdagi o‘rni va boshqa bioekologik xususiyatlari o‘rganilgan. *P. gibrid* tarqalgan hududlarda o‘simliklar jamoasi Raunkiyer klassifikatsiyasi bo‘yicha tavsiflangan. *P. hybrid* terofit va kriptofit, gemikriptofit o‘simliklar tarqalgan joylarda, butalar orasida o‘sishi va jamoalar orasida 5–15 % ni tashkil etishi aniqlangan. *P. hybrida* mezofitlar tipining kseromezofitlar guruhiga kirishi qayd etilgan [9].

P.ostii va *P.rockii* Xitoyda ishlab chiqarish uchun asosiy ekiladigan o‘simliklar hisoblanadi. Moyli ekin sifatida *P.rockii* o‘simligidan keng foydalaniladi. Unda yog‘ miqdori yuqori bo‘lib, 22 % ga yetishi mumkin [10,11].

Boshqa manbalarda keltirilishicha *Paeonia rockii* urug‘larining yog‘ miqdori 31,4 %, oqsil miqdori 24,3 % va to‘yinmagan yog‘ kislotalar miqdori jami yog‘ kislotalarining 93,19 % ni tashkil qiladi. To‘yinmagan yog‘ kislotalari tarkibiy qismlari α-linolen kislota (43,80 %), olein kislota (22,20 %) tashkil etishi aniqlangan. Bundan tashqari, aminokislotalar tarkibi jihatidan keng qamrovli bo‘lib, iqtisodiy qiymati yuqori baholanishi bilan ajralib turadi [12].

Paeonia rockii Xitoyda yo‘qolib ketish xavfi ostida turgan o‘simlik hisoblanadi. *P.rockii* shuningdek, Xitoydagi ikkita eng yirik pion navlarining muhim tabiiy turi hamdir. Ushbu tur salqin va quruq iqlimda keng tarqalgan bo‘lib, past harorat va quruq ob-havoga ham yaxshi moslasha oladi. Dengiz sathidan 1100-2500 metr balandlikda o‘rtacha yillik harorat 5-12 ℃, minimal harorat - 29,6 ℃, maksimal harorat 36,8 ℃, musbat haroratlar yig‘indisi 1584,2 - 3824,8 ℃, yilning sovuqsiz davri 130-163 kun, tuproq muhiti pH 6,5-8,2 ko‘rsatkiga ega bo‘lgan hududlar turning o‘sishi va rivojlanishi uchun mos keladi [13,14,15].

Paeonia rockii yaxshi rivojlangan ildiz tizimiga ega bo‘lgan katta bargli buta o‘simlik bo‘lib, yer ostiga 10 metrdan oshiqroq kirib borishi mumkin, demak tuproqdagi suvdan foydalanishiga ko‘ra freotofitlar ekologik guruhiga kiradi. Bu esa global iqlim o‘zgarishlari kechayotgan davrda qurg‘oqchil mintaqalarda yetishtirishda katta ahamiyatga ega. Ushbu o‘simlik boshqa pion navlariga qaraganda tolali ildizlarga ega, shuning uchun u turli ekologik muhitlarda yetishtirish uchun qulay hisoblanadi. Asosiy shoxlari qalin va kuchli, diametri 15 sm gacha, o‘simlik balandligi esa 3 metrga yetadigan manzarali o‘simlikdir [16].

Paeonia turlarini urug‘laridan ko‘paytirish samarali ekanligi aniqlangan. Ekilganidan so‘ng, ular kuzda ildiz otib, bahorda unib chiqdi, lekin bir necha urug‘lar hatto bir necha yil davomida tinim davrini ham o‘tashi mumkin [17,18].

Paeonia rockii Xitoyda yo‘qolib ketish xavfi ostida turgan noyob tur bo‘lib, sovuqqa chidamli navlarini saralash muhim ahamiyat kasb etadi. Tadqiqot natijalari shuni ko‘rsatadiki o‘simlik hujayra shirasining konsentratsiyasi miqdori o‘simlikning sovuqqa chidamliligini ko‘rsatadigan muhim fiziologik va biokimyoviy ko‘rsatkich ekanligi ma’lum. Past haroratning ta’siri *P.rockii* barglarining turli navlari turli darajadagi hujayra shirasining konsentratsiyasi tarkibiga ega ekanligini ko‘rsatgan bo‘lib, sovuqqa chidamliligi bo‘yicha turli navlari har xil ekanligi aniqlangan. Ushbu usul yordamida qo‘rg‘oqchil mintaqa o‘simliklarining ham muhitga moslashish xususiyatlari aniqlanadi [19,20,21].

Zhou ren-chao va boshqalar *P.rockii* ning embrional rivojlanishi bo‘yicha tadqiqotlar olib borgan [22]. Mali va boshqalar, *P.rockii* ning turli organlarining to‘qimalarini o‘rganish asosida tadqiqotlar olib borib zararlangan organlarining o‘sishi va rivojlanishini optimallashtirish borasida natijalarni qo‘lga kiritgan [23].

Paeonia rockii ning morfologik xususiyatlari o‘ziga xos bo‘lib, Chjan Liang va boshqalar ushbu turning 16 navini tasniflab, 34 ta xususiyatga ega bo‘lgan belgilarini aniqlanganlar [24].

Paeonia rockii Xitoyda pion navlari guruhining kelib chiqishida katta ahamiyatga ega bo‘lgan tabiiy turlaridan biri hisoblanadi. Suo zhi-li va boshqalar buni DNK darajasida tasdiqlaganlar. Shu bilan birga, u pion turlari genetik munosabatlarini tahlil qilish uchun ishlatilishi mumkin ekanligini isbotlaganlar [25,26].



1-rasm. Xitoyning Heping Peony Garden, Yuzhong County, Lanzhou bog‘ida *Paeonia rockii* tabiiy turining o‘sishi va rivojlanishi.

Guo Xin va boshqalar *Paeonia rockii* gul ranglarini fenotipik jihatdan tasniflash ishlarini olib borganlar. Unda 190 dan ortiq navlaridan foydalanganlar. Tizimli tahlil qilish orqali gul ranglarini tasniflash asosida *Paeonia rockii* turining turli navlari oq, pushti, qizil, binafsha-qizil va qora-qizil kabi 5 ta rang tizimiga, shuningdek, 1 ta murakkab rang tizimiga, jami 6 ta rang tizimiga ega bo‘linishi mumkin ekanligi qayd etilgan (1-rasm) [27].

Paeonia rockii Qinling tog‘larida endemik tur sifatida tarqalgan. U o‘zining gulbarglaridagi noyob binafsharang dog‘lari bilan mashhur piyonlarning eng qadimgi turi hisoblanadi. Ningxia va janubiy Gansuda o‘stiriladi. Ushbu o‘simliklar salqin va quruq iqlimga mos keladi va dorivor hisoblanadi. Hozirgi kunda piyonning ushbu navlari O‘zbekistonda yo‘q lekin kelgusida ushbu istiqbolli o‘simliklarning biologiyasi, ekologiyasi, dorivorlik xususiyatlarini o‘rganish muhitga moslashish xususiyatlarini tadqiq etish katta ahamiyat kasb etadi [28].

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