

ISSN:3060-4567 Modern education and development
TASHQI MUHIT OMILLARINING NO‘XAT O‘SISHI VA
RIVOJLANISHIGA TA‘SIRI HAMDA NO‘XAT NING OZIQ
OVQATDAGI AHAMIYATI

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Anotation: *the pea plant is precisely a legume grain crop that is drought-resistant and rich in plant protein, which is important in agriculture. The root contains a large amount of nodular bacteria, which, due to the fact that these bacteria absorb free nitrogen in the air, enrich the soil with nitrogen, improving plant growth, development. But now drought is one of the limiting factors that strongly affect the development and yield of agricultural crops, especially peas. For this reason, it is necessary to develop new varieties of agricultural crops adapted to these conditions*

Keywords: *Fabaceae, Cicer arietinum, pea, stress, abiotic, biotic*

Аннотация: *горох-это бобовые, устойчивые к засухе и богатые растительным белком, которые играют важную роль в сельском хозяйстве. Имея большое количество клубеньковых бактерий на корнях, эти бактерии улучшают рост, развитие растений, обогащая почву азотом, поскольку они поглощают свободный азот из воздуха. Но в настоящее время засуха является одним из ограничивающих факторов, оказывающих сильное влияние на ростовое развитие и урожайность сельскохозяйственных культур, особенно гороха. По этой причине необходимо разработать новые сорта сельскохозяйственных культур, адаптированные к этим условиям*

Ключевые слова: *Fabaceae, cicer arietinum, горох, стресс, абиотика, биотика*

Anotatsiya: *No ‘xat o ‘simligi aynan qishloq xo ‘jaligida muhim ahamiyatga ega bo ‘lgan qurg ‘oqchilikka chidamli va o ‘simlik oqsiliga boy bo ‘lgan dukkakli*

don ekini hisoblanadi. Ildizida ko'p miqdorda tugunak bakteriyalar bo'lib, ushbu bakteriyalar havodagi erkin azotni o'zlashtirishi sababli tuproqni azotga boyitib o'simlik o'sishi, rivojlanishi yaxshilaydi. Ammo hozirda qurg'oqchilik qishloq xo'jaligi ekinlarining xususan no'xatning o'sishi rivojlanishi va hosildorligiga kuchli ta'sir ko'rsatuvchi cheklovchi omillardan biri hisoblanadi. Shu sababdan qishloq xo'jaligi ekinlarining ushbu sharoitlarga moslashgan yangi navlarini ishlab chiqish zarur

Kalit so'zlar: Fabaceae, Cicer arietinum, no'xat, stress, abiotik, biotik

Qurg'oqchilik yer yuzida turli xil o'simliklarning abiotik va biotik stresslarga chalinishiga sabab bo'ladigan keng tarqalgan omillardan biri hisoblanadi[1]. Shu sababdan hozirda biotik va abiotik streslar no'xat ishlab chiqarishda asosiy to'siqlardan biri hisoblanadi. Jaxon miqyosda, abiotik stresslar har yili no'xat hosildorligini sezilarli darajada kamayishiga olib keladi, bu esa o'z navbatida iqtisodiy zararni keltirib chiqaradi [2]. Bundan tashqari o'simlik vegetatsiya davrining turli davrilarida suv etishmasligi no'xat donining o'rtacha hosildorligini pasayishiga sabab bo'ladi hamda ushbu qurg'oqchilik va issiqlik stress omillari o'simlik hosildorligini 70% gacha pasayishiga sabab bo'ladi[3,4,5]. Shunday qilib qurg'oqchilik, o'ta yuqori va past harorat, sho'rlanish va ayniqsa patogenlar o'simlikka zararli ta'sir ko'rsatib hatto o'simlikni nobud bo'lishiga ham olib kelishi mumkin[6,7,8].

No'xat ya'ni Cicer arietinum eng ko'p istemol qilinadigan dukkakli ekinlar orasida 3-o'rinni egallaydi[9]. No'xat jaxonning 50 dan ortiq mamlakatida yetishtirilib keladi hususan Evropada 0,4 %, Okeaniyada 2,6 %, Amerikada 2,9 %, Afrikada 4,3 % va Osiyoda 89,7 % maydonni tashkil qiladi. Pokiston, Turkiya, Eron, Myanma, Avstraliya, Efiopiya, Kanada va AQSh jahon ishlab chiqarishining 70% ini tashkil etuvchi no'xat ishlab chiqaruvchilari hisoblanadi[4,10]. 2050-yilga kelib dunyo aholisi 9 milliarddan oshishi kutilmoqda bu o'z o'rnida sifatli tabiiy va arzon oziq ovqat tanqisligini yuzaga keltiradi. Shu sababdan ushbu oqsiliga boy dukkakli ekinlar ishlab chiqarishni kengaytirish kerak. Shu sababdan hozirda ko'plab tadqiqotchilar yuqori hosildor

tashqi muhit omillariga, tuzga, patogenlarga chidamli, suvni tejaydigan navlar ustida ish olib bormoqdalar[11]. Albatta hozirgi kunda aholi soni ortishi hamda ko'plab ekin maydonlari uy-joy qurilishi zavod, fabrika hamda boshqa inshootlar orqali o'zlashtirilishi unumdor yer maydonlarining keskin qisqarishi, kelajakda bevosita sifatli toza va tabiiy oziq ovqat maxsulotlariga bo'lgan talabni keskin darajada ortishiga sabab bo'ladi. Bundan tashqari qurg'oqchilik eng katta ekologik stresslardan biri bo'lib qolmoqda. Ushbu muammoni bartaraf etishda nafaqat tashqi muhitning noqulay omillariga chidamli yangi navlarni yaratish balki qurg'oqchil va lalmi ekin maydonlaridan unumli foydalanishning yangi zamonaviy va samarali texnologiyalarini ishlab chiqish zarur.

No'xat (*Cicer arietinum* L.) Fabaceae oilasiga mansub dukkakli don ekini bo'lib no'xatning yovvoyi avlodi hisoblanadi. *Cicer arietinum*-*Cicer* turidagi yagona madaniy tur bo'lib o'z-o'zidan changlanadi [12,13]. No'xat tez o'sadi va shoxlanadi balandligi 20 dan 60 sm gacha, ba'zan 1 m bo'lib bir nechta ikkilamchi lateral ildizlar hosil qiladi. Barglari besh sm uzunlikda cho'zinchoq elliptik shaklda. Poyasi tukli, tekis yoki o'ralgan, oddiy yoki tarvaqaylab ketgan. Gullar pushti, oq, ko'k yoki binafsha rangga ega [14,15]. Dukkaklari tukli, shishirilgan va cho'zinchoq. Urug'lar odatda har bir podada bitta urug' turli xil shakllar va o'lchamlarga ega [16,17]. Ko'pgina tropik mintaqalarda ushbu o'simlik samarali ravishda yetishtiriladi. salqin mavsumga va tropik mamlakatlarga yaxshi moslashgan. o'simlik ko'pincha qizil yoki qora tuproqlarda ekiladi bunda pH ko'rsatkichi 5,5–8,6 ni tashkil qiladi [18]. Hatto ba'zi navlar sovuq, do'l va kuchli yomg'irga sezgir bo'lsa-da, ular dastlabki bosqichlarda 9,5 C gacha bo'lgan haroratga bardosh bera oladi. Urug'ni ekish uchun nisbiy namlikning 21-41 foizni talab qiladi[19,20]. Hozirda no'xat hosilini yaxshilashda mikrobial ta'sir ko'rsatish ham yuqori samaradorlikka ega. Bundan tashqari ferment sintezi, fitogormon ishlab chiqarish, azot fiksatsiya hamda sideroforlar ishlab chiqish orqali o'simlik o'sishini rag'batlantirish mumkin[21,22]. Donli dukkaklilar o'simliklar millionlab odamlarning ozuqa ratsionida muhim ozuqaviy rol o'ynaydi. Shu sababdan mamlakatlar ushbu oqsilga boy o'simlikni „Kambag'al odamning go'shti“ deb ham atashadi. Dukkaklilar juda muhim protein, kaltsiy,

temir, fosfor va boshqa ko'pgina minerallarning manbasi hisoblanib oziq ovqat sanoatida muhim ahamiyatga ega [23]. No'xat o'simligi qadimdan Markaziy va kichik Osiyoning qurg'oqchil mintaqalarida ekib kelingan. Ekin maydoni bo'yicha dukkaklilar orasida oldingi o'rinlarni egallaydi[24].

Xulosa

Xulosa qilib aytganda no'xat yuqori ozuqaviy qiymatga ega dukakli donli ekinligini inobatga olgan holda ushbu o'simlikning abiotik va biotik stresslarga chidamli navlarini ishlab chiqish hamda iqtisodiy jihatdan qimmatli hosilni yangi biotexnologik vositalar yordamida ko'paytirish. Ananaviy va yangi biotexnologik usullar yordamida turli stresslarni yengish va hosildorlikni oshirish texnologiyalarini ishlab chiqish muhim amaliy ahamiyatga ega.

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