GIPSLI SHO‘RLANGAN TUPROQLAR UNUMDORLIGINI OSHIRISHDA GUAR O‘SIMLIGINING (CYAMOPSIS TETRAGONOLOBA) AHAMIYATI

Maxkamova D.Yu
Mirzo Ulug‘bek nomidagi O‘zbekiston Milliy universiteti

So‘nggi o‘n yilliklarda global iqlim o‘zgarishi qishloq xo‘jaligi ishlab chiqarishiga sezilarli ta’sir ko‘rsatmoqda. Natijada degradatsiyaga uchragan yer maydonlari kengayib suv taqchiligi kun sari ortmoqda. Shu jumladan, o‘zgarib borayotgan iqlim sharoitlariga mos unumdorligi yuqori qurg‘oqchilikka chidamli bo‘lgan ekin ekish chora tadbirlari ko‘rilmoqda.

Shu sharoitda kam suv talab qiluvchi, stress omillariga chidamli va agroekologik barqaror ekin turlarini izlash dolzarb ilmiy yo‘nalishga aylangan. Tuproqning biologik va unumdorlik xossasiga dukkakli ekinlarning ta’siri asosan ijobiy natijalarni ko‘rsatib kelmoqda, shuningdek qishloq xo‘jaligida ozuqabop foydali ekin hisoblanadi.

Xususan, Guar o‘simligi ham zamonaviy va intensiv ekin sifatida mamlakatimiz tuproq tiplariga mos kelish-kelmasligini bilish uchun tajriba maydonlarida sinov ekin sifatida ekilmoqda.

Gipsli sho‘rlangan tuproqlar tarkibida kalsiy sulfati ($CaSO_4 \bullet 2H_2O$) va turli erimuvchan tuzlar miqdorining yuqoriligi, shuningdek, organik moddalarning kamligi va agrofizik xossalarning zaifligi bilan tavsiflanadi.

Bunday tuproqlarda o‘simliklar o‘sishi cheklanadi, ozuqa elementlarining o‘zlashtirilishi pasayadi va umumiy biologik faollik sustlashadi. Shu nuqtai nazardan, agrobiologik melioratsiya usullari, jumladan, dukkakdosh ekinlardan foydalanish muhim ilmiy-amaliy ahamiyat kasb etadi.

Guar (Cyamopsis tetragonoloba L.) - dukkakdoshlar oilasiga mansub, qurg‘oqchilikka va nisbatan sho‘rlanishga chidamli o‘simlik bo‘lib, gipsli sho‘rlangan tuproq sharoitida ham moslashuvchanlik qobiliyatini namoyon etadi. Uning tuproq unumdorligiga ta’siri bir nechta o‘zaro bog‘liq biogeokimyoviy va agrofizik jarayonlar orqali izohlanadi.

Guar o‘simligi gipsli sho‘rlangan tuproqlarda yuqori moslashuvchanlikka ega bo‘lib, uning ta’siri bir nechta ilmiy asoslangan ko‘rsatkichlar orqali namoyon bo‘ladi. Avvalo, u simbiotik azot fiksatsiyasi hisobiga gektariga o‘rtacha 40-80 kg, ayrim hollarda 90 kg gacha biologik azot to‘playdi. Bu esa tuproqda azot balansini yaxshilab, mineral azot o‘g‘itlariga bo‘lgan ehtiyojni 20-30% ga kamaytiradi.

Guar biomassasini tuproqqa siderat sifatida qaytarish natijasida gektariga 15-25 tonna yashil massa kiritiladi. Bu jarayon 2-3 yil mobaynida gumus miqdorini 0,1-0,3% ga oshiradi hamda umumiy organik moddalar zaxirasini 10-20% ga ko‘paytirishga xizmat qiladi. Organik moddalarning ortishi gipsli tuproqlarda agregatlar barqarorligini 15-25% ga oshiradi, suv o‘tkazuvchanlikni 20-40% ga yaxshilaydi va tuproq zichligini 0,05-0,15 g/sm³ ga kamaytiradi.

Shu bilan birga, guarning ildiz tizimi va organik qoldiqlari ta’sirida tuproqdagi tuzlarning salbiy ta’siri kamayadi. Suv infiltratsiyasining yaxshilanishi natijasida

erimuvchan tuzlar pastki qatlamlarga yuvilib, tuproq eritmasining elektr o‘tkazuvchanligi 10-25% ga pasayadi. Bu esa o‘simliklar uchun qulay osmotik muhitni shakllantiradi.

Guar ekini tuproqning mikrobiologik faolligini ham oshiradi. Ilmiy kuzatishlarga ko‘ra, mikroorganizmlar soni 1,5-2 barobarga ko‘payib, fermentativ faollik 20-35% ga oshadi. Bu esa ozuqa elementlari aylanishini faollashtirib, tuproq biologik unumdorligini tiklashda muhim omil bo‘lib xizmat qiladi.

Qurg‘oqchilik sharoitida guar o‘simligi yuqori suvdan foydalanish samaradorligiga ega bo‘lib, 1 kg quruq modda hosil qilish uchun 250-350 litr suv sarflaydi, bu ko‘rsatkich boshqa ko‘plab qishloq xo‘jaligi ekinlariga nisbatan 15-20% tejamkor hisoblanadi.

Xulosa qilib aytganda, guar o‘simligi gipsli sho‘rlangan tuproqlarda kompleks biomeliorativ ta’sir ko‘rsatadi. U biologik azot manbai sifatida tuproqni boyitadi, organik moddalar miqdorini oshiradi, struktura va suv-fizik xossalarni yaxshilaydi hamda tuzlarning salbiy ta’sirini yumshatadi. Shu sababli, uni degradatsiyaga uchragan yerlarda almashlab ekish tizimiga kiritish ilmiy asoslangan va yuqori samarali agrotexnologik chora-tadbir sifatida tavsiya etiladi.

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