

ION PLAZMA (COLD PLASMA) USULI HAMDA UNING ISTIQBOLI

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Annotatsiya: Aholi orasida oziq – ovqat xavfsizligi va ularning ta'minlanishi dolzarb muammo sifatida baholanib, ushbu sohada yangi texnologiyalarni qo'llash ahamiyati ortib bormoqda. Ion plazma (Cold plasma) usuli asosida olib borilgan tadqiqotlar o'simlik fiziologiyasi rag'batlantirishi bilan ijobiy ko'rsatkichlarga ega hisoblanadi.

Kalit so'zlar: qishloq xo'jaligi, oziq – ovqat, urug', hosildorlik, samaradorlik.

Dunyo aholisi tez o'sib borayotgan bir sharoitda biz bu dunyodagi milliard odamni boqish uchun oziq-ovqat ishlab chiqarishni ko'paytirishimiz kerak. Dunyo oziq-ovqatining katta qismi qishloq xo'jaligi orqali yetishtiriladi va urug'lar barqaror dehqonchilik va oziq-ovqat ishlab chiqarishning muhim elementlari hisoblanadi.

Jahon oziq-ovqat dasturi, shuningdek, 2030 – yilga borib ochlikka barham berish uchun oziq-ovqatni yaxshilash va barqaror qishloq xo'jaligini rag'batlantirish usullarini ko'rib chiqmoqda (S. N. Garcia, B. I. Osburn, M. T. Jay-Russell, 2020).

Qishloq xo'jaligida rivojlanayotgan texnologiyalar urug'lik sifatini yaxshilashda tobora muhim rol o'ynab, urug'lik texnologiyasida yangi inqilobni keltirib chiqarmoqda (H. Xiong, T. Dalhaus, P. Wang, J. Huang, 2020).

Sovuq plazma (Cold plasma – CP) texnologiyasi urug'chilik sanoatida innovatsion va rivojlanayotgan texnologiyalardan biridir. Bu urug'lik sifati va saqlanishi bilan bog'liq ko'plab jiddiy muammolarni hal qilish uchun muhim texnologiyadir. Urug'larni qayta ishlash - bu o'simliklarning o'sishini oshirish uchun mashhur bo'lgan zamonaviy eko qishloq xo'jaligi texnologiyasi (A. Waskow, A. Howling, I. Furno, 2021.; B. Adhikari, M. Adhikari, G. Park, 2020; M. Domonkos, P. Tichá, J. Trejbal, P. Demo, 2021).

CP (Cold plasma – CP) bilan ishlov berish tez, tejamkor va ifloslanishsiz urug'lik samaradorligini va hosildorlikni yaxshilaydi (J.-S. Song, S. B. Kim, S. Ryu, J. Oh, D.-S. Kim, 2020). U o'simliklardagi bir qancha rivojlanish va fiziologik jarayonlarda muhim rol o'ynaydi, jumladan, urug'larga bakterial yukni kamaytirish, urug' po'stlog'ining tuzilishini o'zgartirish, urug'larning unib chiqishini oshirish, shuningdek, ko'chat o'sishini rag'batlantirishda muhim ahamiyat kasb etadi (B. Adhikari, K. Pangomm, 2020,; L. Ling, J. Jiafeng, L. Jiangang, S. Minchong, H. Xin, S.,; 2014; P. Starič, K. Vogel-Mikuš, 2020). Urug'larni tayyorlash dala ekinlari yetishtirishda urug'larning bir xil rivojlanishini ta'minlash mumkin bo'lgan va

tejamkor usuli bo'lib, ozuqa moddalarining so'rilishini, suvdan foydalanish samaradorligini, foto va termo-dormansiyani va hosildorlikni yaxshilaydi, shuning uchun CP bilan urug'larni sirtini stressga chidamliligini oshiradi va hosildorlikni yetishtirish xarajatlari kamaytiradi. CP vositachiligida urug'larni tayyorlash urug'larning unib chiqish tezligini, o'simliklarning o'sishini, shuningdek, qishloq xo'jaligi hosildorligini oshiradi (B. Adhikari, K. Pangomm, 2020; L. Ling, J. Jiafeng, L. Jiangang, S. Minchong, H. Xin, S.; 2014; P. Starič, K. Vogel-Mikuš, 2020).

Qishloq xo'jaligida CP dastlabki an'anaviy sirtini qoplash usullariga nisbatan bir qator afzalliklarga ega, jumladan, qisqa ishlov berish vaqtlari, qulay foydalanish va ish paytida past haroratlar. Plazmadagi reaktiv kimyoviy turlar sirt kimyosini o'zgartiradi, bu esa sirt namlanishini, suvning yutilishini yaxshilaydi va natijada urug'larda murakkab signalizatsiya yo'llarini boshlaydi (C. Varilla, M. Marcone, G. A. Annor, 2020; S. K. Pankaj, Z. Wan, K. M. Keener, 2018).

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