



QOVUN YETISHTIRISHDA KASALLIK VA ZARARKUNANDALARGA QARSHI BIOLOGIK KURASH USULLARI

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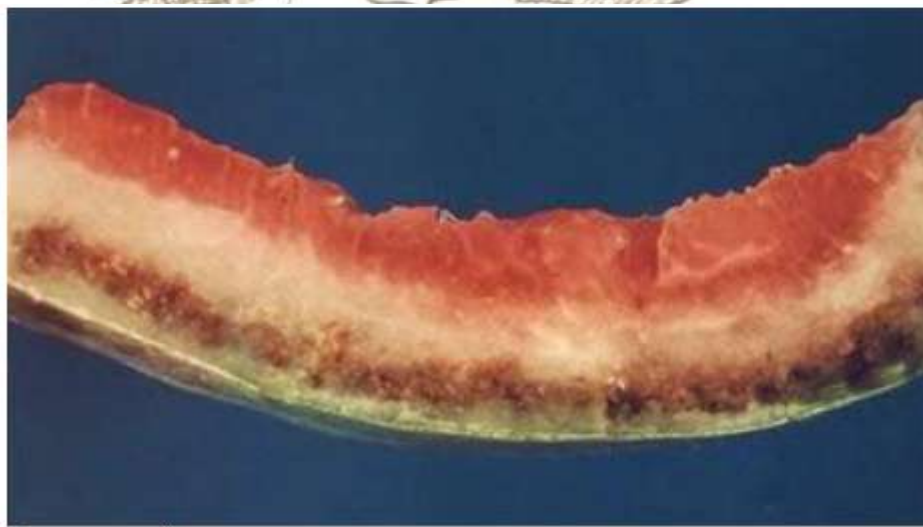
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Annotatsiya. Ushbu ishda qovun (*Cucumis melo L.*) yetishtirishda uchraydigan asosiy kasallik va zararkunandalarga qarshi biologik kurash usullarining samaradorligi o'rganildi. Tadqiqot natijalari shuni ko'rsatdiki, biologik vositalardan foydalanish o'simliklarning sog'lom o'sishi va rivojlanishini ta'minlab, hosildorlikni oshiradi hamda ekologik xavfsizlikni kafolatlaydi.

Kalit so'zlar: qovun, biologik kurash, zararkunandalar, kasalliklar, biopreparatlar, entomofaglar, ekologik xavfsizlik.

Kirish. Bugungi kunda qishloq xo'jaligida kimyoviy pestitsidlarning keng qo'llanilishi atrof-muhit ifloslanishi, foydali organizmlarning yo'qolishi va mahsulot sifatining pasayishiga olib kelmoqda. Shu sababli ekologik toza mahsulot yetishtirishda biologik kurash usullari muhim ahamiyat kasb etmoqda. Qovun yetishtirishda uchraydigan asosiy kasalliklar – unshudring (*Erysiphe cichoracearum*), fuzarioz (*Fusarium oxysporum*), antraknoz (*Colletotrichum lagenarium*) hamda zararkunandalar – poliz qo'ng'izi, o'rgimchak kana (*Tetranychus urticae*), shira (*Aphis gossypii*) hosildorlikka sezilarli zarar yetkazadi.

Tadqiqot uslubi. Tadqiqotlar dala sharoitida olib borilib, biologik kurash vositalari sifatida trixogramma (*Trichogramma spp.*), entomopatogen zamburug'lar (*Beauveria bassiana*), bakterial preparatlar (*Bacillus thuringiensis*) va boshqa bioinsektitsidlar qo'llanildi. Tajriba variantlarida zararkunandalar soni, kasallanish darajasi va hosildorlik ko'rsatkichlari aniqlanib, statistik tahlil qilindi.



1-rasm. Qovundagi nekroz.





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Natijalar va muhokama. Tadqiqot natijalari shuni ko'rsatdiki, trixogramma qo'llanilganda zararkunandalar tuxumlari soni 60–70 % ga kamaygan. *Bacillus thuringiensis* preparatlari barg yeyuvchi hasharotlarga qarshi yuqori samaradorlik ko'rsatib, ularning sonini keskin kamaytirgan. *Beauveria bassiana* qo'llanilganda zararkunandalar populyatsiyasi kamayib, o'simliklarning saqlanib qolish darajasi oshgan.

Biologik kurash usullarining qo'llanilishi natijasida kasalliklarning tarqalish darajasi pasaygan va o'simliklarning vegetativ rivojlanishi yaxshilangan. Natijada hosildorlik ko'rsatkichlari nazorat variantiga nisbatan 10–15 % ga yuqori bo'lgan.



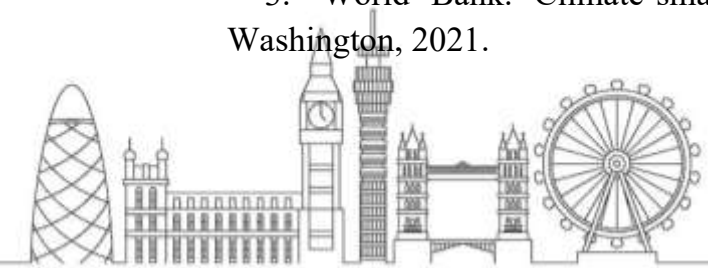
2-rasm. Nematoda bilan zararlangan qovun indizlari.

Zamonaviy ilmiy tadqiqotlar ham shuni tasdiqlaydiki, biologik vositalar tuproq mikroflorasini saqlaydi, agroekotizim barqarorligini oshiradi va uzoq muddatli samaradorlikni ta'minlaydi. Shu bilan birga, ular kimyoviy pestitsidlarga nisbatan xavfsiz bo'lib, inson salomatligiga salbiy ta'sir ko'rsatmaydi.

Xulosa. Qovun yetishtirishda biologik kurash usullaridan foydalanish yuqori samaradorlikka ega bo'lib, zararkunandalar va kasalliklarni kamaytiradi hamda hosildorlikni oshiradi. Ayniqsa, trixogramma, *Bacillus thuringiensis* va *Beauveria bassiana* asosidagi preparatlar eng samarali vositalar sifatida tavsiya etiladi. Ushbu usullarni qishloq xo'jaligi amaliyotiga keng joriy etish ekologik toza mahsulot yetishtirishda muhim omil hisoblanadi.

FOYDALANILGAN ADABIYOTLAR

1. FAO. Integrated pest management: Guidelines for sustainable agriculture. – Rome, 2020.
2. FAO. Biological pest control and ecosystem-based approaches. – Rome, 2022.
3. World Bank. Climate-smart agriculture and sustainable pest management. – Washington, 2021.





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4. ICARDA. Integrated pest management in dryland agriculture. – 2021.
5. OECD. Sustainable pest management and biodiversity conservation. – Paris, 2020.
6. Islam M.T., Rahman M.M. Biological control in agriculture: Recent advances. – 2020.
7. Kumar S., Singh A. Advances in biopesticides for sustainable crop production. – Journal of Cleaner Production, 2021.
8. Gupta R., Dikshit A.K. Biopesticides: An eco-friendly approach for pest control. – Journal of Biopesticides, 2021.
9. Sharma S., Kooner R. Role of microbial biopesticides in sustainable agriculture. – 2022.
10. Mishra J., Singh R. Application of *Bacillus thuringiensis* in pest management. – 2020.
11. Zhang Q. et al. Advances in biological pest control under climate change. – 2022.
12. Li X. et al. Entomopathogenic fungi in insect pest management. – 2021.
13. Kumar V. et al. Integrated pest management strategies for horticultural crops. – 2023.
14. Singh R.P. Biological control of agricultural pests: Recent trends. – 2022.
15. FAO. Eco-friendly pest management technologies. – 2023.
16. Abdullaev S., Tursunov N. O‘zbekistonda biologik himoya tizimlari. – Toshkent, 2022.
17. O‘zbekiston QXITI. Qishloq xo‘jaligida biologik kurash texnologiyalari. – 2023.
18. ICARDA. Sustainable crop protection technologies. – 2022.
19. World Bank. Agricultural sustainability and pest control innovations. – 2022.
20. FAO. Climate change and pest management strategies. – 2021.

