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**SABZAVOT EKINLARI SIRFID PASHSHALARI (SYRPHIDAE) VA ULARNING
BIOLOGIK AHAMIYATI**

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Annotatsiya. Sabzavot ekinlari agrosenozlarida zararkunandalar populyatsiyasini tabiiy ravishda boshqaruvchi entomofag hasharotlar nihotayda ko‘p. Entomofag hasharotlarning eng samarali guruhlaridan biri sirfid pashshalardir. Sirfid pashshalar (Syrphidae) sabzavot ekinlari agrosenozlarining eng muhim tarkibiy qismi bo‘lib, lichinkalik davrida sabzavot ekinlari zararkunandalarini, ayniqsa shira bitlarini yeb foyda keltiradi. Samarqand tumani karam hamda bodring agrosenozlarida lichinkalari yirtqich hayot tarziga ega bo‘lgan sirfid pashshalarning Sphaerophoria, Eupeodes, Episyrphus, Ischiodon, Melanostoma, Paragus avlodlariga mansub 9 ta turi va lichinkalari fitofag usulda oziqlanadigan Eumerus avlodining 1 ta turi aniqlandi. Sphaerophoria avlodi vakillari (Sphaerophoria rueppeli, S. scripta) tadqiqot maydonlarida dominant turlar sifatida qayd qilindi.

Kalit so‘zlar: Sabzavot ekinlari, biologik nazorat, entomofag hasharotlar, sirfid pashshalar, Sphaerophoria rueppeli, Eupeodes corollae.

Kirish. Sirfid pashshalar agroekosistemalarda o‘simliklarning changlanishi va fitofag hasharotlarning biologik boshqarilishini ta‘minlaydi. Lichinkalik davrida shira bitlari bilan oziqlanib, biologik nazorat olib borsa, voyaga yetgan pashshalar esa o‘simliklarni changlatadi va hosildorlik oshishiga sababchi bo‘ladi [1,2].

Sirfid pashshalarning biologik boshqarilishdagi ahamiyati laboratoriya sharoitida o‘rganilgan. Xususan, Episyrphus balteatus lichinkalarining laboratoriya sharoitida Aphis craccivora, Myzus persicae va Megoura crassicauda shira bitlariga nisbatan yirtqichlik xususiyati o‘rganilganda, Megoura crassicauda shira bitiga nisbatan lichinkalarning samaradorligi 9-kunga kelib 100% ga yetganini ko‘rsatgan [3]. Shuningdek, Eupeodes corollae sirfid pashshalarining biologik samaradorligi Rhopalosiphum padi, Schizaphis graminum, Brevicoryne brassicae va Myzus persicae kabi shira turlariga nisbatan o‘rganilganda, Eupeodes corollae sirfid pashshasi va Brevicoryne brassicae shira biti o‘rtasida kuchli ijobiy korrelyatsion bog‘liqlik ($r^2 = 0.8588$) mavjudligi qayd etilgan [4]. Bir qator tadqiqotlarda Brevicoryne brassicae shira bitiga nisbatan bir necha tur sirfid pashshalarining yirtqichlik faoliyati o‘rganilgan hamda Episyrphus balteatus lichinkalari eng samarali tur sifatida shira bitlari bilan oziqlanishi aniqlangan [5].

Materiallar va uslublar. Tadqiqot ishlari 2025 yil bahor va yoz oylari davomida karam hamda bodring dalalarida olib borildi. Sirfid pashshalarni tutishda entomologik to‘r (sachok) va



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rangli suvli tutqichlardan foydalanildi. Yig'ilgan hasharotlar fiksatsiya qilinib, entomologik paxta yostiqlariga joylashtirildi va tur tarkibi aniqladi.

Natijalar va munozara. Tadqiqot natijalariga ko'ra, sabzavot ekinlari agrosenozlarida Sphaerophoria, Eupeodes, Episyrphus, Ischiodon, Melanostoma, Paragus, hamda Eumerus avlodiga mansub turlar aniqlandi (1-jadval).

Sphaerophoria avlodiga mansub Sphaerophoria scripta hamda Sphaerophoria rueppeli turlari dominant turlar bo'lib, mos ravishda pashshalarning 31,25% va 18,75% ni tashkil qildi.

1-jadval

№	Avlod	Sirfid pashshalar turi	Lichinkalarning ozuqaviy ixtisosligi
1.	Eupeodes	Eupeodes carollae	Yirtqich
2.		Eupeodes spl	Yirtqich
3.		Eupeodes nuba	Yirtqich
4.	Sphaerophoria	Sphaerophoria rueppeli	Yirtqich
5.		Sphaerophoria scripta	Yirtqich
6.	Episyrphus	Episyrphus balteatus	Yirtqich
7.	Ischiodon	Ischiodon scutellaris	Yirtqich
8.	Melanostoma	Melanostoma mellinum	Yirtqich
9.	Paragus	Paragus compeditus	Yirtqich
10.	Eumerus	Eumerus sogdianus	Fitofag

Aniqlangan turlarning deyarli barchasi lichinkalik bosqichida yirtqich bo'lib, shira bitlari sonini boshqarishda xizmat qiladi. Eumerus avlodi turlari esa bundan mustasno, uning lichinkalari sabzavot ekinlari ildiz qismini yeb qishloq xo'jaligiga zarar keltiradi [6]. Sirfid pashshalar lichinkalik bosqichida zararkunanda yoki yirtqich bo'lishi mumkin, lekin ular voyaga yetgan davrida gul shirasi bilan oziqlanadi va madaniy o'simliklarning asosiy changlatuvchisi hisoblanadi.[1,2,6]

Xulosa va tavsiyalar. Karam va bodring agrosenozlarida sirfid pashshalarning 10 ta turi tarqalgan. Sphaerophoria scripta va Sphaerophoria rueppeli dominant turlar bo'lib, sirfidofaunaning asosiy qismini tashkil etadi. Agrosenozlarda uchraydigan sirfid pashshalarning ko'pchiligi yirtqichlardan iborat.

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