

CLINICAL MANIFESTATIONS OF ASCOSPHEROSIS IN FERGANA VALLEY DEPENDING ON THE SYSTEM AND METHOD OF MAINTENANCE

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Abstract. *The article describes in detail the epizootic situation regarding ascosphaeriosis in the Fergana Valley. The number of bee colonies affected by ascosphaeriosis is 5.9 – 35.0% of the total number of those studied. Clinical manifestations of the disease in the southern regions of the Fergana Valley are observed in early March, and in the Central regions - in April. In the Southern regions of the Fergana Valley, the incidence of bees with ascosphaeriosis is mainly manifested by weak, in the Central - medium and severe degrees of infection of the brood.*

Keywords: *ascosphaeriosis, Fergana Valley, course of the disease, recovery itself, maintenance, lesions of ascosphaeriosis, latent, mild and severe forms of the disease.*

Methods and results of the study: The study of the clinical manifestation of ascosphaeriosis in various natural and climatic zones of the Fergana Valley indicates that the pattern of manifestation of ascosphaeriosis changes depending on the influence of climatic factors, the availability and phytosanitary state of the food supply, as well as the method of maintenance. Based on the nature of the disease manifestation, latent, mild and severe forms of the disease were identified.

The hidden form of ascosphaeriosis is mainly observed in the Andijan region in the spring and summer. Most cases, as the strength of bee colonies increases, ends in recovery itself (Table 1). Due to the fact that in the latent form of the disease, single affected larvae are observed, clinical signs of the disease cannot be detected. During mycological examination of larvae and bees, *Ascosphaera apis* was isolated. Transportation and placement of hives with a latent form of ascosphaeriosis to high-mountain honey-bearing regions characterized by high humidity contributes to the clinical manifestation of the disease.

A mild form of ascosphaeriosis damage (up to 10 larvae per comb) is observed in early March in the southern regions of the Fergana Valley, in early April in the foothill zone, and at the end of April in the mountainous zone of the central regions of the Fergana Valley. As the ambient temperature increased and the food supply improved, the flight activity of bee colonies increased, which contributed to the self-recovery of hives with a mild form of ascosphaeriosis damage.

In stationary apiaries in the Bulokbashi district of 12 and Kuvasay district of 16 bee colonies with a mild form of illness, recovery itself occurred in 10 (83.3%) and 12 (75.0%) within 45–60 days, respectively. In the Yangi-Kurgan region, in a stationary apiary of 14 bee colonies affected by a mild form of ascosphaeriosis, recovery itself occurred in 6 hives (42.8%) within 45–60 days.

With nomadic keeping of bees, it was found that when bee colonies with a mild form of infection (12) were moved from the Andijan region, recovery itself was noted in 7 (53.8%) bee families.

Table 1

The very recovery of bee colonies

№	Districts	Stage					
		hidden		light		heavy	
		Quantity families	Recovered	Quantity families	Recovered	Quantity families	Recovered
1.	Bulokboshi	—	—	12	10(83,3)	—	—
2.	Kuvasay	—	—	16	12(75,0)	—	—
3.	Yangi-kurghan	—	—	14	6(42,8)	440	28(43,5)
4.	Andijan	—	—	12	7(53,8)	—	—

Note. The percentage is indicated in parentheses.

A severe form of damage to bee colonies by ascospherosis is mainly observed in stationary apiaries in the mountain and foothill regions of the Fergana Valley. Thus, out of 440 bee colonies located in the Yangi-Kurgan region, 64 bee colonies with ascospherosis were identified, of which 28 (43.5%) had a severe form of damage (more than 100 larvae per comb). In affected hives, bees are unable to clear the cells of mummified larvae, and queen bees stop laying eggs. Violation of the reproduction of bees led to a decrease in the number of bees. Thus, bee colonies that emerged from wintering on 8-9 frames remained on 6-8 streets during the period of maximum development. The dead larvae resembled oblong plates or rounded formations of brown or dark gray color; when examined under a microscope, a mass of spore material was discovered. The recovery itself of bee colonies affected by a severe form of the disease was not observed.

A study of the influence of various maintenance methods on the manifestation of ascospherosis showed that the smallest number of affected bee colonies was observed when they were kept on platforms (Table 2). Thus, out of 540 bee colonies examined, only 4 (0.7%) patients with a mild form of ascospherosis were identified. Of the 684 bee colonies kept in two- and three-hull hives, 22 patients (3.2%) were found. The largest number of bee colonies infected with ascospherosis was noted when bees were kept in beehives. Of the 542 surveyed hives, the disease was registered in 68 bee colonies (12.5%).

Table 2

The degree of morbidity of bees under different methods of keeping

Method of keeping	Number of bee colonies	
	total	ill
Platforms	540	4 (0,7)
Two- three-body hives	684	22 (3,2)
Hive beds	542	68 (12,5)

Note. The percentage is indicated in parentheses.

CONCLUSION

In beekeeping in the Fergana Valley, a difficult epizootic situation regarding ascospherosis is noted. The number of bee colonies affected by ascospherosis is 5.9 – 35.0% of the total number of those studied. Clinical manifestations of the disease in the southern regions of the Fergana Valley are observed in early March, and in the Central regions - in April. In the Southern regions

of the Fergana Valley, the incidence of bees with ascospherosis is mainly manifested by weak, in the Central - medium and severe degrees of infection of the brood.

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