

Black Borer is a Dangerous Pest of Almond Seedlings

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ABSTRACT

*The article describes the bioecology of the almond pest - black borer (*Capnodis tenebrionis* L.), its harmfulness and methods of control. The effectiveness of pesticides is given.*

KEYWORDS: *Black borer, almonds, bioecology, harm, chemicals, efficiency.*

Introduction. In recent years, the number and damage of seedlings of fruit trees, including almonds, by a dangerous pest of black borer (*Capnodis tenebrionis* L.) has increased. In many cases, almond seedlings become unusable as a result of damage to them.

In total, there are more than 8000 species of insects belonging to the genus (Buprestidae) in the world. There are about 120 species in Uzbekistan (Mukhammadiev B.K., Esonboev Sh., Yusupov A.Kh., 2015). Pests belonging to this family damage mainly fruit trees, ornamental shrubs and herbaceous plants. In particular, it causes serious damage to seedlings of fruit trees (Sh. Esanboev, 1994, O.A. Nikolskaya, A.V. Solonkin, 2019). Therefore, in the conditions of Uzbekistan, the study of the bioecology of the black borer in almond plantations and methods for managing its abundance is an urgent task.

Experimental technique. The experiments were carried out in the field fields of the Association of Walnut Producers and Exporters in 2019-2022. In order to determine the prevalence of black borer and the number of pests in the almond nursery, route inspections and seedling control were carried out every 4-6 days from the moment of emergence until the end of the growing season. At each inspection, the insects were collected in a container and the number of insects in each plot was determined, while the plot size was set to 0.1. Observations and analyzes in the manuals "Guidelines for testing insecticides, acaricides, biologically active substances and fungicides" (Sh.T.Khodzhaev, 2004) and "Methods and conditions for the use and research of pesticides in agriculture" (Sh.T.Khodzhaev, 2020) is carried out by the following methods.

Experimental results and their analysis. On the territory of Uzbekistan in the orchards of fruit crops, including almonds, there are many pests - May beetles, rodent beetles, rotten beetles, as well as blackhead beetles. They cause serious damage to the growth and development of seedlings and even lead to their death. Especially in recent years, the negative impact of the black borer pest has increased on almond seedlings.

The black goldfish (*Capnodis tenebrionis* L.) belongs to the genus of black beetles and is a typical representative of the family (Buprestidae). Zlatka is a heat-loving pest that feels good even at temperatures above 30°C. The size of the beetle is 15 by 28 mm, bronze in color, shiny, with white spots on the shoulders, they are very hard. During the summer, the female lays up to 2500 eggs, mostly laying them around the root collar. Eggs up to 1 mm in size, whitish-yellow, disc-shaped, with

an uneven surface. The eggs hatch into larvae. The development of the larva takes 2-3 years. The size of the developed larva is 60-70 mm, yellowish-white in color, the breast is enlarged, it flies well. Pests in the form of larvae overwinter on plant debris and tree roots. With hot days in May-June, the larvae feed on leaf axils, buds, branch bark, roots and root neck, causing serious damage to seedlings and young seedlings, in some cases leading to the death of seedlings. The beetles damage the leaf blade, causing leaf fall during the summer, suggesting that borer is involved in seedling damage. By autumn, some of the beetles die, only the most hardy and resistant to winter survive. It was noted that in almond orchards, black borer is most common during the formation and ripening of fruits, and in nurseries - during the growth period.

Currently, an effective remedy is the chemical fight against black borer. The effectiveness of control in this method requires knowledge of its biological properties. In particular, given that its larvae live indoors, chemical control during this period does not give good results in practice. It is also useless to carry out chemical treatment after the pest has laid eggs. Therefore, it is advisable to carry out chemical pest control at an early stage, during the period of the greatest spread of the pest.

From chemical agents against black borer in the experimental field of gongxiao super 20% em.c. (*lambda*-cyhalothrin) application rate 0.4 ml/ha and sumi-alpha, 5% em.c. (*esfenvalerate*) was applied at the rate of 1 liter per hectare. According to the results of monitoring almond buds during the budding period (end of March and April), chemical treatments were not carried out due to the absence of pests. Chemical treatment was carried out mainly at the end of April - during the fruiting period of almonds, in May-June - during the period of the green skin of the fruit, in August - during the growth of the twig. The highest number of blackcap beetles was observed during the fruiting period of almonds (38-43 per 0.1 ha).

The efficiency of the chemical treatment was at very high rates during all periods of treatment. At the same time, the number of dead black beetles was 97-98%, and in some years the productivity reached 100%. For example, in 2020, during the fruiting period, 39 beetles were found before processing, after processing - 1 (97.4%). Chemical treatment in almond orchards was carried out twice with an interval of 15 days. Processing should be stopped 35-40 days before harvesting the almonds.

Conclusion. In Uzbekistan, blackcap is a serious pest of almonds, mainly in April-May. Fruits formed as a result of nibbling and damage to green twigs die. It is recommended to use pesticides during the flowering period, when the flowers are 85-90% pollinated, that is, after flowering and in the nursery during the seedling growth period.

Literature.

1. Otanazarov A.P., Sulonov R.A., Agzamova H.K. Forest pests // Tashkent. - 2012.
2. Yakhontov V.V. Pests of Central Asian agricultural products and measures to combat them // Tashkent.-1962.
3. Umurzakov E.U., Omanturdiyev Sh.S. Cultivation of almonds in Uzbekistan and their protection against pests// European Journal of Agricultural and Rural Education (EJARE) Available <https://www.scholarzest.com> Vol. 2 No. 9, September 2021, ISSN: 2660-5643, p.17-19.
4. Esonboev Sh. and others. Stem pests of the forests of Uzbekistan // Toshkent.-1994.
5. Guidelines for testing insecticides, acaricides, biologically active substances and fungicides // Edited by Sh.T.Khodzhaev.- 2004.-104 p.
6. Khodzhaev Sh.T. Methods and conditions for the use of pesticides and research in agriculture // Tashkent.-2020.-152 p.

7. Muhammadiev B.K., Esonboev Sh., Yusupov A.Kh. Forest entomology.// Tashkent.-2015.-75 p.
8. Paly V.F. Methods for studying the fauna and phenology of insects / Voronezh.-1970.-189 p.
9. Umurzakov E.U., Omanturdiyev Sh.S., Sharofbaeva M.K. Sucking pests of almonds and their control in Uzbekistan// European Journal of Agricultural and Rural Education (EJARE) Available Online at: <https://www.scholarzest.com> Vol. 2 No. 10, October 2021, ISSN:2660-5643 p.32-35.