

**INSECTICIDAL ACTIVITY OF 3-BUTYLQUINAZOLIN-4(3H)-ONE
HYDROCHLORIDE AGAINST *Oulema melanopus* L. OF WINTER WHEAT**

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One of the major factors reducing the yield of winter wheat is the need to protect crops against insect pests. In recent years, changes in climatic conditions, prolonged growing seasons, and modifications in agricultural practices have created favorable conditions for the development and spread of certain pest species. In particular, *Oulema melanopus* L. (cereal leaf beetle) is widely distributed in winter wheat crops. Its feeding damage to wheat leaves reduces photosynthetic activity and consequently leads to yield losses.

Therefore, the development of effective and economically viable crop protection products against this pest is of considerable importance.

One of the organic compounds exhibiting high potential insecticidal activity is fenazaquin, a derivative containing a quinazolin-4-one moiety. Quinazoline-containing compounds and their derivatives have attracted considerable interest due to their high biological potential, the presence of various reactive centers, and the possibility of introducing new structural fragments. Compounds belonging to this class, including quinazolin-4-one, quinazoline-2,4-dione, 2-methylquinazoline, quinazolin-4(3H)-one, and their derivatives containing various heteroatoms, have been reported to exhibit a broad range of biological activities, including antioxidant, antifungal, antibacterial, and insecticidal properties.

The aim of this study was to evaluate the biological efficacy of 3-butylquinazolin-4(3H)-one hydrochloride, synthesized at the Institute of the Chemistry of Plant Substances, under field conditions. The experiment was conducted during the growing season of winter wheat in the Yukori Chirchiq District of Tashkent Region, Uzbekistan. The experimental treatments included an untreated control, the insecticide Lordor, and 3-butylquinazolin-4(3H)-one hydrochloride. To assess the biological efficacy of the insecticides, pest populations were counted 3, 7, and 14 days after treatment.

According to the results obtained, the pest population in the untreated control increased from 13.2 individuals/m² on the third day to 42.9 individuals/m² on the seventh day. Treatment with 3-butylquinazolin-4(3H)-one hydrochloride at a rate of 0.3 kg/ha resulted in a reduction in the number of *O. melanopus* larvae to 4.4 and 2.3 individuals/m², respectively. When the standard insecticide Lordor was applied at a rate of 0.2 kg/ha, the pest population was 8.1 individuals/m² on the third day and 6.7 individuals/m² on the seventh day, decreasing to 4.2 individuals/m² by the fourteenth day.

These results indicate that the use of the quinazolin-4-one derivative 3-butylquinazolin-4(3H)-one hydrochloride against *O. melanopus* in winter wheat crops is promising.

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