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ACAD. S.Yu. YUNUSOV INSTITUTE OF THE CHEMISTRY
OF PLANT SUBSTANCES

INTERNATIONAL SCIENTIFIC
CONFERENCE

**Actual Problems of the
Chemistry of Natural Compounds**

ABSTRACTS

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CONFERENCE TOPICS

1. Chemistry, biology, pharmacology, and technology of natural compounds and their derivatives.
2. Successes and problems of creation of new drugs.

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MEANS FOR PROTECTING LEGUMINOUS CROPS AND GRAIN PRODUCTS FROM PESTS

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One of the dangerous pests of leguminous plants is the cowpea seed beetle (*Callosobruchus maculatus* F.) and the pests of grain products and seeds is Khapra beetle (*Trogoderma granarium*), which damage the plant generative organs, and its harmfulness constantly increasing.

C. maculatus develops on pea seeds, various legumes, chickpeas, cowpea, chickasano pea, and other legumes, with the exception of soybeans and beans. India produces around 12.65 million tons of pulses per year and nearly 8.5% of this is lost during post harvested handling and storage

Khapra beetle infestation can spoil other valuable trade goods and threaten significant economic losses if introduced to a new area. Handling or consuming contaminated grain and seed products can lead to health issues such as skin irritation and gastrointestinal distress. It is considered one of the 100 worst invasive species in the world. Infestations are difficult to control because of the insect's ability to survive without food for long periods, its preference for dry conditions and low-moisture food, and its resistance to many insecticides.

Wide spread and economic damage to pests of leguminous crops and grain products is a pressing issue in agriculture. *C. maculatus* and *T. granarium* cause great harm to leguminous crops in Uzbekistan.

The aim of our work was a comparative assessment of the insecticidal activity of derivatives of quinozolin-4-on hydrochlorides relative to imago *C. maculatus* and *T. granarium*

Compounds based on quinozolin-4-on hydrochlorides, which have insecticidal activity have been synthesized at the Institute of Chemistry of Plant Substances of the Academy of Sciences of the Republic of Uzbekistan.

The derivatives of quinozolin-4-on hydrochlorides were evaluated for insecticidal activity on *Callosobruchus maculatus* and *Trogoderma granarium*, an important insect pest of leguminous crops. At the end of the experiment, recorded mortality was 96.6%-89.5% at the 1.0 mg/ml and 0.1 mg/ml concentration of 3-propilquinozolin-4-on hydrochlorides used for imago *C. maculatus* insect. Efficiency of 3-propilquinozolin-4-on hydrochlorides at the 1.0 mg/ml, 0.1 mg/ml and 0.01mg/ml after 24 h. exposure was 76.0%, 69.5% and 48.0% against *T. granarium*.

Based on the results of screening studies, it was found that the biological effectiveness of 3-propylquinozolin-4-one hydrochlorides, 3-isoamylquinozolin-4-one hydrochloride at concentrations of 1.0 mg/ml and 0.1 mg/ml was higher in relation to the *C. maculatus* than to the *T. granarium*.

It is recommended to continue further field studies of the synthesized substances quinozolin-4-on hydrochlorides for insecticidal activity and to study it in detail.