



## BIOLOGICAL EFFECTIVENESS OF GOLDRULE XTRA, 20% AGAINST WHITEFLY

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**Abstract:** This article provides data on the harmfulness, distribution and lifestyle of the whitefly, which in recent years has been a harmful object in our republic. In order to determine the effectiveness of insecticides against whiteflies, observational work was first introduced based on tomato pheromones. On this basis, in three variants, tests were carried out on preparations of Goldrule Xtra, 20% g/kg s.a.g. 0.25 l/ha, (reference) GLADIOUS 10% dry 0.75 l/ha. The highest efficacy was observed with Goldrule Xtra, 20% g/kg s.a.g. 0.25 l/ha. In this variant, the effectiveness was 7 days 93.0-94.2%.

**Key words:** control, whiteflies, effectiveness, pesticide, research, results, biological effectiveness.

**Introduction.** Modern agricultural production in different countries of the world faces two main problems - the need to guarantee the protection of crops from pests, diseases and weeds, and at the same time to solve extremely limited areas. Of course, it is closely related to the tasks of obtaining high-quality, full-fledged, ecologically safe crops and increasing the level of competitive products (Pavlyushin, 2010).

In agriculture, it will be necessary to increase the attention to the control of pests and diseases of agricultural crops. Worldwide, more than 30% of crops are lost to pests, diseases and weeds. These are the main problems solved for chemical protection of plants. However, it has many negative aspects: the use of chemical methods primarily leads to environmental pollution, toxic effects on other living organisms, including humans.

Therefore, the main task of plant protection specialists remains to optimize the use of chemical agents to fight against harmful organisms, including more effective drugs with rapid decomposition and maximum biological effect.

One of the most common pests of tomatoes is the spider mite, which is widespread in all parts of the world (Rashidov, 1982). On average, vegetable farms lose 5-30%, and in some years up to 50-60% of their tomato harvest due to cotton harvesting (Mo'minov, Asqaraliev, 1981). In the research (Rashidov, 1982), he conducted observational work on tomatoes to study the economic graph of the harmfulness of white satisfaction.

Most of the detection and economic limits of whiteflies are based on their density in plants. Up to 65-70% of hatched larvae die in the first 2-3 days (Meshcheryakova, 1972).

Goldrule Xtra, 20% g/kg s.e.g. production tests of the drug were conducted on tomato crops in the fields of the farm "Mustafoev Humoyun Buron oglu", Yakkabog district, Kashkadarya region. Spraying is carried out in the phase of mass formation of tomatoes, at a temperature of up to 28 C0 in the morning, and the treatment was carried out with an ORPD-10 sprayer with a working solution liquid of 300 l/ha, with a wind speed of up to 1 m/sec. The experiments were carried out based on the existing methodology (instructions., 2004) and the calculation of biological efficiency



was carried out according to Abbot's formula. The results of the experiment were carried out by a small method, which included mathematical analysis and calculation.

**Research results.** The experiment against spider mite in tomatoes was conducted on June 28 of this year. GLADIUS 10% suspension - 0.75 l/ha was taken as a template (Flubendiamide). It was carried out with 4 repetitions. Goldrole Xtra, 20% g/kg s.e.g. insecticide was found to be highly effective against the spider mite pest within 3-7 days after spraying. Goldrole Xtra, 20% g/kg s.e.g. when used against the pest, a high level of harmfulness was noted for different age and mature breeds of spider mite. The experimental options and the obtained results are presented in the table, as can be seen from the table, the acceptable results obtained are slightly lower than the standard - flubendiamide (Table 1).

**Table 1.**

**Goldrole Xtra, 20% g/kg s.e.g. biological effectiveness of the drug against whitefly on tomatoes**

№	Experience options	Amount of drug, l/ha	Average number of pests on 10 leaves					Biological efficiency, %			
			Until the drug is sprayed	Days after spraying							
				1	3	7	14	1	3	7	14
1.	Goldrole Xtra, 20% г/кг с.э.г.	0,25	5,8	2,6	5,8	1,2	0,3	59,9	84,2	93,0	92,1
2.	Goldrole Xtra, 20% г/кг с.э.г.	0,3	6,3	2,5	0,4	0,4	0,6	62,2	94,1	94,2	93,4
3.	ГЛАДИУС 10% сус.к. (андоза)	0,75	6,4	2,7	0,9	0,3	0,2	63,1	92,5	95,8	96,1
4.	Control (unprocessed)		5,6	5,9	6,8	6,9	7,5	-	-	-	-

**Conclusions and suggestions.** Insecticide Goldrole Xtra, 20% g/kg s.e.g. - Application at the rates of 0.25-0.3 kg/ha will be highly effective against aphids in tomatoes. The form of the drug is convenient to use, and when mixed with water, it quickly forms a working mixture. Phytotoxicity was not observed after spraying.

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