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Full Length Research Paper

Effective methods in the fight against sunn pest and aphids

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Abstract

Because of hard and expensive increasing cornea wrecker in spring months a large amount, it may be impossible to apply it in a large area. So, in order to prevent pests it has great opportunity to usage of chemical preparation. When applied pesticides in winter wheat fields, gained economic effectiveness is depend on variously to impact peculiarities, usage term of preparation, and used modular.

Keywords: Winter Wheat, Aphids, Sunn Pest, Insecticides, Entomophages.

INTRODUCTION

According to (Gorenshtain, 1982) opinion, in weeds edge and fields a lot of insects have thrived which belongs to a systematic group especially sucking pests. Scientists such as (Larchenco and Zapevalova, 1975), (Hodzhaev, 2004), (Hodzhaev 2015) considered that it is necessary to processing with the help of chemical preparation for prophylactic purpose of appearing wreckers in weeds on the field and road sides. For Achilov and Hodzhaev (Achilov and Hodzhaev, 2007) idea, when processing of hotbed of wrecker in early spring edge of fields and mulberry round with chemicals like *danadim*, *cyperfos*, *fufanon*, *karate*, fields nearby have little economic damage by aphids and thrips. Besides that grain sucking wrecker expect (aphids, thrips, sunn pest) and other dangerous wreckers are most common. Therefore, usage of chemical preparation to fight against wrecker's complex is the efficiency way.

It has great importance of natural enthomophage to reduce the amount of aphids (*Aphididae*) and sunn pest (*Eurygaster integriceps* Put) which brings damage to wheat and it is important to take into consideration negative impact to environment of using preparation, when we apply chemicals not to be much impact on environment and natural wreckers, conducted investigations to testing for prophylactic purpose extent chemical preparation practice.

All chemicals which are used to protect wheat ear from pests strongly influence on silk worm. That's why if

there is mulberry trees around the wheat field will not be allowed to chemical processing before cutting down mulberry branches for 40-45 days. For any processing does not need to be used (tractor, delta plan, hand tools) because even the small of preparation can damage the leaves. It is known that in the condition of our republic silk worm breeding begins at the beginning of May. And also observed massive moving of sucking pests begins in the second ten-day of March. For this reason, we directed chiefly protection against to populace of pests which safely wintered and safely completed term for silk worm.

MATERIALS AND METHODS

For that chosen at least 9-10 ha, aphids and sunn pest has begun to spread over the field after wintered and has processing edge of fields toward interior 25-30 m distance prophylactic processed with chemical preparation. Chemical preparation took place with the help of spray OVX-28 for each ha 300 l of liquid was spent. Computing affair was taken place 1-, 3-, 7- and 14-days.

To testing perspective insecticides against pests was used by Hodzhaev Sh.K. method (Hodzhaev, 2004), (Hodzhaev 2015). Biological efficiency of preparation was computed by Abbot formula (Abbot, 1925). All these

Table 1: Biological effectiveness after processing with insecticides against aphids on the edge of winter wheat fields in the distance of 25-30 m.

UzSRIPP in Fergana region, Bagdad district (OVX-28.300 l/ha) March.

| № | Variants | Pure substance | Spending amount of medicine l/ha | Efficiency, days. % | | | |
|----|---|---------------------------|----------------------------------|--|------|------|------|
| | | | | 1 | 3 | 7 | 14 |
| 1. | Athilla, 5 % p.s. | lambda-cyhalothrin | 0,3 | 78,8 | 87,1 | 94,0 | 95,9 |
| 2. | Cypermethrin, 25 % p.s. | cypermethrin | 0,2 | 72,6 | 85,2 | 92,6 | 96,0 |
| 3. | Sumi-alpha, 5 % p.s. | esfenvalerate | 0,3 | 58,2 | 85,9 | 93,7 | 95,5 |
| 4. | Double-D, 55 % p.s. | cypermethrin+chlorpyrifos | 0,5 | 50,7 | 82,6 | 92,7 | 94,2 |
| 5. | Nurell-D, 55 % p.s. (etalon, full field worked) | cypermethrin+chlorpyrifos | 0,5 | 90,0 | 94,0 | 95,9 | 93,8 |
| 6. | Control (without processing) | - | - | Natural thriving of aphids, number/stalk | | | |
| | | | | 36,5 | 41,2 | 45,9 | 49,6 |

Table 2: Biological effectiveness after processing with chemical preparation against sunn pest on the edge of winter wheat fields in the distance of 25-30 m.

UzSRIPP in Fergana region, Bagdad district (OVX-28.300 l/ha) March.

| № | Variants | Pure substance | Spending amount of medicine l/ha | Efficiency, days. % | | | |
|----|---|---------------------------|----------------------------------|---|------|------|------|
| | | | | 1 | 3 | 7 | 14 |
| 1. | Athilla, 5 % p.s. | lambda-cyhalothrin | 0,3 | 66,2 | 73,3 | 92,5 | 91,7 |
| 2. | Cypermethrin, 25 % p.s. | cypermethrin | 0,2 | 63,1 | 71,0 | 89,8 | 90,9 |
| 3. | Sumi-alpha, 5 % p.s. | esfenvalerate | 0,3 | 96,6 | 72,5 | 90,5 | 90,7 |
| 4. | Double-D, 55 % p.s. | cypermethrin+chlorpyrifos | 0,5 | 67,3 | 73,6 | 91,2 | 92,9 |
| 5. | Nurell-D, 55 % p.s. (etalon, full field worked) | cypermethrin+chlorpyrifos | 0,5 | 73,8 | 80,2 | 90,8 | 92,7 |
| 6. | Control (without processing) | - | - | Natural development of sunn pest, number/m ² | | | |
| | | | | 8,0 | 8,7 | 9,9 | 11,2 |

arrangements were conducted at the time of winter wheat accumulation period. In the investigations which was conducted by R. Achilov and others (Achilov and Hodzhaev, 2007) who applied such protective technology determined to be little to 2,3 times of sucking wreckers and to be kept beneficial biophone in cotton fields. This experiment was conducted in the field of UzSRIPP in Fergana region, Bagdad district on the winter wheat sort of "Yaksart". It is essential to mention that, after processing completed on the edge of field 25-30 m distance, in the inside part of wheat field where chemical was not applied entomophage increased to to 3-3,5 times compared to previous state.

RESULTS AND DISCUSSION

After preparations 5% Athilla p.s., (0,15 l/ha), Cypermethrin, 25 % p.s (0,2 l/ha), Sumi-alpha, 5% p.s.(0,3 l/ha), Double D, 55% p.s.(0,5 l/ha), applied variants and sprayed on the first day of computing was constituted of 78,8; 72,6; 58,2;

and 50,7% according to biological efficiency of aphids, the third computing showed the following results as 87,1; 85,2; and 82,6%. In the following tests increasing of effectiveness was defined each for 4 variants. After sprayed chemicals on the fourteenth computing day of biological effectiveness reached to 94,2-96,0%. In the type of full processing with Etalon (Nurell-D, 55% p.s.-0,5 l/ha), the computing made up of 90,0% on the first day, 94,0% on the third day, 95,9% on the seventh day and on the fourteenth day it was 93,8% (table 1).

According to observed above variants chemicals influence on sunn pest after sprayed computing on the third day biological efficiency constituted of 73,3; 71,0; 72,5 and 73,6%, on the seventh computing day it was 92,5; 89,8; 90,5 and 91,2%, on the fourteenth day it reached even to 90,7-92,9%.

When applied Etalon preparation (Nurell-D, 55% p.s.-0,5 l/ha, wheat field fully processed) biological efficiency constituted of 73,8% on the first day and 80,2% on third, 90,8% on the seventh, 92,7% on the fourteenth days (table 2).

There was not almost difference between effectiveness results of fully processing and prophylactic conducted variants according to processing in 25-30 m distance the edge of the fields over aphids and sunn pest. It is observed decreasing quantity of natural enthomophage in the furrows when applied chemical preparation. Because of together negative impact to enthomophage and repellent peculiarities with sharply reducing of food stuff are the main causes. To be set up previous state after chemical processing only in furrows took 5-7 days but in fully variant it required for 10-15 days.

CONCLUSIONS

On the basic of all the conducted tests we can summarize, there was little influence on the environment, natural enthomophage with chemical processing only 25-30 m distance the edge of fields and economical efficiency was high. In such fields damages which is brought by aphids and sunn pest decreased and prevented to expanding them, beneficial insects was kept and applied to biological fighting way profitable was

increased. Expenses which was spent to protect decreased 2-3 times.

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