

OBSERVATIONS REGARDING THE PESTS FROM CERTAIN VEGETABLE CULTURES AND THE PREVENTIVE AND CONTROL MEASURES APPLIED

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Abstract

The pest species identified in the vegetable cultures in 2009 were: glasshouse whitefly – *Trialeurodes vaporariorum* Westw., colorado potato beetle – *Leptinotarsa decemlineata* Say., mole cricket – *Gryllotalpa gryllotalpa* Latr., cotton bollworm – *Helicoverpa armigera* Hbn., etc. Pest control was effectuated following the direct observations carried out in the fields, but we also took into account the warnings issued by the prognosis and warning stations from the culture area.

Key words: solanaceous vegetables for fruit, pest prevention and control

The natural conditions for vegetable growing (climate and soil), the specificity of vegetables (succulent and savory plants) to which the technical-organizational measures (concentration, profiling and specialization) are added represent a favorable framework for the installation and multiplication of a complex of animal pests that may cause significant damages in the default of judicious control measures (Tălmăciu M., 2005).

Spaced out harvesting of vegetables and their consumption in fresh state to a large extent impose the abundance by a certain interval until harvesting so that the vegetables should not be affected by chemical pollution having negative effects on nutrition.

Ignoring several important pests such as the mole cricket (*Gryllotalpa gryllotalpa* Latr.), flea beetles (*Phyllotreta* spp.), weevils (*Ceuthorrhynchus* spp., *Baris* spp.), the onion fly (*Delia antiqua* Meig.), stem nematode (*Ditylenchus dipsaci* Kuhn.), slug (*Deroceras agreste* L.) and others may lead to the destruction of the vegetable crops (Baicu T., Săvescu A., 1986; Perju T., 1983).

MATERIAL AND METHOD

Observations were carried out in two stations of Vaslui and Iasi counties in 2009. We made direct observations in solariums and in the field of solanaceae (tomatoes, eggplants, green peppers) in terms of biology, ecology, the damages caused and the control of the main pests signaled in these cultures.

At the same time, we took the warnings issued by Vaslui and Iasi Phytosanitary Units for the control of these pests.

RESULTS AND DISCUSSIONS

In 2009, in the jurisdiction area of Vaslui Phytosanitary Unit, they issued the following warnings for the control of pests from the vegetable cultures (tab. 1).

- for the control of Colorado potato beetle (*Leptinotarsa decemlineata* Say.) and aphids they issued a warning on 11.05.2009, when E.T. (economic threshold) was exceeded, and they recommended Proteus OD 110 in dose of 0.4 l/ha or Mospilan 0.08 kg/ha;
- for aphids, thrips and mites they recommended the use of Confidor Energy in concentration of 0.08%, for the interval 22.05 – 26.05, the warning being issued on 19.05.2009;
- the third treatment against pests was warned on 23.06.2009 against aphids, thrips, Colorado potato beetle and mites and it was recommended to take place between 21.06 – 30.06.2009 by using Mospilan 20 SP and Decis 25 WG in concentration of 0.025% and 0.04 kg/ha, respectively;
- the fourth treatment was warned on 15.07 against aphids, thrips and mites with Talstar in concentration of 0.04%. The treatment was warned for the period 18.07 – 23.07.2009;
- In the activity area of Iasi Phytosanitary Unit, in 2009 they warned the following treatments for solanaceae cultures from solariums and fields (tab. 2).

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Table 1

Warnings and treatments for solanaceae in solariums and fields, Vaslui – 2009

No. of warning	Date (moment) when treatment was carried out	Warning date	Pathogen Ag. /Pest	Recommended products	Concentration/ Dose	Observations
1.	when E.T. was exceeded	11.05	Colorado potato beetle (<i>Leptinotarsa decemlineata</i> Say.), aphids <i>Gryllotalpa gryllotalpa</i> Latr.	Proteus OD 110, Mospilan 20 SP Gryllodin 10 G	0.4 l/ha, 0.08 kg/ha 10-15 kh/ha	E.T. – more than 0.5 adults hibernated on a sqm and/or more than 5% plants populated by 1 st stage larvae. If the appearance of larvae is spaced out, treatment shall be resumed by using a product from another chemical group. The treatment against the mole cricket shall be carried out on the soil.
2.	22 – 26.05	19.05	Blight, bacteriosis, septorios, alternarios, fusarios, aphids, thrips, acarieni	Dithane M 45, Topsin AL 70 PU, Confidor Energy	0.2% 0.1% 0.08%	As a preventive method for fusariosis, each plant shall be watered on the soil with 0.5 l solution Topsin AL 70 PU 0.1% after irrigation Mites = Envidor 240 SC 0.04%.
3.	26 – 30.06	23.06	Blight, alternarios, fusarios, septorios, bacteriosis, aphids, thrips, glasshouse whitefly (<i>Trialeurodes vaporariorum</i>)	Bravo 500 SC Alcupral 50 PU (also recommended for bacteriosis) Topsin AL 70 Mospilan 20 SP	0.2% 0.5% 0.1% 0.025%	For fusarios, each plant shall be watered on the soil with 0.5 l solution Topsin AL 70 PU 0.1% after irrigation. For mites, Omite 570 EW 0.1%. You may also use other pesticides approved for these tests. You must protect bees according to P.U.'s address.
4.	27 – 30.06 or at the peak of emergence of 1 st stage larvae	23.06	G2 Colorado potato beetle Alternarios Blight	Decis 25 WG Bravo 500 SC	0.04 kg/ha 1.5 l/ha	Colorado potato beetle E.T. = more than 5% of plants are populated. After 10 days from T1, if E.T. is once again exceeded, you shall carry out T2 with Mospilan 20 SP = 0.08 kg/ha.
5.	18 – 23.07	15.07	Blight, alternarios, fusarios Gray mold Aphids, thrips, mites, glasshouse whitefly (<i>Trialeurodes vaporariorum</i>), cotton bollworm (<i>Helicoverpa armigera</i>)	Ridomil Gold MZ 68 WG Rovral 500 SC Talarstar 10 EC	0.25% 0.1% 0.04%	For fusarios, each plant shall be watered on the soil with 0.5 l solution Topsin AL 70 PU 0.1. You must comply with the pause period until harvesting. You may also use other pesticides approved for these tests. You must protect bees according to P.U.'s address.

Table 2

Warnings and treatments - solanaceae in solariums and fields, Iași – 2009

No. of warning	Date (moment) when treatment was carried out	Warning date	Pathogen Ag. /Pest	Recommended products	Concentration/ Dose	Observations
1.	16.05 – 19.05.2009 adult	15.05.2009	<i>Leptinotarsa decemlineata</i> Say.	Furry 10 EC Decis 205 EC and other registered products	0.075 l/ha 0.1 l/ha	Treatment shall be carried out on the soil where there is more than one adult for every 4-5 bushes.
2.	20.05 – 26.05.2009	17.05.2009	<i>Gryllotalpa gryllotalpa</i> Latr.	Gryllosin	10-15 kg/ha	Treatment shall be carried out on the soil.
3.	GI, at the appearance of 3 rd stage larvae in 4-5 days	26.05.2009	<i>Leptinotarsa decemlineata</i> Say.	Furry10EC Mospilan 20 SP and other registered products	0.075 l/ha 0.08 l/ha	Treatment shall be repeated after 10 days and it shall be supplemented with a fungicide specific to the prevention of blight infections.
4.	15.06 – 18.06.2009	12.06.2009	<i>Trialeurodes vaporariorum</i> Westw.	Actellic 50 EC Sinoratox 35 EC	0.1% 0.15 %	Treatment shall be repeated after 8-10 days.
5.	GII, at the appearance of 3 rd stage larvae	06.07.2009	<i>Leptinotarsa decemlineata</i> Say.	Calypso 480 SC Furry 10 EC and other registered products	0.08 l/ha 0.075 l/ha	Treatment shall be supplemented with fungicides specific to disease control.
6.	11.07 – 15.07.2009	07.07.2009	<i>Helicoverpa armigera</i> Hbn.	Mospilan 20 SP and other registered products	0.025%	Treatment shall be repeated after 10 days and they shall use an adhesive.

- for the first treatment recommended to be carried out in the period 16.05 – 19.05.2009 against the adults of Colorado potato beetles (*Leptinotarsa decemlineata* Say.), they issued a warning on 15.05.2009, when E.T. was exceeded, by recommending Furry 10 EC in dose of 0.075 l/ha or Decis 205 EC in dose of 0.1 l/ha.
- the second treatment for the mole cricket (*Gryllotalpa gryllotalpa* Latr.) with product Gryllosin, in dose of 10 – 15 kg/ha, was recommended for the period 20.05 – 26.05.2009, and the warning was issued on 17.05.2009.
- the third treatment against pests was warned on 26.05.2009 against the Colorado potato beetle (*Leptinotarsa decemlineata* Say.), a treatment recommended to be carries out for the first generation, when the 3rd stage larvae appear, by using Furry 10 EC and Mospilan 20 SP, in dose of 0.075 l/ha, and 0.08 l/ha, respectively.
- the fourth treatment was warned on 12.06.2009 for the control of glasshouse whitefly (*Trialeurodes vaporariorum* Westw.) by means of Actellic 50 EC in concentration of 0.1% and Sinoratox 35 EC in concentration of 0.15%. The treatment was warned for the period 15.06 – 18.06.2009.
- the fifth treatment against the Colorado potato beetle (*Leptinotarsa decemlineata* Say.), at the appearance of the 3rd stage larvae from the second generation, was warned on 6.07.2009. The recommended products were Calypso 480 SC in dose of 0.08 l/ha and Furry 10 EC in dose of 0.075 l/ha.
- the sixth treatment was warned on 07.07.2009 against the cotton bollworm *Helicoverpa armigera* Hbn. By using Mospilan 20 SP in concentration of 0.025%. treatment was recommended to be carried out between 11.07 – 15.07.2009.

CONCLUSIONS

The main pests signaled in 2009 in the solanaceae cultures from solariums and fields in the two stations were *Leptinotarsa decemlineata* Say., aphids, mites, thrips, *Helicoverpa armigera* Hbn., *Trialeurodes vaporariorum* Westw.

In Vaslui station they issued a number of 5 warnings on the following dates: 11.05.2009 for *Leptinotarsa decemlineata* Say. and aphids; on 19.05.2009 for aphids, thrips and mites; on 23.06.2009 for aphids, thrips, mites and *Trialeurodes vaporariorum* Westw.; on 23.06.2009 for 2nd generation *Leptinotarsa decemlineata* Say.; on 15.07.2009 for aphids, thrips and mites, *Trialeurodes vaporariorum* Westw. and *Helicoverpa armigera* Hbn..

In Iași station they issued a number of 6 warnings on the following dates: on 15.05.2009 for *Leptinotarsa decemlineata* Say. adults; on 17.05.2009 for *Gryllotalpa gryllotalpa* Latr.; on 26.05.2009 for *Leptinotarsa decemlineata* Say., 3rd stage larvae, 1st generation; on 12.06.2009 for *Trialeurodes vaporariorum* Westw.; on 06.07.2009 for *Leptinotarsa decemlineata* Say., 3rd stage larvae, 2nd generation; on 07.07.2009 for *Helicoverpa armigera* Hbn.

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