Растителна защита
електронно списание за растителна защита
семена, торове и земеделие
ISSN 2815-522X

In the vegetable garden in April

Автор(и): проф. д-р Стойка Машева, ИЗК "Марица" Пловдив; проф. д-р Винелина Янкова, ИЗК “Марица” в Пловдив

Дата: 03.05.2015 *Брой:* 5/2015

Seedling Production

Care for seedlings of tomato, pepper, eggplant and cucumber for early and medium-early field production continues. An important point is to ensure an optimal temperature and humidity regime. Regular ventilation, covering with polyethylene tunnels or shading is carried out depending on the atmospheric conditions. We remind that the difference between the daytime and nighttime temperature in the seedling compartment should not be more than 6°C – 8°C, so that no condensation forms on the plants and conditions for “false” damping-off are not created.

In cases of temperature depressions, an attack by soil pathogens causing the so-called “true” damping-off is possible. Upon occurrence, diseased plants are collected in a bag and destroyed outside the facility. The spots beneath them are disinfected by watering with a 2% solution of copper sulfate or ammonium nitrate (3-4 l/sq.m). The remaining plants are treated with a mixture

ISSN 2815-522X

of 0.1% Topsin M + 0.15% Propplant 722 SL. If the plants have been pricked out, they are watered with 25-50 ml/plant of the same mixture depending on their size. In pricked-out plants, an attack by the causative agents of leaf spotting is possible – early blight (black leaf spots), grey mould and powdery mildew in tomatoes, and powdery mildew in cucumbers. The pathogens have different requirements regarding environmental conditions. Grey mould and early blight develop at high air humidity, and powdery mildew – at low humidity. For these reasons, it is necessary to maintain an optimal temperature and humidity regime in the seedling facility. In Bulgaria, there are registered plant protection products (PPPs) effective against these diseases. Against early blight (Alternaria): 0.04% Score 250 EC; 0.25% Ridomil Gold; 0.25% Corsate M DF; 0.2% Dithane M-45 and Dithane DG; 0.35% Pugil 35 L SC; 0.075% Quadris 25 SC; against grey mould (Botrytis): 0.07% Topsin M; against powdery mildew in tomatoes – 0.025% Topaz 100 EC, 0.02% Shavit 25 EC, 0.075% Quadris 25 SC, and against powdery mildew in cucumbers – 0.02% Bayfidan 250 EC, 0.04% Domark and the PPPs indicated for tomatoes.

Seedlings are most often attacked by greenhouse whitefly, aphids, thrips, leaf-mining flies, caterpillars, mites. In the seedling compartment, sticky traps are placed – yellow (for whitefly and aphids), light blue (for thrips) and yellow-orange (for leaf-mining flies). Their purpose is to determine the species composition of pests and reduce population density for fast and adequate control. Where necessary, treatments are also carried out: against greenhouse whitefly – 0.1% Bi-58, 0.02% Mospilan 20 SP, 0.03% Actara 25 WG, 0.08% Confidor Energy OD, 0.075% Sanmite 20 WP, 0.02% Fury 10 EC, 0.05% Decis 2.5 EC, 0.03% Vaztak New 100 EC; against aphids – 0.1% Bi-58, 0.05% (cotton aphid) and 0.075% (peach aphid) Danadim Progress, 0.0125% Mospilan 20 SP, 0.02% Nexide 015 CS, 0.007% Actara 25 WG, 0.06% Confidor Energy OD, 0.05% Kohinor 200 SL, 0.05% Picador 20 SL, 0.02% Calypso 480 SC, 0.06% Biscaya 240 OD. The listed PPPs are also effective against thrips. Sineis 480 SC is also effective against them – 10-20 ml/ha. Against leaf-mining flies, spraying is carried out with 0.02% Trigard, 0.05% Picador, 0.03% Vaztak New 100 EC. When mites (two-spotted spider mite, tomato russet mite) are detected, 0.1% Ortus 5 SC, 0.1% Bi-58, 0.06% Nissorun, 0.075% Sanmite, 0.04% Floramite 240 SC are applied, and against tomato leaf miner – 0.08% Confidor Energy OD, 0.05% Decis 2.5 EC, 0.1% Alverde 240 SC, 0.05% Picador 20 SL, 0.02% Mospilan 20 SP.

Under favourable conditions, at the end of the month the seedlings begin to be moved outdoors. One week before that they are preventively sprayed with 0.08% Bi-58 + 0.2% Dithane M-45.

Greenhouse Production

The cultivated crops are at different phenological stages of development – from recently transplanted to fruit-bearing. This necessitates careful selection of PPPs – with a longer pre-harvest interval for recently transplanted crops and a shorter one for those in the harvesting period.

To protect the cultivated plants from diseases and pests, an optimal temperature, humidity and light regime must be maintained. The facilities should be ventilated regularly. If the number of days with strong sunshine increases, the glass must be shaded with a lime solution or with ready-made

ISSN 2815-522X

mixtures available on the market. The paths must be sprinkled with water to increase air humidity. Crops should be regularly inspected to detect pests in good time and carry out adequate protection. Sticky traps – yellow, light blue and yellow-orange – also help in this regard. Leaves, petioles and fruits with disease spots, aphid colonies, clusters of eggs, larvae, mines, etc. are collected, removed from the greenhouse and destroyed.

The following diseases may be observed in the cultivated plants: In tomatoes: An attack by early blight (Alternaria), powdery mildew, grey mould (Botrytis), leaf mould is possible. When an attack is established, the crops are treated with the PPPs indicated for seedlings. Varieties resistant to leaf mould should be grown. If spots are still found, the plants are sprayed with 0.1% Topsin M.

In cucumbers: The main diseases in this period in cucumbers are powdery mildew and downy mildew. Against powdery mildew, spraying is carried out with the fungicides recommended for seedlings. Providing heating during the night hours limits the attack by downy mildew. Upon occurrence, spraying is carried out every 7-10 days with 0.3% Corsate M DF, 0.25% Corsate R DF, 0.3% Aliette Flash, 0.04% Equation Pro, 0.15% Verita WG, 0.2% Previcur Energy, 0.075% Quadris, 0.075% Amistar, 0.25% Galben 8 M 65, 0.25% Mancozeb 80 WP. Resistant varieties should be grown.

In cucumbers, greenhouse whitefly, aphids, thrips, tomato leaf miner, caterpillars and mites cause damage. Against greenhouse whitefly, aphids, thrips, mites and tomato leaf miner, spraying is carried out with the products indicated for seedlings. Against caterpillars, plants are treated with 0.05% Decis 2.5 EC, 0.025% Supersect Mega, 0.04% Nexide, 0.03% Vaztak New 100 EC, 0.08% Confidor Energy, 0.1% Dipel 2X. For the control of root-knot nematodes and sucking pests (greenhouse whitefly, aphids and thrips), 1 l/ha Vydate 10 L may be applied with the nutrient solution through the drip system – 2 weeks after transplanting and, if necessary, a further 1-2 times at 15-20 day intervals. For the control of sucking pests only, Actara 25 WG may also be applied in this way – for plants up to 6 weeks of age, twice at 14-day intervals at a rate of 40 g/ha, and for older plants a single treatment at a rate of 80 g/ha.

Field Production

In the field, early crops of cabbage, onion, garlic, potatoes, peas, faba bean are in a phase of intensive growth and development. Sowing of beans begins, with the seed being previously treated with 2 g/ha Dithane M-45. When favourable conditions are present, the crops are monitored for the appearance of downy mildew in cabbage and peas. Against it, spraying is carried out with 0.25% Ridomil Gold, 0.3% Corsate M DF, 0.15% Verita WG. An attack by aphids in faba bean and peas is possible. The PPPs indicated for seedlings are applied. In areas where more than 5 wireworm larvae per 1 sq.m have been established, it is advisable to apply granular insecticides before transplanting of direct-seeded tomatoes – kg/ha Mocap 10 G. This treatment is also effective against other soil pests – cutworms, mole crickets, Colorado potato beetle, crane flies, nematodes, and with a residual effect against sucking pests – aphids, leafhoppers, thrips.