

In the vegetable garden in August

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Practices during the period

The period is characterized by frequent harvesting of production from the field, which is why plant protection products (PPP) for treating the crops must be selected with great care. Treatments should be carried out only when necessary and with pesticides that have a short pre-harvest interval. At the end of August, spinach is sown for late autumn harvest, as well as parsley and cabbage for overwintering. Care is also taken of the crops in polyethylene and steel-glass structures. The so-called "preceding crop" is transplanted, mainly cucumbers, which are harvested until the end of December. Seedlings are grown for year-round production of tomatoes and cucumbers. Conditions in August–September are suitable for disinfection of free greenhouse areas with soil

fumigants. Long-term observations have established that during the second half of August and the first ten days of September it rains, temperatures drop and conditions are created for “critical periods” that favor the occurrence and development of late blight, mainly in late tomatoes, and downy mildew in brassica crops. Therefore, it is necessary to undertake treatments of the stands when such conditions are present.

Plant protection

Since agrometeorological conditions in protected cultivation structures and in the open field are almost identical, the species composition of pests is hardly different.



In seedlings, **damping-off** is most commonly observed. The attacked plants and the healthy ones around them are removed, and the patch under them is watered with a solution of copper sulfate or ammonium nitrate – 3.0%. The remaining plants are treated with registered PPP – Beltanol 400 g/da. The same procedure is applied in cases of root rot in newly transplanted crops in protected cultivation structures.

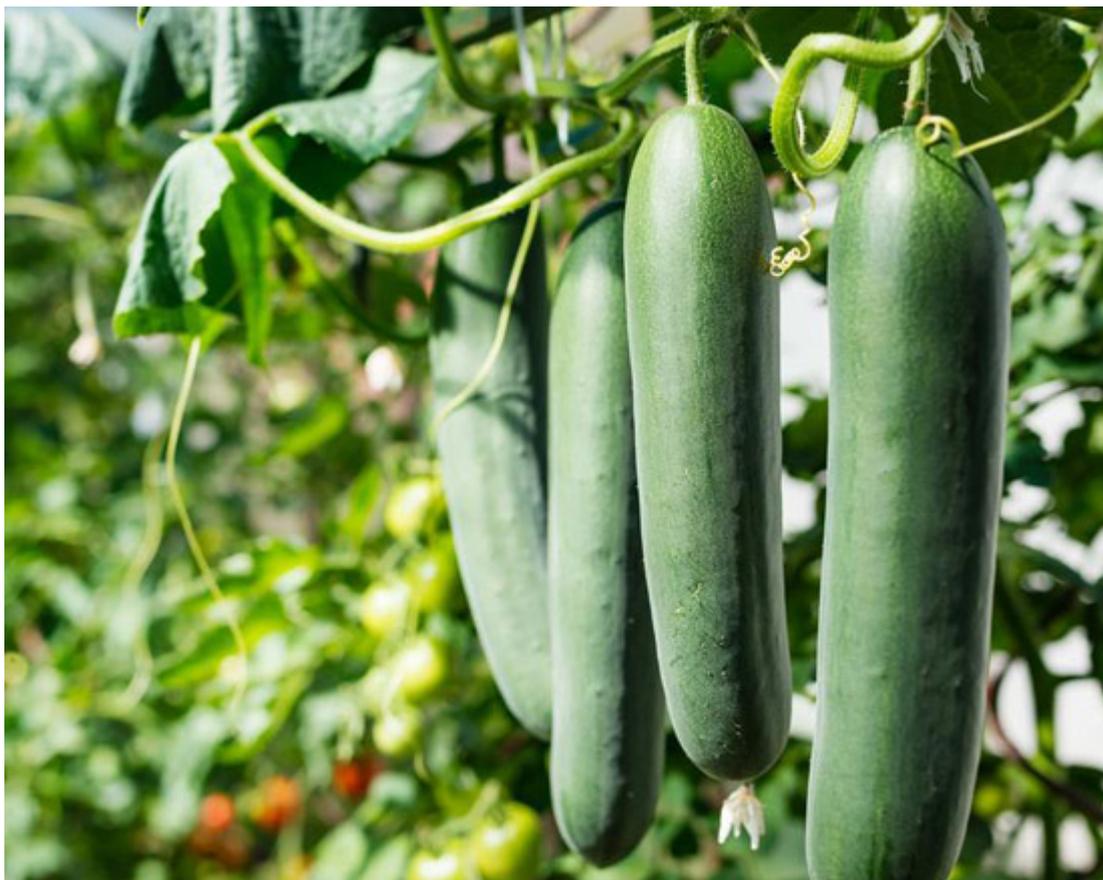
In individual crops, attacks by the following diseases may be established and the corresponding control measures are carried out:



Tomatoes (seedlings, protected cultivation structures, field):

Late blight – Azaka 80 ml/da; Acticluster 300–400 ml/da; Brionflo 100 SC 80 ml/da; Keyfol WP 250 g/da; Daramun 80 ml/da; Enervin SC 120 g/da; Zoxis 250 SC 70–80 ml/da; Equation Pro 0.04%; Captan 80 WG 150–190 g/da; Copforce Extra 200 g/da; Corseit 60 WG 20–30 g/da; Orvego 70 ml/da; Polyram DF 0.2%; Revus 250 SC 50 ml/da; Cymbal Flow 50 ml/da; Sphinx Extra 180 g/da; Taegro 18.5–37.0 g/da; Tazer 250 SC 80–100 ml/da.

Early blight (Alternaria leaf spot) – Azaka 80 ml/da; Dagonis 100 ml/da; Zoxis 250 SC 70–80 ml/da; Captan 80 WG 150–190 g/da; Copforce Extra 200 g/da; Ortiva Top SC 100 ml/da; Polyram DF 0.2%; Prev-Gold 200–600 ml/da; Reflect 125 EC 100 ml/da; Sinstar 70–80 ml/da; Taegro 18.5–37.0 g/da; Tazer 250 SC 80–100 ml/da.



Cucumbers (seedlings, protected cultivation structures, field):

Powdery mildew – Vivando 20 ml/da (0.02%); Dagonis 60 ml/da; Domark 10 EC 50 ml/da; Zoxis 250 EC 70 ml/da; Collis SC 40–50 ml/da; Legado 80 ml/da; Limocid 800 ml/da; Ortiva Top SC 100 ml/da; Prev-Gold 160–600 ml/da; Reflect 125 EC 100 ml/da; Sivaar 80 ml/da; Sonata SC 500–1000 ml/da; Topaz 100 EC 33.5–50 ml/da; Trunfo 80 ml/da; Phytosev 200 ml/da; Fontelis SC 240 ml/da; Cidely Top 100 ml/da.

Cucurbit downy mildew – Enervin SC 120 g/da; Zoxis 250 SC 70–80 ml/da; Equation Pro 40 g/da; Keyfol WP 250 g/da; Corseit 60 WG 20–30 g/da; Prev-Gold 160–600 ml/da; Revus 250 SC 60 ml/da; Taegro 18.5–37.0 g/da.

**Pepper, eggplant:**

Powdery mildew – Vivando 30 ml/da; Dagonis 60 ml/da; Zoxis 250 EC 70 ml/da; Ortiva Top SC 100 ml/da; Prev-Gold 160–600 ml/da; Reflect 125 EC 100 ml/da; Systhane 20 EW 30–37.5 ml/da; Systhane Ecozome EW 65–165 ml/da; Sonata SC 500–1000 ml/da; Taegro 18.5–37.0 g/da; Tazer 250 SC 80–100 ml/da; Thiovit Jet 80 WG 300 g/da; Topaz 100 EC 35–50 ml/da; Phytosev 200 ml/da; Hercules 125 SC 50–75 ml/da; Cidely Top 100 ml/da.

Phytophthora blight of pepper – The patches of the first diseased plants, together with the adjacent healthy ones, are destroyed by watering with a 3% solution of copper sulfate or ammonium nitrate. They are then collected in bags and destroyed outside the stand. The remaining healthy plants are thoroughly sprayed, including the collar at the soil surface. Registered PPP: Zoxis 250 SC 70–80 ml/da; Taegro 18.5–37 g/da; Tazer 250 SC 80–100 ml/da. Corseit 60 WG 40 g/da is not registered, but can be successfully used against this disease.



In **carrots, celery and parsley** the risk of attacks by powdery mildew and leaf blight continues. In case of occurrence of **powdery mildew**, treat with: Zoxis 250 SC 80–100 ml/da; Kumulus 600 g/da; Limocid 240 ml/da; Ortiva Top SC 100 ml/da; Reflect 125 EC 100 ml/da; Signum 60 g/da; Sonata SC 500–1000 ml/da, and in case of attack by **leaf blight** with Bordeaux Mix 20 WP 375–500 g/da.

The risk of attack by **rust on leek** continues, against which spraying is carried out with Zoxis 250 SC 80–100 ml/da; Ortiva Top SC 100 ml/da.

Under favorable conditions and “critical periods” **brassica crops** develop downy mildew. It is controlled by treatment with Bordeaux Mix 20 WP 375–500 g/da.



Lettuce, head lettuce

Seedlings may be attacked by downy mildew or anthracnose. They are controlled by treatment with Vythane Triplo R 400–450 g/da; Bordeaux Mix 20 WP 375–500 g/da; Corseit 60 WG 20–40 g/da; Revus 250 SC 60 ml/da; Taegro 18.5–37.0 g/da.

During this period, the harmful activity of **spider mites** (pepper, eggplant, tomatoes, cucurbits, leek, okra, celery, parsley, etc.) is high. Control is carried out by treatment with the following PPP: Apollo 50 SC 30–40 ml/da; Bermectin 50–100 ml/da; Akramite 480 SC 20–25 ml/da; Vertimec 018 EC 60 ml/da; Voliam Targo 063 SC 80 ml/da; Zoom 11 SC 12.55–50 ml/da; Requiem Prime 500–1000 ml/da; Laota 15–100 ml/da; Naturalis 100–200 ml/da; NeemAzal T/S 0.3%; Nissorun 10 WP 75 g/da; Danitron 5 SC 100–200 ml/da; Flipper 1–2 l/da; Floramite 240 SC 40 ml/da; Shirudo 15 g/da.

High temperatures and the expected depression in the development of **aphids** do not exclude the presence of colonies of these pests in certain regions. Registered PPP against them are: Azatin EC 100–150 ml/da; Ampligo 150 ZC 40 ml/da; Vaztak Nov 100 EC 30 ml/da; Delmur 50 ml/da; Closer 120 SC 20 ml/da; Mavrik 2 F 20 ml/da; Mospilan 20 SP 12.5 g/da; Mospilan 20 SG 25 g/da; Niimik Ten 390 ml/da; Oikos 100–150 ml/da; Sivanto Prime 45 ml/da; Teppeki/Aphinto 10 g/da; Flipper 1–2 l/da; Shirudo 15 g/da.

Against **thrips** (vectors of tomato, pepper, eggplant and other bronze virus diseases), the following are applied: Azatin EC 100–150 ml/da; Dicarzol 10 SP 556 g/da; Exalt 200–240 ml/da; Limocid 400–800 ml/da; Niimik Ten

390 ml/da; Oikos 100–150 ml/da; Requiem Prime 500–1000 ml/da; Sineis 480 SC – 10–37.5 ml/da; Naturalis 100–150 ml/da; Flipper 1–2 l/da.

In the cultivation of tomatoes and peppers, the occurrence and damage caused by caterpillars of **noctuid moths** must be monitored. The caterpillars can be controlled by treatment with Avant 150 EC 25 ml/da; Exalt 200–240 ml/da; Voliam Targo 063 SC 80 ml/da; Dipel 2X 100 g/da; Rapax 100–200 ml/da; Oikos 150 ml/da; Niimik Ten 390 ml/da. Against the **tomato leaf miner (Tuta absoluta)** the following products can be used: Avant 150 EC 25 ml/da; Alverde 240 SC 100 ml/da; Altacor 35 WG 8–12 g/da; Ampligo 150 ZC 40 ml/da; Affirm 095 SG 150 g/da; Voliam Targo 063 SC 80 ml/da; Delmur 50 ml/da; Exalt 200–240 ml/da; Coragen 20 SC 14–20 ml/da; NeemAzal T/S 0.3%; Niimik Ten 390 ml/da; Oikos 150 ml/da; Rapax 100–200 ml/da; Sineis 480 SC 10–25 ml/da. It is often the case that damage from several pests is observed simultaneously in the stands, in which case it is necessary to select an appropriate product with a broader spectrum of activity.

Against the **large white cabbage butterfly**, treat with: Avant 150 EC 17 ml/da; Altacor 35 WG 8–10 g/da; Vaztak Nov 100 EC 10 ml/da; Dipel 2 X 100 g/da; Exalt 200 ml/da; Mageos 7 g/da; Meteor 60–70 ml/da; Citrin Max/Cyperkill 500 EC/Cypert 500 EC/Poly 500 EC 5 ml/da. Against the **diamondback moth**, the following are registered: Avant 150 EC 17 ml/da; Altacor 35 WG 8–10 g/da; Vaztak Nov 100 EC 10 ml/da; Exalt 200 ml/da. During this period, damage from the **cabbage moth** may also be observed. Treatments aimed at the large white cabbage butterfly and the diamondback moth can also be effective against this pest. Approved for use are: Avant 150 EC 17 ml/da; Altacor 35 WG 8–10 g/da; Dipel 2 X 100 g/da; Mageos 7 g/da; Meteor 60–70 ml/da.

When treating brassica crops, an adjuvant is added to the pesticide solutions.

All requirements for application (registered PPP, quality of spraying, dosages, pre-harvest intervals), transportation and storage of chemical plant protection products must be observed. Hygiene and sanitary standards for working with toxic substances must be complied with. A treatment log must be kept in accordance with the requirements of the BFSA.