

Early-spring agrotechnical and plant protection practices in fruit crops

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Winter pruning of fruit species

- The implementation of early-spring phytosanitary pruning of fruit species is a very important part of Good Plant Protection Practice and a continuation of the autumn-winter care;
- The most suitable period for this activity is February, before the buds swell;
- It is recommended that pruning be carried out first on apple and pear, which are the most cold-hardy, after which cherry, sour cherry, peach and apricot are pruned;
- It is advisable that young trees be pruned earlier, as they do not tolerate late pruning;

- Pruning shapes the crown and fruiting of the fruit species and removes the infected branches, thereby reducing the overwintering infection from pests - *powdery mildew on apple*, *scab on pear*, *brown rot*, *black rot on fruit species*, *white grubs*, *wood-boring insects*, *goat moth*, *apple clearwing moth and others*, and their spread during the active vegetation of the crops is limited;
- Dry branches and twigs are cut out, making the cuts at a distance of 20-30 cm from the damaged area;
- Old cracked bark is removed, caterpillar nests, egg clusters and mummified fruits are cut out;
- After pruning, the cuts are coated with oil-based paint or white latex to which a copper-containing fungicide is added, or the ready-made paste Tervanol is used, with the aim of better callusing, as well as protection against the penetration of secondary infections and infestation with diseases and pests.

Soil tillage

- Ploughing in of fallen leaves, whereby the overwintering inoculum of diseases present in the leaves is destroyed – *scab on apple and pear*, *white rust on cherry and sour cherry*, *red leaf spots on plum*, etc., and of pests that overwinter in the soil – *cherry fruit fly*, *black plum fruit sawfly*, etc.;
- During soil tillage, the root system must not be injured, as this leads to infections with bacterial canker and causal agents of root rot;
- The depth of ploughing is determined by the age of the plantation and the type of rootstock.

Winter-spring chemical treatment

It is carried out after pruning, after bud swelling and before bud burst.

Against diseases – 1% Bordeaux mixture:

- For all stone fruit species – protects the trees from *peach leaf curl*, *shot-hole disease of stone fruits*, *early brown rot*, *bacterial blight*, *bladder plum disease* and others;
- For pome fruit species, if they are affected by *fire blight* (most often apple, pear, quince, medlar).

Against pests – when the following are established:

- *European red mite* – 60-80 winter eggs per 10 cm of shoot;
- *Aphids* – 10% buds with eggs;
- *Leafrollers* – 3-5 egg clusters per tree;
- *California red scale* – when presence is established;

- *Plum scale* – 20-30 per 100 cm of scaffold branch.

To achieve high-quality and maximally effective winter-spring spraying, the following conditions must be observed:

- Treatment should be carried out in dry, warm and calm weather at an air temperature above 5 °C;
- The spray solution should be applied from the top to the base of the tree trunk, ensuring thorough spraying (wetting to runoff) of the trees;
- The nozzles of the sprayer should have an opening of 2 mm.

Main pests for the period:

Fire blight on fruit crops

Peach leaf curl

Pear psylla

California red scale