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DRYING OF FRUIT CROPS

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In recent years reports have been coming from various oblasts of the Soviet Union regarding the drying of fruit trees, which has been doing appreciable harm to fruit growing. Diseases are caused by various species of fungi, and the system of protective measures depends greatly on the correct identification of the fungi. Yearly observations of orchards and determination of the causes for the drying of the trees and immediate measures to control the disease will prevent it from spreading.

Black cancer of apple trees (Sphaeropsis malorum Peck.) was observed in the Non-Chernozem, Forest-Steppe and Steppe zones, in the Northern Volga area, Kazakhstan, Central Asia and in the Far East (See Table).

For the most part, the disease is observed in orchards where trees are 34-40 years old. However, in L'vovskaya Oblast, the fungus was found on young trees (14-16 years old), affection rate being 5%. The reports regarding the presence of black cancer in the area of the city of Pavlovsk, Leningradskaya Oblast, should be confirmed by herbarial samples. We did not detect black cancer in the Pavlovsk orchards. It has been established that in the Khar'kovskaya Oblast 78% of the fungus spores entered the dormant winter period in a ripe state. Therefore, in 1965 we should expect an intensification of the disease. The disease also spreads when the trunks are not whitewashed and the dead branches are not removed, when the tree has an untreated injury or when preventive measures are not observed in working with tools.

Spread of Black Cancer of Apple Trees in 1964

Oblast, Kray, Republic	Spread (Affected Area)	Degree of Harm
Gomel'skaya Oblast	Entire area (at spots up to 100%)	Moderate
Leningradskaya Obl.	Gatchinskiy Rayon (up to 80%)	High (15%)
Lithuanian SSR	Entire area (15-20%)	Moderate
Kurskaya Oblast	Entire area (up to 20%)	Weak and moderate
Mordovian ASSR	Entire area	High (6%)
Vologodskaya Obl.	Same	Weak
Rostovskaya Obl.	Same	Weak and moderate
Saratovskaya Obl.	Entire area (up to 8%)	Same
Ukrainian SSR	Kievskaya, L'vovskaya, Cherkasskaya, Chernigovskaya and Khar'kovskaya Oblasts (15-60%)	High at some points (10%).
	Zaporozhskaya, Dnepropetrovskaya and Donetskaya Oblasts (80-90%).	2-3% of trees die a year.
Kuybyshevskaya Obl.	Entire area; in old orchards (up to 70-100%).	Up to 30% of trees die at some points.
Udmurt ASSR	Sarapul'skiy Rayon (up to 92%)	Moderate
Kazakh SSR	Alma-Atinskaya Obl., entire area.	Same
Turkmen SSR	Ashkhabadskiy Rayon	Same

Chelyabinskaya Obl.	Entire area	Trees die at some point.
Primorskiy Kray	Southern rayons	Not established.

It has been found that winter varieties of the Simirenko and Antonovka rennet apples and others are very susceptible to the causative agent of this disease.

The ordinary cancer of apple trees (Nectria galligena Bres.) was widely spread in the Lithuanian SSR. In the Vil'nyusskiy Rayon, up to 80% of the trees were affected.

Cytosporosis of the pippin varieties is caused by the fungi Cytospora capitata Sacc. et Schulz., C. carphosperma Fr. and C. personata Fr., and stone fruit crops suffer from C. rubescens Fr. with an ascomycetous stage of Leucostoma personii Nitschke. This apple tree disease was spread in the Leningradskaya, Kuybyshevskaya, and Rostovskaya Oblasts. Evidently, it also occurred in the Novosibirskaya and Kemerovskaya Oblasts and at the Altai.

According to a study conducted in the Leningradskaya Oblast, the varieties most resistant to cytosporosis were Osennoye Polosatoye, Korichnoye Polosatoye, and Anis Alyi (11% of trees dried). The least resistant ones were Antonovka (18% dried), Papirovka and Borovinka (36 and 54%, respectively).

In the Kuybyshevskaya Oblast, orchards were affected with cytosporosis from moderate to high degrees on 70-100% of the area. At some points, 30% of the trees died.

In stone fruit crops, cytosporosis was found on cherry trees in Luzhskiy Rayon of the Leningradskaya Oblast, where 17% of the inspected trees died and 25% were severely damaged in three years. In the Kuybyshevskaya Oblast, cytosporosis affected plum and cherry trees, and in the Ukrainian SSR, Georgian SSR and Kirghiz SSR -- apricot, mazzard cherry, cherry and plum trees.

It should be noted that, according to reports from the Georgian SSR, spraying with Bordeaux mixture does not yield positive results against cytosporosis (G. Bilanishvili and A. Kvatadze).

Necrosis of apple tree bark (Myxosporium malicorticis Pot,) was discovered in great quantities in the Luzhskiy and Gatchinskiy Rayons of the Leningradskaya Oblast.

In addition to the above-mentioned diseases, a disease of the bark on the trunks and bare branches in the form of moist spots was discovered in the Ul'yanovskaya Oblast. The disease is caused by low temperatures. The injuries to the bark are particularly deep in the Antonovka, Bel'fler-kitayka and Papirovka varieties. To prevent the development of the parasitic fungi, the injured areas should be treated with toxic chemicals.