

Answer: No, in the Netherlands dieback symptoms were never found in the affected varieties.

In England dieback has only been found in the Cox's variety showing star crack. Other varieties infected do not show dieback (POSNETTE).

CIFERRI: Symptoms of rough skin and of green crinkle have not been found in the same varieties. Is it known if green crinkle on unripe fruits probably evolves to rough skin in ripe ones?

Answer: This is not likely. Green crinkle shows early in the season, infected fruits often being severely distorted. Ring spot and rough skin show later in the year and do not cause distortion (ATKINSON).

STANCOVIC: Is there something known about the influence of ecological conditions on the development of rough skin?

Answer: Rough skin symptoms have been found every year under often quite different conditions. Only this year few clear symptoms can be found, probably as a result of the warm and dry summer.

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THE LEAF ROLL VIRUS DISEASE OF SWEET CHERRY

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The presence of leaf roll disease (POSNETTE, 1955) in three orchards in Kent has been confirmed by graft transmission; this is at present the only means of clearly distinguishing the disease from those caused by other lethal pathogens, such as *Armillaria mellea* and *Pseudomonas mors-prunorum*.

SYMPTOMS ON DIFFERENT HOSTS

Upward rolling of leaves has been a constant symptom on all varieties inoculated, including Bing, Early Rivers, Hedelfingen, Schrecken Bigarreau and F12/1. A severe bark necrosis and gumming at the point of inoculation have been characteristic reactions of F12/1; this results in the death of the stem above the inoculation point and strong suckering from below it. Swellings develop on the two-year-old and older stems of F12/1, apparently caused by the breakdown of the medullary rays to form gum-filled pockets. Leafing and flowering of F12/1 and Early Rivers are delayed in the spring. Flower pedicels are short, many being only half the length of those on healthy trees.

Mature orchard trees of Early Rivers may be killed within 3 years of the first appearance of symptoms. (These symptoms were illustrated by lantern slides).

When inoculated in the glasshouse in May or June, young seedlings of peach and apricot were severely stunted, and died in the following year. Myrobalan seedlings developed leaf rolling but were not otherwise severely affected.

COMPARISON WITH OTHER VIRUS DISEASES

No virus disease rapidly lethal to sweet cherry has been reported in Europe. Four diseases somewhat similar to leaf roll have been reported in North America (Buckskin or Western X disease, necrotic rusty mottle, Lambert mottle and twisted leaf), but none of these closely resembles leaf roll. Buckskin is as severe as leaf roll only in trees on mahaleb stocks, but all the known cases of leaf roll are on mazzard stocks. Necrotic rusty mottle and Lambert mottle cause distinctive leaf symptoms absent from trees infected with leaf roll. The degree of leaf twisting caused by leaf roll in Bing is much less than with the twisted leaf disease.

REFERENCE

POSNETTE, A. F., - 1955. Leaf roll: a virus disease of cherry. Rep. E. Malling Res. Sta. for 1954: 126-127.

DISCUSSION

ATKINSON: Is the curling of Bing stem growth accompanied by anything approaching rubbery wood?

Answer: This is not the case. Real rubbery symptoms have not been detected in cherries infected with leaf roll.

FITZPATRICK: How widespread is the disease in England?

Answer: The disease has been found in three orchards in Kent, well separated one from the other. So there is no obvious connection between the different cases.

MULDER: Will it not be difficult to separate this leaf roll and bacterial canker symptoms in the trees on first view?

Answer: Indeed, when the trees show severe bacterial canker it is impossible to tell if they are also infected by the leaf roll virus without transmission tests. But even when bacterial canker is absent, leaf roll infection causes considerable gumming from slits on the bark and main branches. However there are no actual cankers, so that is a distinction. This is characteristic for Early Rivers, but it is not certain that other varieties react in the same way.



FIG. 1. 3-year old Early Rivers sweet cherry on F12/1 stocks. Left: healthy; right: infected leaf roll (second year after inoculation)

Photo East Malling Research Station



FIG. 2. Cherry leaf roll in May. Left: infected Early Rivers with delayed leaves and flowers; right: healthy Early Rivers

Photo East Malling Research Station

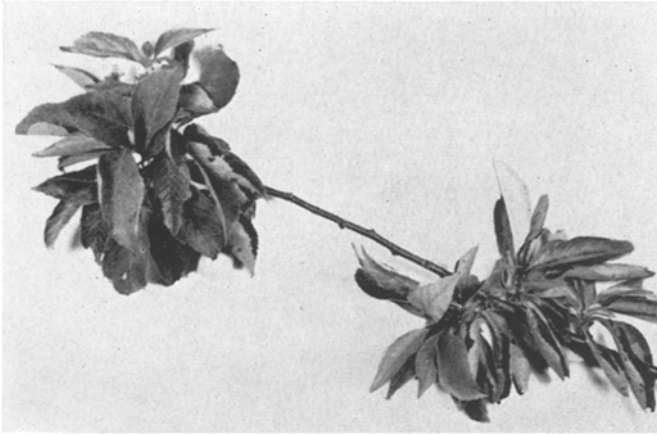


ABB. 1. Stecklenberger Krankheit der Sauerkirsche. Blattrosettenbildung an Zweigen eines stark erkrankten Baumes der Sorte 'Schattenmorelle'

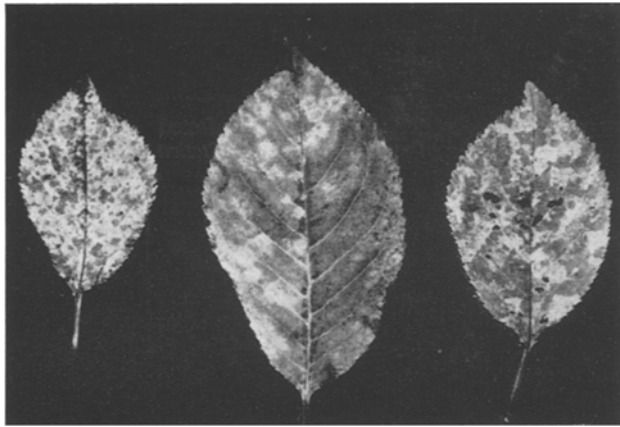


ABB. 2. Stecklenberger Krankheit der Sauerkirsche. Mosaikscheckung und Ringfleckenbildung ('Schattenmorelle')

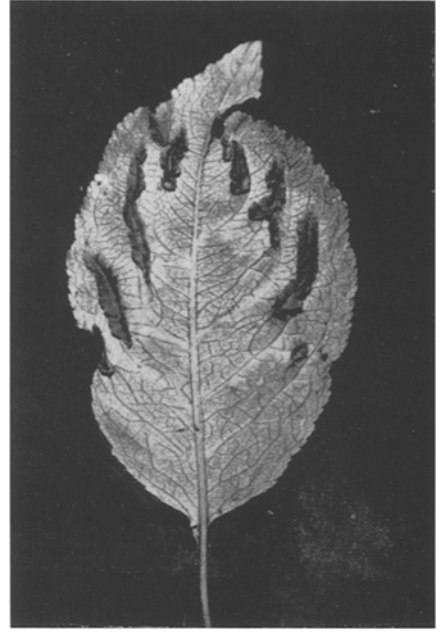


ABB. 3. Stecklenberger Krankheit der Sauerkirsche. Blättchenförmige Enationen auf der Blattunterseite ('Schattenmorelle')

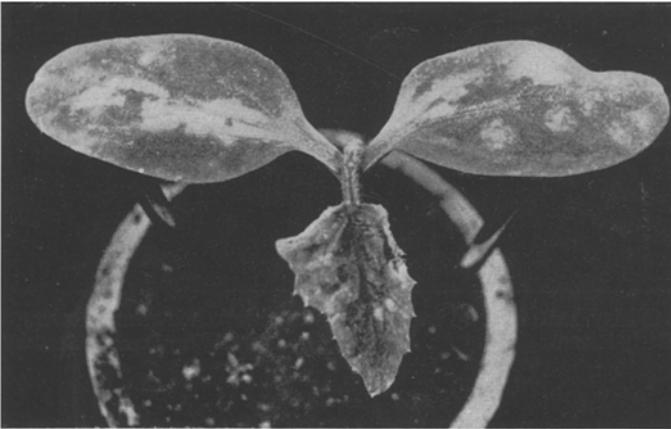


ABB. 4. Mechanische Übertragung der Stecklenberger Krankheit der Sauerkirsche auf *Cucumis sativus* ('Delikatess')