Tree Fruits and Nuts / Arbres fruitiers et noix

CROP: Sweet cherry

LOCATION: Kootenay Valley, British Columbia

NAME AND AGENCY:
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TITLE: STATUS OF THE LITTLE CHERRY DISEASE ERADICATION PROGRAM IN THE KOOTENAY VALLEY OF BRITISH COLUMBIA

METHODS: Cherry trees in the southern portion of the Kootenay Valley, encompassing the communities of Creston, Erickson, Canyon, Lister and Wynndel, were inspected by representatives of the Regional District of Central Kootenay during the second week of July. This was followed by an inspection the following week by scientists from the Agriculture Canada Research Station, Summerland. Determination of the little cherry disease-status of cherry trees was based on visual inspection: the characteristic symptoms of little cherry disease include small triangular fruit, insipid flavour and delayed colouration. Budwood was collected from symptomatic trees when the fruit symptoms were mild, or when the little cherry disease symptoms were accompanied by other obvious signs of stress such as winter injury, nutritional deficiency, water deficiency or other virus infections. At least two budsticks were collected from different areas of the tree. Four buds from each tree were T-budded onto individual Canindexl and/or mature fruiting Lambert trees in an orchard at the Summerland Station. Trees were observed for two years for the appearance of little cherry disease symptoms: premature reddening of the Canindexl foliage and typical fruit symptoms of Lambert.

RESULTS AND COMMENTS: Little cherry disease was first reported in the Kootenay Valley in 1933, and rapidly spread throughout much of the valley. This lead to the termination of commercial cherry packing line in 1976. Since the Kootenay Valley is geographically isolated from external sources of little cherry disease inoculum, a trial was initiated to completely eliminate the little cherry disease agent from the Valley. Since its inception in 1982, 3894 infected trees have been removed as part of the eradication program.

The number of infected trees identified in the survey continues to decline (Table 1). The survey conducted in 1992 was the first to emphasize indexing of sour cherries and white fleshed cherry varieties such as Ranier and Royal Ann. The little cherry disease status of sour and white fleshed cherries is extremely difficult to determine on the basis of visual inspection in the field. Of the total of 96 infected trees in the 1992 survey, 12 were white fleshed varieties, and 3 were sour cherries. These results emphasize the importance of these cultivars as significant reservoirs of the little cherry disease agent. In 1993, no trees with symptoms typical of first year infection were observed. Most of the newly reported infections of little cherry disease results from the survey expanding into previously uninspected plantings of cherry, including residential properties.

Table 1. Recent survey results for Little Cherry Disease in the south Kootenay Valley of British Columbia.

		SURVEY RESULTS					
YEAR	TREES INFESTED	TREES INDEXED	TYPICAL FIELD SYMPTOMS	POSITIVE ON CANINDEX1	POSITIVE ON LAMBERT	TOTAL INFECTED[a]	TREES REMOVED
1990	3407	162	54[b]	86	22	148[c]	139
1991	3654	104	35[d,e]	45	19	88	101
1992	3800	200	3[e]	93[f]	2[f]	96	94[g]
1993	4366	160	22	NA[h]	NA	NA	NA

a Since the little cherry disease-status of some trees was determined by more than one method, the total number of infected trees will be lower than the sum of positive samples from each indexing method.

b Of these **54** trees, only **4** had not been identified by a previous survey.

c In addition to **148** infected sweet cherry trees, little cherry disease was also detected in two samples of cherry seedlings and two samples of Prunus emarginata.

d Of these **35** trees, only **13** had not been identified by a previous survey.

e Only one tree showed severe shock symptoms characteristic of the first year of infection.

f First year readings only.

g In addition to **94** little cherry disease-infected trees, **40** derelict trees were removed.

h NA = data not available.

The eradication program is proving highly successful as indicated by the observation of very few trees displaying the severe symptoms associated with first year infections. With the declining spread of little cherry disease, local orchardists have embarked on an extensive replanting program to reestablish commercial production and packing of sweet cherries in the Kootenay Valley.

CROP: Sweet Cherry

LOCATION: British Columbia

NAME AND AGENCY:

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TITLE: LITTLE CHERRY VIRUS SURVEY IN THE OKANAGAN VALLEY OF BRITISH COLUMBIA

METHODS: Cherry trees in the Okanagan Valley of British Columbia were surveyed between July 5 and July 27, 1993 for symptoms of little cherry virus disease. Two employees of the B.C. Ministry of Agriculture, Fisheries and Food, Crop Protection Branch, examined orchards in districts with a history of the disease, including the areas around Penticton, Naramata, Summerland, Westbank, Kelowna and Oyama. Approximately 45 orchards and 25 residential yards were included in the survey. Diagnosis of little cherry disease was based on symptoms, including small, pointed and angular fruit with poor colour and poor flavour. Following diagnosis, tree owners were issued removal notices under the authority of the B.C. Plant Protection Act. Trees with questionable symptoms were indexed at the Agriculture Canada Research Station virus orchard at Summerland, by grafting buds onto indicator cherry trees, variety Canindex 1. Indexing results for the 1993 samples will be available by September, 1994.

RESULTS AND COMMENTS: Twenty-four diseased trees were identified in 1993; seven were identified visually, while seventeen were identified based on indexing results from 1992 samples. Fifteen of these diseased trees were located in Penticton, six in Westbank, two in Kelowna, and one in Naramata. An additional four diseased trees which were identified in 1992 but not removed were located in a Penticton orchard. Budwood samples for indexing were collected in August from an additional thirty-three trees.

The number of little cherry infected trees has remained steady for the past five years. Penticton remains the most affected area.