Tree fruits and nuts / Arbres fruitiers et noix

Crop / Culture: Apple

Location / Emplacement: Ontario

Name and Agency / Nom et Organisation: Andrea Clarke
O.M.A.F.
Bowmanville, ON L1C 1P5
Paul Goodwin
O.M.A.F.
Simcoe, ON N3Y 4H5

Title / Titre: DISEASE SURVEY OF COMMERCIAL APPLE ORCHARDS IN SOUTHERN ONTARIO

METHODS: Fruit harvest assessments were carried out in southern Ontario in 68 different commercial orchards and 4 abandoned orchards. At most sites, McIntosh or Red Delicious were checked, but occasionally Empire, Idared and Spartan were assessed. Fruit were sampled at or just prior to harvest maturity.

From standard sized trees, four trees per orchard were examined. Thirty-three fruit from the top, skirt inside and skirt outside were checked. One extra apple was checked from each tree to bring the sample total to 100 apples per tree. From dwarf sized trees, 50 fruit from each of eight trees were checked.

Exceptions to this sampling procedure were the Essex-Kent area, where 200 fruit per orchard were checked; and in the London area, where 300 apples were examined in one of the orchards.

Observations from abandoned orchards in Durham, Essex-Kent, Norfolk-Brant, and the Georgian Bay area are included for comparison.

Fruit was checked for apple scab (*Venturia inaequalis* (Cke.) Wint.), fly speck (*Leptothyrium pomi* (Mont. and Fr.) Sacc.), sooty blotch (*Gloeodes pomigena* (Schw.)Colby), quince rust (*Gymnosporangium clavipes* Cke., and Pk.), cedar-apple rust (*G. juniperi-virginianae* Schw.), powdery mildew (*Podosphaera leucotricha* (Ell. & Ev.) Salm.) and insect injury. These were reported by area as to the presence or absence of disease or iusect injury.

RESULTS AND COMMENTS: The incidence of fly speck and sooty blotch was higher in 1990 than in the past three years. In addition, calyx end rot (causal organism undetermined) was found throughout the province.

The number of Red Delicious fruit infected with quince rust was relatively high in the Northnmberland, Hastings, and Prince Edward County area (data not shown). Cedar-apple rust was also relatively more prevalent in this area on cultivars and orchards not iucluded in the harvest assessment data.

The incidence of powdery mildew was very low in Ontario in 1990. Fruit injury from insect pests was, in general, considerably higher than damage from diseases.

ACKNOWLEDGEMENTS: We thank the Horticultural Crop Advisors, Pest Management Advisors and others who collected the data for the apple harvest assessments.

COMPARISON OF DISEASE INCIDENCE AND INSECT DAMAGE IN COMMERCIAL AND ABANDONED ORCHARDS, 1990

Area		Number of Fruit	Percent Fruit Affected: Scab	Fly Speck	Sooty Blotch	Calyx End Rot
Ontario (Commercial):		25,100	0.8	0.5	0.08	0.3
Abandoned:	Durham	50	38	82	46	
	Essex-Kent	200	100	0	6.5	
	Norfolk-Brant	198	37.9	69	0	
	Georgian Bay	220	97	16	0	

APPLE HARVEST ASSESSMENT, SOUTHERN ONTARIO, 1990

Area	Number Of Orchards	Number Of Apples	Total Number Of Fruit Affected (Range)[1]						Percent	Damage
			Scab	Fly Speck	Sooty Blotch	Calyx End Rot	Powdery Mildew	Quince Rust	Insect	Disease
Essex-Kent	10	2,000	24(1-9)	0	2(1)	4(1-3)	0	0	7.1	1.3
Woodstock	3	1,200	0	19(5-14)	0	3(3)	0	0	8.4	1.8
London	3	1,100	2(1)	0	12(1-11)	9(1-6)	3(1-2)	0	1.9	2.1
Norfolk-Brant	17	6,800	18(1-6)	60(1-18)	0	22(1-6)	0	0	11.1	1.5
Hamilton-Wentworth	3	1,200	15(15)	16(4-12)	6(6)	0	0	0	15.3	3.1
Niagara	9	3,600	21(1-5)	0	0	0	0	0	3.6	0.6
Georgian Bay	6	2,400	5(1-2)	0	1(1)	0	0	0	12.8	0.2
Durham	5	2,000	94(94)	15(1-12)	0	6(1-5)	0	0	4.5	5.8
Northumberland, Prince Edward, Hastings	7	2,800	5(5)	17(17)	0	24(8-16)	0	17(17)	2.4	2.3
St. Lawrence Valley	5	2,000	17(1-8)	0	0	1(1)	0	0	4.6	0.9

[1]Fruit not necessarily out of grade

APPLE HARVEST ASSESSMENT, SOUTHERN ONTARIO, 1990

Area	Number of Orchards	Number Of Orchards Affected With:					
		Scab	Fly Speck	Sooty Blotch	Calyx End Rot	Powdery Mildew	Quince Rust
Essex-Kent	10	8	0	2	2	0	0
Woodstock	3	0	2	0	1	0	0
London	3	2	0	2	3	2	0
Norfolk-Brant	17	7	10	0	10	0	0
Hamilton-Wentworth	3	1	2	1	0	0	0
Niagara	9	9	0	0	0	0	0
Georgian Bay	6	3	0	1	0	0	0
Durham	5	1	3	0	2	0	0
Northumberland, Prince Edward, Hastings	7	1	1	0	2	0	1
St. Lawrence Valley	5	3	0	0	1	0	0

Crop / Culture: Pears and Junipers

Location / Emplacement: Lower Fraser Valley and Southern Vancouver Island, British Columbia

Title / Titre: PEAR TRELLIS RUST (Gymnosporangium fuscum) SURVEY IN SOUTH COASTAL BRITISH COLUMBIA

Name and Agency / Nom et Organisation: D.J. ORMROD, C. BORNO, H.S. KLER, L.L. BARTON, D.G. SCHECK, and H.J. SCHECK
B.C. Ministry of Agriculture and Fisheries,
17720 - 57 Avenue,
Surrey, B.C. V3S 4P9

Methods: In order to sell junipers or pear trees outside of the coastal quarantine area, nurseries must be certified free of pear trellis rust. To facilitate this, a survey of pear trees within 1 km or more of each juniper producing nursery is carried out annually. If infections are found on pear, the junipers in the vicinity are checked for infections the following spring when signs of the disease are most evident. Junipers found to be infected are destroyed aud replaced by other types of shrubs donated by local nurseries. The inspections are carried out by students who are funded by the sale of certification tags. In 1990, two students carried out the work in the Lower Fraser Valley while another two worked on the Saanich Peninsula of Vancouver Island. The first comprehensive pear survey of the Duncan and Mill Bay areas, just north of the Saanich Peninsula was carried out in one week with additional help from Agriculture Canada, Food Production and Inspection Branch.

Results: Results of the 1990 survey are given in the table below.

Area	Number of Jnnipers		Number of Pear Trees Examined			
	Examined	Infected	0 - 5 Infections	6 - 50 Infections	50+ Infections	Total
LOWER FRASER VALLEY						
Abbotsford	66	0	63	31	28	122
Bradner	-	-	28	0	2	30
Chilliwack	59	6	83	138	35	256
Hatzic	-	-	126	99	52	277
Mission	-	-	66	151	78	295
Langley	77	0	-	-	-	-
Pitt Meadows	46	0	41	0	0	41
Richmond	864	95	38	11	0	49
Surrey	496	85	47	32	12	91
VANCOUVER ISLAND						
Duncan/Mill Bay	-	-	463	139	68	670
Saanich Peninsula	3062	266	926	885	420	2231
TOTAL FOR 1990	4670	452	1881	1486	695	4062
TOTAL FOR 1989	8368	468	625	1026	855	2506

Comments: As a result of the 1990 pear trellis rust work including the survey reported above, approximately 60 nurseries in the coastal area were certified to sell junipers and pear trees outside the quarantine zone for the 1990/91 shipping season. Approximately 393,000 juniper tags were sold in the 1989/90 season.

Crop / Culture: Sweet Cherry

Location / Emplacement: Okanagan Valley
British Columbia

Title / Titre: LITTLE CHERRY VIRUS DISEASE SURVEY IN THE OKANAGAN VALLEY OF BRITISH COLUMBIA

Name and Agency / Nom et Organisation:

G.D. JESPERSON and G. CARTER
B. C. Ministry of Agriculture and Fisheries
1873 Spall Road
Kelowna, B.C., V1Y 4R2
B. C. Ministry of Agriculture and Fisheries
4607 - 23 Street
Vernon, B.C., V1T 4K7

METHODS: The annual survey of sweet cherry trees in the Okanagan Valley of British Columbia was conducted between July 4 and July 26, 1990 for symptoms of little cherry disease. One employee of the B.C. Ministry of Agriculture and Fisheries examined orchards in districts with a history of the disease, including the areas around Penticton, Naramata, Summerland, Westbank, Kelowna and Oyama. Approximately 100 properties were visited. Diagnosis of little cherry disease was based on symptoms, including small, often pointed and angular fruit with poor colour and delayed maturity. Following visual diagnosis, tree owners were issued removal notices. Trees with questionable symptoms were indexed at the Agriculture Canada Research Station at Summerland by grafting buds on to indicator trees, including the varieties Sam and Canindex. Leaves of these varieties turn red in late summer of the following year if the disease is present.

RESULTS AND COMMENTS: Forty-seven diseased trees were found in 1990. The table gives a comparison of numbers found in the various districts in recent years:

SUMMARY OF NUMBER OF TREES WITH LITTLE CHERRY DISEASE

Area	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979	1978	1977	1976
Oliver	-	0	0	0	0	0	0	0	0	0	5	0	0	2	1
Keremeos	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Penticton	24	32	49	57	21	19	26	39	104	53	49	46	64	184	303
Naramata	1	0	3	0	2	1	6	17	39	20	18	28	84	121	0
Summerland	0	2	2	3	1	4	2	5	4	5	8	4	0	7	0
Kelowna	1	6	8	3	0	0	10	1	0	6	25	22	41	0	0
Westbank	19	1	25	27	0	0	0	0	0	0	0	0	0	0	0
Winfield	-	0	0	0	0	0	0	0	0	0	0	0	4	0	0
Oyama	2	2	14	7	3	7	3	2	5	2	11	7	0	0	0
TOTAL	47	43	101	97	27	31	47	64	152	86	116	109	193	314	304

- unsurveyed

The number of diseased trees identified in 1990 was similar to the number found in 1989, holding the trend of a gradual decline in disease incidence since its peak in 1977. However, low numbers in 1990 could also be partially due to a less intensive survey. Not all areas could be surveyed, and some problem areas such as the city of Penticton have not been thoroughly surveyed for several years. Backyard cherry trees will remain a potential reservoir of disease for nearby orchards until they are cleaned up.