

Tree fruits

CROP: Apples
LOCATION: Manitoba
TITLE: Incidence of Plant Diseases of Apples in Manitoba in 1987

NAME AND AGENCY:
PLATFORD, R. G.
Manitoba Agriculture
Plant Pathology Laboratory
Agricultural Services Complex
201-545 University Crescent
WINNIPEG, Manitoba
R3T 2N2

METHODS: Results based on 101 samples of apples submitted to the Plant Pathology Laboratory and field examinations.

RESULTS: Samples submitted were mainly from home gardens. The main problems detected were: cytospora canker (Cytospora sp.), frog-eye spot (Physalospora obtusa), fireblight (Erwinia amylovora), silver leaf (Stereum purpurea) and apple scab (Venturia inaequalis). Many of the samples received in the early spring showed evidence of sunscald and winter injury. Fireblight was not a major problem in 1987 because of the very dry weather in May and June. Iron chlorosis is very common in apple trees from the Winnipeg area. A severe problem from a canker disease occurred in a nursery near Carman. All of the isolations from this material indicated Fusarium sp. Leaves on infected plants turned a purple color before wilting. Most of the cankers were at ground level.

CROP: Apple cv McIntosh and Delicious

NAME AND AGENCY:

Andrea Meresz

O.M.A.F.

LOCATION: Ontario

Bowmanville, ON L1C 1P5

Pam Fisher and

Chris Thorpe,

O.M.A.F.,

Simcoe, Ontario N3Y 4N5

TITLE: DISEASE SURVEY OF COMMERCIAL APPLE ORCHARDS IN SOUTHERN ONTARIO.

METHODS: Fruit harvest assessments were carried out in southern Ontario in 108 different commercial orchards. Fruit from four trees per orchard were sampled at or just prior to harvest maturity. From standard sized trees, 33 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. In two orchards (one from the St. Lawrence Valley, one from Prince Edward) which had a light crop load 300 apples were checked.

From dwarf sized trees, 33 fruit from each of the top, middle and bottom portions of the tree were checked. One extra apple was picked from each tree to bring the sample size to 100 apples per tree.

Fruit was checked for apple scab (Venturia inaequalis (Cke.) Wint.), fly speck (Leptothyrium pomi (Mont. and Fr.) Sacc.), sooty blotch (Gloeodes pomigena (Schw.) Colby) and insect injury. These were reported by area as to the presence or absence of disease or insect injury. Disease data from the Norfolk-Haldimand, Brant area from 1979 to 1987 was included for comparison. Observations on blister spot (Pseudomonas syringae pv papulans van Hall), fire blight (Erwinia amylovora (Burr.) Winkl. et al.) and powdery mildew (Podosphaera leucotricha Ell. & Ev.) were made during the growing season.

RESULTS AND COMMENTS: Fruit damage from diseases was considerably less than injury from insects in all areas surveyed in 1987. Apple scab and fly speck was less prevalent in the Norfolk-Haldimand, Brant area during 1987 than in previous years due to dry weather in 1987. In the Durham region in 1987, 45 of the scab infested fruit were from one orchard where a high inoculum pressure was present from the previous year. Sooty blotch has only shown up in large, poorly managed trees. The sooty blotch reported in the St. Lawrence Valley all occurred in one orchard.

In all areas of Southern Ontario, blister spot and fireblight were less severe, while foliar powdery mildew was more prevalent during 1987 than in 1986. Powdery mildew did not cause any economic loss of fruit due to russetting in 1987.

CROP: Apples and PearsNAME AND AGENCY:

C. L. LOCKHART and

R. J. NEWBERY

Research Station

Kentville, Nova Scotia

B4N 1J5

LOCATION: Nova ScotiaTITLE: COLLAR ROT SURVEY OF APPLE AND PEAR ORCHARDS IN NOVA SCOTIA.

METHODS: Fifteen apple orchards and two pear orchards were surveyed for collar rot in the fall of 1986 and the summer of 1987 in the Annapolis Valley and Lunenburg County. Soil samples were collected from trees with visual symptoms of collar rot or trees in the same orchard showing poor growth located mainly in low or wet areas of orchards.

The presence of collar rot organism Phytophthora cactorum (Leb. & Cohn) Schroet in the soil was determined by the cotyledon method of Jeffers 1986 (Personal Communication). Pathogenicity tests were conducted by dipping the roots of two week old McIntosh and/or Beautiful Arcade seedlings in the infected cotyledon soil water cultures.

RESULTS AND COMMENTS: See Table below. Phytophthora cactorum was identified in seventy-three per cent of the soil samples collected from around apple trees and in one hundred per cent of the pear trees showing poor growth. The pathogenicity tests were positive. It is to be noted that the trees showing poor growth or collar rot symptoms were located in low or wet areas of orchards and it is suspected that the previous loss of trees may have been due to collar rot. Yield losses due to P. cactorum are estimated at less than 0.5 per cent.

Disease	Number of Orchards	Collar Rot Incidence (per cent)
<u>Phytophthora cactorum</u>	15 (Apple)	73
	2 (Pear)	100

CROP: Peaches

NAME AND AGENCY:

Gerald Walker
O.M.A.F.

LOCATION: Ontario

Vineland Station, Ontario
LOR 2E0

TITLE: DISEASE SURVEY OF COMMERCIAL PEACH ORCHARDS IN SOUTHERN ONTARIO.

METHODS: A total of 49 samples from 37 different grower farms representing various regions of southern Ontario were surveyed. Each sample consisted of 50 L of peach fruit which the grower had graded as seconds and/or culls at the time of first pick. The fruit were classified into the categories as listed below in the table. Other information such as the amount of fruit graded out and packed out was collected from the grower. This was used to determine the percent of the overall crop which was culled out and the subsequent percent of overall crop affected per category.

RESULTS AND COMMENTS: See Table below. Taking samples over a wide range of varieties, locations and growers with varying perceptions of grading standards contributed greatly to the variation in the survey. The reported damage from bacterial spot, brown rot, and birds may under estimate the true disease level in the population because pickers of some growers throw away such fruit in the field rather than bringing the fruit to the packing house where the sample was taken. On the other hand, reported damage from some insects and physical damage may over estimate the true population level of these categories, because fruit affected in these ways tend to ripen first, thus biasing the first pick to have a greater cull out rate than the over all crop.

	Number of Samples	Per Cent Fruit With Injury					
		Brown Rot		Bacterial Spot		Powdery Mildew	
		Ave.	Range	Ave.	Range	Ave.	Range
Harrow	5	tr ¹	0-0.1	0.1	0.1-0.3	0.1	0-0.3
Jordan	15	0.1	0-1.1	2.9	0-18.4	0.1	0-0.9
Niagara-on-the Lake	18	0.1		0-0.7	0.1	0-0.6	0
Vineland	11	0.9	0-9.1	0.1	tr-0.6	tr	0-tr

¹tr = trace (less than 0.05%)

	Per Cent Fruit With Injury					
	Bird		Physical		Total Insect	
	Ave.	Range	Ave.	Range	Ave.	Range
Harrow	0.2	0-0.6	4.5	1.8-7.1	5.3	2.1-8.4
Jordan	tr	0-0.1	9.8	0.9-43.3	6.1	0.6-21.6
Niagara-on-the-Lake	tr	0-0.1	8.0	0.8-23.6	5.1	0.6-18.6
Vineland	0.1	0-0.5	5.5	0.2-11.7	9.5	0.3-22.3