THE INCIDEN'CE OF APPLE SCAB IN THE FARNHAM DISTRICT OF QUEBEC IN 1962,

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In 1962, conditions were very favorable for apple scab development in the Farnham district. From April 29, at greentip stage, to October lst, 18.85 inches of rain distributed on 57 days were recorded. The monthly precipitation appears in Table 1.

Table 1 - The monthly precipitation at Farnham

April	:	4.85	August	:	3.075
May	:	3.585	Sept,	:	2,815
June	:	3.484	Oct,	:	5.38
July	:	4.82	Total	:	28.004

Growth was rapid at the beginning of the season: only four days elapsed from greentip to early pre-pink, Then cool temperature prevailed and the vegetative development of the trees slowed down. It took 12 days from early pre-pink to pink stage and the blossoming period stretched on 10 days from pink to calyx. The vegetative stages for the variety McIntosh appear in Table 2.

Table 2 - Vegetative stages recorded for McIntosh

Greentip	May 1	Advanced Pink	May 18
Delayed dormant	May 3	50% bloom	May 19
Early pre-pink	May 5	Full bloom	May 20
Pre-pink	May 14	Calyx	May 28
Pink	May 17	1st cover	June 4

The first effective ascospore ejection was recorded on May 1st, after exposing spore traps during the precipitation of April 29-30. The first scab infection occurred when green tissues were just showing, at a time when no spray had been applied in most orchards. Moreover, two severe infections occurred during bloom while many growers were prevented from applying a fungicide because of the wind, In all, ten primary infections plus a number of secondary ones occurred in the district.

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The dates on which primary infections occurred are shown in Table 3. The infection periods were determined according to the Mills Chart with the help of a Casella Recording Rain Gauge and a one-day thermograph.

Table 3 - Primary infection periods - Farnham 1962

Infection Date	Vegetative Stage	Temperature Wetness (1)	Infection Date	Vegetative Stage	Temperature Wetness (1)
April 29-30 May 1	greentip	49" 42 hrs	May 31	Calyx	68.6 12 hrs.
May 3-4	Delayed dormant	48.1° 48 hrs	June 10-11	--	68.5" 17 hrs
May 6	Early pre-pink	50.5" 19 hrs	June 19	--	59.2° 23 hrs.
May 15 (doubtful)	Pre-pink	57" 11 hrs	June 22-23	--	65° 18 hrs
May 20-21	Full bloom	61.5" 15 hrs	June 24	--	61.5° 11 hrs.
May 24	Bloom	65.9" 18 hrs,			

(1) Mean temperature and length of the wetting periods,

Seasonal Scab Development

First scab was observed on May 24 in both the experimental orchard and commercial orchards of the district, presumably resulting from infections on April 29-30 and May 3-4, The spots were localized on both sides and at the apex of the cluster bud leaves.

On June 7, more scabby leaves were noted in the experimental orchard but it was not until mid-June that the least successful program permitted spread of the disease, As an example, on June 14, a count revealed an average of 453 scabby leaves per tree in one treatment. At the same time, scab was reported by several growers and a survey revealed a severe scab development in a few orchards,

On August 22, foliage scab had been checked in some plots while secondary scab was observed on fruits and leaves with the least successful spray programs. At harvest, calyx scab only was found in plots where foliage scab had been checked whereas summer and fall fruit scab were also present in some treatments,

In addition, in August, a survey was made in the Farnham district and vincinity and in Two-Mountains county. Scab was found ranging from trace to nearly 90 per cent. However, it may be said that, in general, the majority of orchards were commercially clean.

Table 4 summarizes observations on scab development and losses encountered in some of the orchards visited. The scab percentages were obtained by actual counts made at random in a number of McIntosh trees selected for their particular location in a given orchard. Yields mentioned in the table are estimates.

Table 4 - Apple Scab Survey - 1962

Location	Total tree population	% Scab	Remarks
Dunham	500	5%	calyx scab only -
"	2,000	72%	defoliation: actual vs possible yield: 7000 vs 10-15000 bushels -
Frelighsburg	1,500	22%	15,000 bushels -
"	450	8%	low site -
"	3,000	75%	defoliation: actual vs possible yield: 20000 vs 40000 bushels -
St-Armand	1,000	17%	high site -
		a8%	low part of orchard - defoliation -
Bedford	1,000	02%	defoliation -
West Shefford	1,500	45%	low site -
		4%	high site -
Cranby	1,000	74%	defoliation -
Oka	900	8%	10-12000 bushels -
St-Placide	600	12%	There was less scab damage found in Two-Mountain -