

THE SUSCEPTIBILITY OF POTATO VARIETIES TO WILT CAUSED
BY VERTICILLIUM ALBO-ATRUM REINKE & BERTH.

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The susceptibility to Verticillium wilt of 18 potato varieties and seedlings was assessed by field planting and observation of stocks, the seed of which had been immersed at time of planting in a spore suspension of the pathogen. Data presented in Table 1 are indicative of susceptibility expressed as the per cent of wilted plants.

Varieties such as Irish Cobbler and Kennebec have, under conditions of commercial production, shown moderate to high susceptibility to Verticillium wilt. It would be expected that stocks of other varieties and lines which approach or exceed the ratings established for those two varieties in this experiment might contract severe wilt under epidemic conditions. High resistance is indicated for a number of the Fredericton seedlings,

A determination of the extent to which wilt is propagated through the seed from year to year also represents an important phase of testing for varietal resistance. Seed from plants showing wilt in 1959 was saved and treated with Semesan bel before planting in 1960. The results presented in Table 2 show the extent to which wilt was propagated as mycelium within the seed piece.

The results show that wilt is propagated from within the tuber flesh to only a minor extent and that there is a correlation between the susceptibility of a variety to external inoculum and its capacity to propagate the disease internally,

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Table 1. The occurrence of Verticillium wilt in 18 potato varieties following immersion of the seed pieces in a suspension of the pathogen.

<u>Variety</u>	<u>Percent wilt¹</u>
Fundy	51.5
F4724	44.5
F4834	42.5
F5317	31.5
F4913	24.5
Kennebec	23.5
ND3324	16.5
Irish Cobbler	15.5
Sebago	9.0
F5459	5.5
F5649	5.0
F5510	4.0
F5350	1.5
F5143	1.5
F5669	1.5
F5611	0.5
F4519	0.0
F5561	0.0

¹ Based on 4 replicates, 50 plants per replicate.

Table 2. The relative internal seed-piece propagation of Verticillium wilt in seven potato varieties

<u>Variety</u>	<u>Percent wilt¹</u>
F4724	7.5
F4834	7.0
IrishCobbler	6.0
Fundy	4.5
Kennebec	3.5
F4913	3.5
F5317	0.5

¹ Based on 4 replicates, 50 plants per replicate.

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