Is the extraneous material, inclusive of the vessel wall coating, that accumulates in vessel elements in some fungal wilt diseases, of pathogen origin?

G. B. Ouellette[1] , D. Rioux [1], M. Simard [1], R.P. Baayen [2], and G. Bussières [3].

[1] Natural Resources Canada, Canadian Forest Service, Laurentian Forestry Centre, 1055 rue du P.E.P.S., P.O. Box 3800, Sainte-Foy (Québec) G1V 4C7
G.B. Ouellette, Tel. 418-648-5802 – Fax 418-648-5849
E.mail: gouellette@cfl.forestry.ca

[2] Plant Protection Service, P.O.Box 9102, 6700 HC, Wageningen, NL.

[3] Centre de recherche en biologie forestière, Université Laval, Sainte-Foy (Québec) G1K 7P4

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A key problem in fungal wilt diseases is to elucidate the origin and nature of extraneous matter occurring in the invaded xylem vessel elements of the hosts. Direct and circumstantial evidence has been obtained that pathogen cells excrete much material in vessel lumina, which might play an active role in tissue invasion. The components accumulating in vessel lumina in the following systems will be compared, with particular emphasis on the coating deposited on vessel walls: Dutch elm disease; fusarium wilt of carnation and sumac; and verticillium wilt of eggplant. A comparison will also be made with the development of *Sphaeropsis hypodermia,* which causes a canker in elms, showing that large amounts of material excreted from fungal cells on various substrates, including sterilized elm wood chips and cellulose tissue paper, can spread as opaque bands appreciable distances along the rigid sterilized substrates. Such material in turn was similar texturally to the components accumulating on vessel walls and traversing host walls in inoculated elm trees. As a point of discussion, the importance of such components in the understanding of the host/parasite relationships in the diseases at stake will be mentioned.