

## **PB 10 - Excretion of Material from or Across Walls of Fungal Cells**

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This study reports on observations of the often large masses of material surrounding fungal cells and spreading appreciable distances outside the cells. Probes were used, such as for chitin, glucosides, and cellulose to characterize the relation between this matter and the fungal cell walls. Evidence is presented that apart from its rare production as a desquamation of the outer opaque fungal wall layer, this material reached from inside the fungal cell through its loosened or apparently still undisturbed wall into the surrounding medium. This secretion was frequently associated with filamentous structures. Cases are illustrated where this extracellular matter is directly involved in host tissue invasion and not simply as a host wall adhering agent. These features are illustrated in particular in *Ophiostoma novo-ulmi*, the Dutch elm disease pathogen, *Fusarium oxysporum f.sp. dianthi* infecting carnation, and *Rigidoporus lignosus* and *Phellinus spp.* colonizing sterilized birch wood blocks. The possible role of the material in question is mentioned, particularly concerning its presence in susceptible vs. resistant carnation plants, and possibly in some cases as an effect to fungal cell growth inhibition. The presence of chitin in the extracellular matter was generally not detected, even in cases of pronounced alterations of the subtending fungal wall, remnants of which could nevertheless be detected by the chitin probe. Other compounds, such as glucosides and even RNA, in one case, were detected in the extracellular material.