DISEASES AND PESTS OF SUGARBEET Vol. 2

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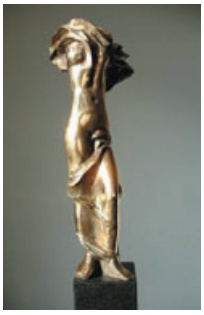
There are 2 videos on this DVD:

2.1 Rhizomania *(Beet necrotic yellow vein virus)* (12:00 min)
Rhizomania or "root madness" is one of the most serious diseases of sugarbeet. It is caused by *Beet necrotic yellow vein virus (BNYVV)*. The virus is carried and transmitted by the soilborne protozoan *Polymyxa betae*. When zoospores of *P. betae* carrying *BNYVV* invade roots of sugarbeet, the virus is released by the protozoan, multiplies, and spreads within the plant. Virus infection causes massive proliferation of secondary roots, giving the taproot a bearded appearance. Storage of sugar in the taproot is substantially reduced. With photo-like 3D computer animations, the film illustrates the life-cycle of the virus vector *P. betae*, thus leading to a better understanding of the development of rhizomania and, consequently, means of controlling it. Finally, information on new high-yield rhizomania-resistant varieties of sugarbeet is presented.

2.2 Root Rot – Biological Strategies of Root-Rotting Pathogens (9:50 min)
Soilborne pathogens known to cause root rot of sugarbeet include *Rhizoctonia solani*, *Fusarium oxysporum*, and *Aphanomyces cochlioides*. In order to utilize the energy stored in the sugarbeets, these pathogens adopt different strategies: *Rhizoctonia solani* forms specialized infection structures (infection cushions), *Fusarium oxysporum* releases toxins that support fungal growth within the beet's vascular system, and the mode of infection of *Aphanomyces cochlioides* is characterized by formation of motile zoospores. The various biologic strategies are illustrated in detail, followed by sequences focusing on agronomic disease management methods, including plant resistance.



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