

MOLECULAR BIOLOGY STUDIES IN *CERATOCYSTIS POLONICA*

Carl Gunnar Fossdal, Halvor Solheim and Paal Krokene

Norwegian Forest and Landscape Institute, Ås Norway.

carl.fossdal@skogforsk.no

Genomics studies in *Ceratocystis polonica* are needed for progress in understanding of the interaction of this pathogen with its host(s) and possibly also for better understanding better its interaction with vectoring partners (bark beetles). Not only are genomic studies needed for understanding what genes are important for the pathogen to colonize its host(s) but also what host defense genes are important for resistance. Thus genomics studies of both partners in a pathosystem are needed for further progress in this field. Besides genomic studies *senso stricto*, specific and quantitative molecular methods for following the colonization process and the host defense genes in resistant and susceptible hosts are also needed. We have recently designed a quantitative Real-Time PCR based method for quantifying *C. polonica in planta* and used this to follow its spread in the bark of 34-year-old resistant and susceptible Norway spruce clones. We have also followed the temporal and spatial level of host enzymes believed to be crucial for host signaling and resistance.