

Altered lignin in oil palm : a novel approach to Ganoderma control.

ABSTRACT

Oil palm (OP) is an economically-significant crop in the tropics that is prone to a rot caused by Ganoderma: a white rot fungus. Fungi that rot in this manner are extraordinary organisms which degrade lignin, and leave white cellulose exposed. Surprisingly, there are no data concerning the biochemical basis of how Ganoderma rots oil palm in terms of lignocellulose biodegradation. It is necessary to consider this mode of attack for integrated control. The existing literature is concerned particularly with the mode of spread and molecular biology of Ganoderma, which are indirect ways in which to understand and control the disease. The white rot perception opens up new fields such as: (a) especially selecting/transforming for resistant cultivars of oil palm with high lignin content, (b) ensuring that the conditions for lignin decomposition are reduced, and (c) simply sealing damaged oil palm specifically to stop decay. In conclusion, the control of Ganoderma on oil palm will benefit greatly from consideration of the process as one of white rot.

Keyword: Oil palm; Basal stem rot; Ganoderma; Lignin.