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THE ROLE OF PHYTOALEXINS IN THE RESISTANCE OF PLANTS TO DISEASE

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ABSTRACT .

Phytoalexins can be considered as antimicrobial substances mostly phenolics, produced in many plants as a result of stimulation by micro-organisms or chemicals and mechanical injury, and which inhibit the growth of micro-organisms pathogenic to plants. Pathogenic fungi seem to be less sensitive to the toxicity of the phytoalexins produced by their host plant than are non-pathogenic fungi. They are essentially non-specific in antibiotic spectrum. Many ways in which phytoalexins may be involved in disease resistance are discussed in view of recent discoveries.

INTRODUCTION

Many phenomena, both physical and chemical, have been described to account for the resistance of plants to disease. Of these, the more important form of resistance is linked to the accumulation in tissues after infection of substances toxic to pathogen. These post infectional inhibitors have an important and currently fashionable, though somewhat controversial sub-class, the phytoalexins, which have been shown to involved in the disease resistance mechanism of many plants. In the present article efforts are made to discuss some of the important phytoalexins reported todate with reference to their fungitoxicity, biosynthetic pathways and the role which they play in host-parasite interaction.

DISEASE RESISTANCE

Wood [1] described resistance to disease as "The extent to which a plant does not become diseased when it is qrowing in association with a fungus or bacterium. The resistance of plants