

NITROGEN COMPOUNDS IN INTERACTIONS BETWEEN PLANTS AND HERBIVOROUS INSECTS

Summary

The review is focused on role of nitrogenous plant compounds in chemical interactions between herbivorous insects and their host-plants. Nitrogen is an important factor that limits nutritive value of host plants for herbivores, since animal tissues contain its higher concentration. Especially important are such nitrogenous primary metabolites as amino acids, amides, proteins and some vitamins. On the other hand, many plants also synthesize nitrogenous secondary metabolites, i.e. non-protein amino acids, amines, alkaloids, cyanogenic glycosides, hydroxamic acids and glucosinolates, that may act as repellents,

deterrents and/or toxins for herbivores. At present, research in this area is focused on dual role of the nitrogen in plant nutritive value for herbivores and its participation in molecular mechanisms of regulation plant defense against pathogens and herbivores, including signaling molecules, nucleic acids and PR proteins. The basic problems concern identification and expression of genes participating in mechanisms of constitutive and/or induced resistance. Thus further studies on molecular background of the chemical interactions between plants and herbivores are needed.