ROLE OF LATEX IN PLANTS

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Latex is a colloidal suspension or emulsion of water insoluble substances in an aqueous phase, synthesized and / or stored in an internal secretory system called latex vessels or laticifers present in a number of annuals and perennials. Among the different constituents of latex, natural rubber has been found in the latex of over 895 species of plants belonging to 311 genera of different families. In some genera, the young tissues produce abundant laticifers, but later become lignified, whereas in many other plants including *Hevea brasiliensis,* (prime source of natural rubber), latex is produced throughout their life time. Because of the occurrence of latex in specific tissue system and its biosynthesis occuring throughout the life of the plant, different functions such as protection, conduction, water regulatory system, food reserve, substitute, by product, excretion *etc*. are assumed for latex. Latex cannot be regarded as excretory material because of its occurrence in a pre-determined internal tissue system. Under normal exploitation the plant is capable of regenerating the drained latex without any sign of necrosis while abnormal functioning of cambium can result from over exploitation as observed in *Hevea brasiliensis*.

Keywords: *Hevea brasiliensis,* Latex, Laticifers, Natural rubber, Role

INTRODUCTION

Many of the important natural products, which have been used by man through ages, are produced by the secretory tissues of vascular plants. Secretory tissues occur in many plant species and are grouped into different categories according to structure, topographic distribution and the materials they produce. As far as plant is concerned, it is true that secretory structures (*eg*. nectaries, resin oil-mucilage glands or ducts, salt glands, laticifers, *etc*.) are useful to the plant either by providing protection from pathogens and herbivores, favouring pollination, reducing the transpiration from various organs, elimination of waste or excess material from the plant system or as a reserve organ for certain specific compounds (Fahn, 1979; Thomas and Dave, 1992; Roshchina and Roshchina, 1993).

Among the different secretory structures, laticifer, an internal secretory system possessing latex, occurs in 12,500 species belonging to 900 genera dispersed in 20 families, including both monocotyledons and dicotyledons (Metcalfe, 1967). The association of unusual cell contents with laticifer contributed to their being interpreted as secretory structures. Fahn (1979) defined laticifer as a 'specialized cell or a row of cells containing latex'. Many workers are of the opinion that laticifers constitute a special type of storage or excretory system but, unlike glands, they do not discharge the inert substances being secreted (Schnepf, 1974). Burgess (1985) mentioned that since the

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