

GROWTH OF DIRECT-SEEDED AND BUDDED STUMP POLYBAG RUBBER (*HEVEA BRASILIENSIS*) PLANTS UNDER DIFFERENT NUTRIENT MANAGEMENT SYSTEMS

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Two polybag nursery experiments were conducted at the Central Experiment Station of the Rubber Research Institute of India, Chethackal during 2008-2009 with the objective of comparing the growth performance of two types of planting materials viz., direct-seeded and budded stump rubber (*Hevea brasiliensis*) plants under inorganic fertilizers and integrated nutrient management with different organic sources. The experiments were laid out in a completely randomized design with eight treatments and four replications. The treatments comprised of chemical fertilizers alone and in combinations with cow dung slurry, groundnut cake, neem cake and plant growth promoting rhizobacteria (PGPR). Significant difference was observed in growth of the two planting materials to the application of inorganic fertilizers alone and in combination with different organic sources. Integrated application of chemical fertilizers with cow dung slurry, groundnut cake, neem cake or PGPR produced significantly higher dry matter than standard practice of chemical fertilizers alone in direct-seeded and budded stump polybag plants. Planting materials produced through direct-seeding was significantly superior in diameter, height, number of whorls, fibrous root and dry matter compared to the budded stump plants.

Keywords: *Azotobacter*, Buddability, Cow dung slurry, PGPR

The long immaturity period of rubber (*Hevea brasiliensis*) ranging from 7 to 8 years is one of the major economic disadvantages of commercial rubber cultivation. This problem could be overcome by using advanced planting materials. The higher growth rate of the advanced planting materials in field can reduce the immaturity period considerably. Significant progress has been made over the years in developing

improved planting materials with optimum growth potential through the use of appropriate rootstocks and improved budgrafting techniques. Among the different planting materials, polybag plants got wide acceptance by the farmers because of easy establishment, uniformity and better performance in the field. Polybag plants can be prepared by two different methods viz., planting the budded stump in polybag and