**B-84: Use of lithium as a non-radioactive tracer for nutrient uptake studies of coconut seedlings**

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Use of radioactive isotopes in research, requires sophisticated technology and therefore, is highly capital intensive. Lithium has been used by several workers to study the root activity of annual crops. Since, no information was available on its use in coconut seedlings, an investigation was carried out to study the feasibility of using lithium as a non-radioactive tracer for coconut (*Cocos nucifera* L.) The study was conducted in glasshouse conditions (32 ± 4)°C over a period of 1 month. Seven $LiNo_3$ concentrations (0, 5, 10, 15, 20, 25 and 30%) were applied to 4-months old coconut seedlings grown in sandy loam soil filled in poly-bags. The soil was kept at field capacity moisture level throughout the experiment. The results revealed that a concentration of more than 15% $LiNO_3$ was toxic to the coconut seedlings, causing dehydration within 24 h. Lithium concentration in leaves of seedlings grown in 15% $LiNO_3$ treated soil, was significantly higher ($P>0.001$) compared to the other treatments. At more than 15% $LiNO_3$ concentration, Li concentration in the petiole and collar region of coconut seedlings was significantly higher ($P<0.001$) after 21-day. Seedlings treated with 10% $LiNO_3$ performed satisfactory, without any detrimental effects even after 1 month of the experiment. At this optimum level the Li accumulation in leaves, petioles and collar parts of coconut seedlings was (0.078 ± 0.03)%, (0.252 ± 0.098)% and (0.260 ± 0.095)% respectively. These results indicate that $LiNO_3$ lower than 15% as non-radioactive tracer chemical could be effectively used to study the activities of coconut roots.

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