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Research **Notes**

IN VITRO ROOTING OF JACK SHOOT CULTURES

Fresh sprouts from the basal portion of the stem of a five year old jack tree were collected. The shoot tips (5 cm) were cut, dipped in 95% ethyl alcohol for 10 seconds, washed with sterile water containing teepol, washed again with sterile water and surface sterilised by keeping in 2.0% sodium hypochlorite solution for 30 min. Following thorough washing in sterile water, the shoot tips were placed in a solution of 2.0% sucrose and 0.7% polyvenyl pyrrolydon (soluble PVP) for 30 min. The basal ends were again cut and dipped in a sterile solution containing BA 10.0 ppm and GA 1.0 ppm for 24 hours under refrigerated conditions (4-5°C). Shoot apices (2 cm length) were cut under low temperature and low intensity of light. They were surface sterilised with sodium hypochlorite (3.0% for 5 min) and mercuric chloride (0.1 % for 10 min) solutions. After rinsing with sterile water, the sheaths covering the shoot tips were removed and the spices cut back to 1.5 cm length. They were placed on semisolid MS medium containing G A (1 0 ppm) and activated charcoal (1.0%). The cultures were incubated at 25–30°C in darkness for four weeks and then exposed to light for two weeks. They were sub-cultured in a medium containing BA and IAA for inducing multiple shoot formation. After the induction, the shoots were separated and sub-cultured in a medium with reduced BA and IAA for favouring normal development of shoots. They were then transferred to a medium containing activated charcoal (1 .0%) and GA (1 .0 ppm) and grown for two weeks. The cultures were transferred to a modified MS medium (major and minor nutrients reduced to half strength) supplemented with IBA 1.6 ppm, NAA 0.4 ppm, sucrose 3.0%, agar 0.7% and with a pH of 5.6. The cultures were incubated in darkness at 25-30°C. Due to the production of slight amounts of phenolics, sub–culturing was found to be necessary. Very slight callussing preceded root initiation. Roots were seen initiated in about 24 days. On an average, six roots were produced. They attained 1.0 cm length in about 20 days. The roots were reddish yellow and cylindrical. Just after the initiation of roots, the shoots elongated rapidly.

When shoot apices of two-month old seedlings were used for the study, roots were initiated in about 18 days in the same medium with 0.4 ppm IBA and 0.4 ppm NAA.

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ത്ത് മുറാഷിഗേ—സ്കൂജ് മാദ്ധ്യമത്തിൽ വേരുകരം ഉത്തേജിപ്പിക്കുകയും ചെയ്തു. വിവിധതരം പ്രയോഗങ്ങൾക്കുപുറമേ ഐ. ബി. എ. 1.6 പി. പി. എം., എൻ.എ. ഐ 0.4 പി. പി. എം., പഞ്ചസാര 3%, അഗർ 0.7%, പി. എച്ച്. 5.6 എന്നീ അവസ്ഥകളിൽ ഇരുട്ടിൽ 25-30° സെൻറിഗ്രേഡിൽ 24 ദിവസം കരംച്ചർ ചെയ്താണ് ഇതു സാധിച്ചത്.

College of Horticulture
Vellanikkara, Trichur 680 654

K. Rajmohan
N. Mohanakumaran*

* Present address: College of Agriculture, Vellayani, Trivandrum 695 522.

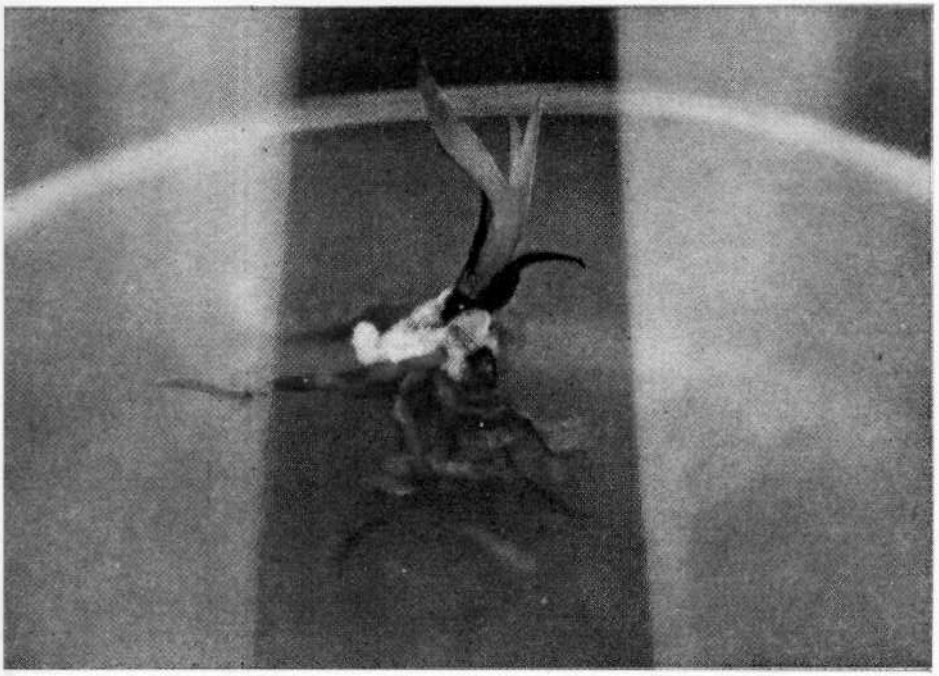

Fig. 1 *In vitro* rooting of jack shoot culture