study were full strength MS (Murashige and Skoog, 1962) medium and ½ MS (both macro and micronutrients) medium. Media were supplemented with different concentrations (1.0 mgl^{-1} – 3.0 mgl^{-1}) of BAP and 2,4-D. Cultures were incubated under complete dark at 25±1°C in the growth room.

Study conducted by Haw and Keng (2003) on the same species produced multiple shoots from axillary bud explants without inducing callus in MS medium supplemented with 2.0 mgL^{-1} BAP. In the present study, callusing was observed within 5 days of incubation in full strength MS medium supplemented with BAP and 2,4D. It took longer period to initiate callus when both macro and micro nutrients in the basal medium was lowered to half and the amount of callus produced was also very low even after 6th week of incubation. In order to observe the time taken to produce maximum amount callus fresh weight was measured after 2nd, 4th and 6th week of incubation. It was observed that maximum amount of callus was produced within 4 weeks in all explant types tested with a maximum of 0.88 g ± 0.23 in leaf discs obtained from first fully opened leaf.

In order to determine the best growth regulator combination for callus initiation, calli fresh weights were measured after fourth week of incubation in different growth regulator combinations tested. Highest amount of calli were in MS medium in the presence of 2.25 mgl^{-1} BAP and 1.0 mgl^{-1} 2,4-D. Fragile calli, which were transulant and mucilaginous in nature were observed within 15 days of incubation, which could lead to cell suspension cultures.

041

Collection, conservation, evaluation and use of durian germplasm at Horana

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Unavailability of high quality varieties is one of the constraints in commercial durian production. A program to collect durian germplasm was initiated at Horana. Fruits from 26 seedling trees were evaluated for fruit weight, number of arils, number of seeds, weight of husk and seeds using six fruit per tree. Aril size, seed size, % rind, % seed and % aril were calculated. Aril color, flavor and overall acceptability were also recorded with a panel test. Results showed high variability in fruit quality traits exists among trees. Highest variability was found in number of seeds per fruit (CV=36.2%) while % rind showed the lowest variability (CV=7.26%). Number of seeds varied from 3.7 -19.2 per fruit while % rind varied from 60.5-79.5%. Nine accessions selected were planted with five replicates for further evaluation. Plant height and stem girth showed significant differences at early stages but became non significant by three years after planting. At 42 months after planting plant height varied from 368-492 cm while stem girth ranged from 42.0 - 52.8 cm. Principal component analysis of selected fruit and leaf characteristics of six accessions showed that first three PCs accounted for 89.35% of the variation in the characteristics used for the analysis indicating that the varieties of the collection are diverse. Collection of germplasm continued with establishment of a field gene bank to conserve accessions with two replicates. Nine selections were also further tested in farmer fields for adaptability.

042

In vitro propagation of *Kaempferia galanga* (L)

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Kaempferia galanga (L) is an aromatic perennial herb, which is widely used in Ayurvedic medicine. Dry tubers are imported in large scale to Sri Lanka due to lack of mass production in Sri Lanka. Disease susceptibility and higher cost of production have restricted its cultivation. Propagation of *Kaempferia galanga* is normally by rhizome cuttings but disease susceptibility of tender rhizomes restricts propagation in large scale. Propagation through other vegetative methods is not possible. Rahman *et al.* (2004) reported the possibility of obtaining plants through somatic embryogenesis but the survival rate was low. Therefore an attempt was made to develop a protocol for mass propagation of *Kaempferia galanga* through direct organogenesis.