

Impacts of the nursery bag colour on mangrove growth at their nursery status.

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Replicate propagules ($n=20$) of three mangrove species were planted in black and transparent polythene bags filled with lagoon soil and were placed in open nursery beds supplying lagoon water once a day. The size of the bags, source and the volume of the soil in the bags, the source and the volume of water given for each bag were same for all the replicates while for each species, same sized propagules were selected. After 8 weeks, the stem weight, the stem height, the total height, the root weight, the total leaves weight, the total weight, the total root count, and the total root length were not significantly different between black and transparent polythene bags for *Ceriops tagal* and *Rhizophora apiculata* ($n=20$ $p>0.05$: Two sample t-test). However, *Rhizophora mucronata* grown in transparent bags showed significantly lower values ($n=20$, $p<0.05$: Two sample t-test) for stem weight and stem height, ($7.69\pm 1.10\text{g}$, $15.57\pm 2.97\text{cm}$, respectively) than those in the black bags ($8.50\pm 1.24\text{g}$, $17.75\pm 3.45\text{cm}$, respectively). However, for the same species, significantly higher ($n=20$, $p<0.05$: Two sample t-test) root weight, ($2.23\pm 0.69\text{g}$) was recorded in transparent bags than in black bags ($1.82\pm 0.39\text{g}$). Among the used 3 species *R. mucronata* had the highest root biomass. Since the temperature in bag could affect the root growth of some species, the reduced root production of *R. mucronata* in black bags could be due to the negative effects of solar heat aggregated in the black bags. Thus, commercially available transparent bags seem more appropriate for the root growth of *R. mucronata*.

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