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## Suitability for live standards for betelvine cultivation under northern dry zone of Karnataka

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**Abstract :** A field experiment was conducted to evaluate the growth performance of eight different live standards and to assess their suitability for the cultivation of betelvine under open system of cultivation during 2006-07. The experiment was laid out in a randomized block design replicated thrice. Live standards differed significantly for tree height, basal girth, dbh, crown size and leaf area index one year after planting. Live standards, viz., *Melia azadirach*, *Sesbania grandiflora*, *Moringa oleifera* and *Milingtonia hortensis* were promising with vigorous growth. *Melia azadirach* recorded the highest plant height of 5.13 m followed by *Ceiba pentandra* (4.83 m) *Sesbania grandiflora* (4.56 m) compared to the lowest in *Erythrina indica* (1.09 m) at 13 months after planting.

**Key words :** Live standards, Microclimate, *Sesbania grandiflora*, Betelvine cv. AMBADI

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Betelvine is a delicate plant and requires shade and support for the growth of vine in open system of cultivation. Commonly used live standard for betelvine cultivation are *Erythrina* spp., *Sesbania grandiflora*, *Melia azadirach*, *Ceiba pentandra*, etc. During recent years, the popular live standards *Erythrina indica* is attacked by gall midge and growers in Northern dry zone of Karnataka are in search of alternative standards. Live standards for the cultivation of betelvine should be quick growing with rough bark. The canopy of shade trees having smaller leaves allowing filtered light in the plantation is well suited (Chourasia and Singh, 2001). It should withstand periodical lopping of branches for shade regulation. Shade trees suitable for betelvine cultivation under deferent agro-climatic conditions are varied.

Betelvine is cultivated under partially shaded humid micro-climatic conditions. Intensity of light in the plantation is regulated by periodical lopping of branches. Under northern dry zone of Karnataka shade is regulated just before the commencement of monsoon (May-June) by lopping the branches of live standards for optimum growth of vine. Height of live standards is also restricted by cutting the trees at four

to five meter height. Suitability of live standards under a given agro-climatic condition depends on its growth habit, bark feature and pest and disease incidence.

### RESEARCH METHODS

The study was conducted at Kittur Rani Channamma College of Horticulture, Arabhavi, Gokak (Tq.), Karnataka during 2006-07. Eight different live standards were collected from betelvine growing areas of northern dry zone of Karnataka. The experiment was laid out in a Randomized Block Design replicated thrice. The trees were planted in 1.5 m rows and plant to plant spacing within row was 0.5 m. After 45 days of planting of live standards, betelvine cv. AMBADI was planted at the base of the tree. The observations were recorded on five selected treatments per replication on growth parameters, viz., plant height, basal grith, dbh, crown size, LAI, etc. Observations were also recorded on performance of betelvine on different live standards and light intensity, temperature and relative humidity under the plantation microclimate of different live standards.