

## Cultivation possibility of ashwagandha (*Withania somnifera*) to promote as a medicinal crop in Jaffna district

<sup>1</sup>Suvanithini. S., <sup>1</sup>Mikunthan. G., <sup>2</sup>Thurairatnam. S.

<sup>1</sup>Department of Agricultural Biology, Faculty of Agriculture, University of Jaffna, Sri Lanka

<sup>2</sup>Provincial Department of Indigenous Medicine, Northern Province, Sri Lanka

### Abstract

Ashwagandha (*Withania somnifera*) is a well reputed medicinal plant. Due to its importance, farmers are interested to cultivate it in larger extent. Present study was aimed to assess the potential of *W. somnifera* cultivation in Jaffna district, Sri Lanka during the cropping period of August 2011 to June 2012. Different field trials and *in vitro* studies were conducted. For field trials, Seeds of *W. somnifera* were sown to evaluate the phenology of the plant. Germination took place  $5.6 \pm 1.16$  days after sowing. Transplanting was done at one month to main field at  $45\text{cm} \times 60\text{cm}$  spacing. Flowering was observed continuously but flowering and fruiting commenced  $66.17 \pm 3.43$  and  $79.77 \pm 2.07$  days after the transplanting, respectively. Harvesting can be done from six to seven month because in this time root: shoot ratio was optimum. The highest dry root yield was obtained at six month which was 58.32g. Seed production of *W. somnifera* was registered that a plant produced an average of 6581.89 seeds. This number is good enough to get adequate planting material but the germination percentage of *W. somnifera* generally low due to dormancy. To break down the dormancy, seeds were subjected to water soaking over night and hot water soaking. Highest germination percentage was obtained in hot water soaking that induced 52.75% germination while water soaking resulted 33.75% when compare with control (12.5%). These studies suggest that the climate and soil prevalent in Jaffna are apt to grow this herb with least cost techniques.