



## Intensive forage production through Agati based (*Sesbania grandiflora* (L.) Pers.) fodder production systems in Kerala

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### Abstract

The present study was conducted at AICRP on forage crops and utilization, Vellayani, Kerala during June 2016 to 2019 to find out the effect of Agati (*Sesbania grandiflora* (L.) Pers.) – (*Sesbania*) based fodder cropping system on forage yield, quality and soil fertility by comparing six different fodder grasses as intercrops with Agati as the main crop, laid out in RBD with three replications. The treatments comprised of *Sesbania* + Congo signal (*Brachiaria ruziziensis* Germ. & Evrard) (2:2), *Sesbania* + Rhodes grass (*Chloris gayana* Kunth.) (2:2), *Sesbania* + Guinea grass (*Megathyrsus maximus* Jacq.) (2:2), *Sesbania* + BxN hybrid (*Pennisetum purpureum* × *Pennisetum typhodes*) (2:1), *Sesbania* + Setaria (*Setaria anceps* (Stapf)) (2:2), *Sesbania* + perennial fodder sorghum (TNS30 X *Sorghum sudanensis*) (2:5) and *Sesbania* sole. The pooled data over three years revealed that *Sesbania* + Setaria had performed significantly superior with respect to green fodder yield (60.17 tha<sup>-1</sup>), dry matter yield (15.0 tha<sup>-1</sup>), net monetary return (Rs. 58592 ha<sup>-1</sup>) and benefit cost ratio (2.07) compared to other cropping systems. *Sesbania* + Guinea grass recorded the highest crude protein yield of 2.49 tha<sup>-1</sup> and was found to be on par with *Sesbania* + Rhodes grass and *Sesbania* + BxN hybrid. Considering intensive forage production system with various *Sesbania* based cropping system showed that growing *Sesbania* + Setaria was found to be the most promising system for meeting both farmer needs and environmental services.

**Keywords:** Agati, Bajra napier (BxN) hybrid, Congo signal, Guinea, Intercropping, Setaria