

## 2<sup>nd</sup> International Conference on **Agricultural & Horticultural Sciences**

Radisson Blu Plaza Hotel, Hyderabad, India February 03-05, 2014

### Effect of different plant densities on leaf and gel yield of *Aloe barbadensis*

T. Susila

Dr. Y. S. R. Horticultural University, India

With the increasing interest in natural products across the world the demand for medicinal plants and its trade is expected to grow up to US \$ 5 trillion by 2050. Aloe is one among the few medicinal plants by virtue of its extensive medicinal, nutraceutical, cosmetic uses enjoy a major chunk of the market, across the world. It is an important drug of the Indian systems of medicine particularly in Ayurveda and Unani. The pulp contains glucoside, barbaloin, isobarbaloin and  $\beta$ -barbaloin. The leaves also contain glucose, galactose, galacturonic acid, mannose, aloesin. The gel is an effective appetizer, digestant, liver stimulant; it is very useful as a blood purifier, hence valuable in skin diseases. The exudate of aloe vera is used for numerous medical and cosmetic applications since ancient times. Aloin is known as the main laxative component of aloe preparations and it has generally been used as key component for the quality control of pharmaceuticals containing aloe. The cultivation of aloe has acquired great commercial importance for medicinal products and cosmetics' processing but information is scarce about agronomic management of this crop.

The present investigation was conducted at Medicinal and Aromatic Plants Research Station, Rajendranagar, Hyderabad, India during 2010-11 to study the influence of different plant densities on leaf and gel yield in two species of aloe. The study was conducted with orange and yellow flowering variants of *Aloe barbadensis* with six spacing levels (45 cm x 45 cm; 60 cm x 45 cm; 60 cm x 60 cm; 75 cm x 30 cm; 75 cm x 60 cm; 75 cm x 75 cm). The experiment was laid out in randomized block design with factorial concept and replicated thrice. The results revealed that there was significant increase in average leaf length, leaf width, number of leaves harvested per plant, leaf weight and gel weight per plant during third harvesting. Among the two varieties studied yellow flowering type produced higher cumulative leaf yield (96.81 t/ha) in three harvests. Among the different spacing studied, Aloe planted at 45 cm x 45 cm recorded significantly higher leaf yield (111.05 t/ha) in three harvests. The interaction between varieties and spacing revealed that planting of yellow flowering type at 45 cm x 45 cm produced higher leaf yield (137.47 t/ha).

susilatheeda@gmail.com