



# **VI International Conference on Legume Genetics and Genomics**

**October 2 - 7, 2012**

**Hyderabad Marriott Hotel & Convention Centre  
Hyderabad, India**

**VI ICLGG**

## **Programme & Abstract Book**

**Organized by:**



**Collaborative Partner:**



<http://www.icrisat.org/gt-bt/VI-ICLGG/Homepage.htm>



**Growth of collar rot (*Aspergillus niger* van Tieghem) and stem rot (*Sclerotium rolfsii* Saac.) fungi under artificial epiphytotic conditions and its implications for disease management in groundnut**

**P-PAD18**

Rathnakumar AL<sup>1</sup>, Kumar V<sup>2</sup>, Bagwan NB<sup>1</sup>, Kumar N<sup>1,\*</sup>

<sup>1</sup>Directorate of Groundnut Research, Junagadh, India

<sup>2</sup>National Research Centre for Litchi, Muzaffarpur, India

\* E-mail: narendrapb09@gmail.com

**Abstract**

Collar rot caused by the *Aspergillus niger* and stem rot caused by *Sclerotium rolfsii* are major threats to groundnut production worldwide. To identify genotypes with desired levels of resistance, screening of a large number of germplasm under artificial epiphytotic conditions (sick plots) is essential. The inoculums of virulent isolates were mass multiplied and mixed with FYM and applied separately to each of the micro plots of sick plot at Directorate of Groundnut Research, Junagadh, India. The growth and multiplication of *A. niger* and *S. rolfsii* in the soil was monitored periodically at monthly intervals during *kharif* 2011. The study revealed that the soil population of *A. niger* had steadily increased from 1.8 to 23.4 X 10<sup>3</sup> cfu during June to October in spite of the heavy rainfall (1613 mm in 66 rainy days). While it was converse in case of *Sclerotium rolfsii* where the soil population decreased drastically (24.4 x 10<sup>3</sup> cfu) from the initial level (30.2 x 10<sup>3</sup> cfu) and subsequently got increased in the months of September (21.6 x 10<sup>3</sup> cfu) and October (24.4 x 10<sup>3</sup> cfu) when the rainfall decreased (312 mm in 14 rainy days and 55 mm in 2 rainy days in September and October month respectively). Thus the study clearly indicated that the population built up of *A. niger* was unaffected due to heavy rainfall and once the rain ceases and optimal conditions restored, there will be a sudden spurt in the incidence of the collar rot disease. While in case of stem rot, the incidence of the disease will be low following a heavy rainfall. Thus, chemical control is possible for stem rot while genetic resistance is the suitable option in case of collar rot.