**Understanding insect resistant strategies in *Cajanus scarabaeoides* for improvement of insect resistance in cultivated Pigeonpea**

Dawit A, Njaci I, Mundree S and Hoang L.

*E-mail: l.hoang@uq.edu.au*

School of Agriculture and Food Sustainability, University of Queensland, Brisbane, Australia

Pigeonpea (*Cajanus cajan*) is a multipurposes legume that plays an important role in arid and semid-arid tropics. However, it is very suceptible to insect damages, especially *Helicoverpa armigera,* which causes devastating yield losses.Meanwhile, their wild relative *Cajanus scarabaeoides* shows high level of resistance to *H. armigera*. This research investigated the insect resistant strategies in *Cajanus scarabaeoides* using comparative TMT (Tandem Mass Tag) proteomic and transcriptomic analyses. The posibility of integration of these insect resistant strategies to cultivated pigeonpea was also studied. Results showed that *Cajanus scarabaeoides* employed both antibiosis and antixenosis mechanisms for its high resistance to *H. armigera*. In addition, these insect resistant strategies can be transferred from wild relative to cultivated pigeonpea through breeding approach.