

O38-10. Addressing *Phytophthora* blight disease: an emerging threat to pigeonpea expansion and production

Raju Ghosh and Mamta Sharma

Phytophthora blight (PB) caused by *Phytophthora cajani* is an emerging disease of pigeonpea affecting the crop irrespective of cultivars, cropping systems and soil types. Limited information is available on the biology, epidemiology and management of PB. We standardized zoospore screening technique for PB and screened many pigeonpea germplasm and breeding lines to identify resistant sources. A total of 16 *P. cajani* isolates were characterised through culturally, morphologically and at molecular level. In PB resistant screening in pigeonpea, 1×10^5 zoospores/ ml suspension of *P. cajani* was standardised as optimum. A total of 4000 pigeonpea lines were screened, and through repeated confirmation, only 30 lines were found with resistant/moderately resistant reaction to PB. To develop IDM strategy, six different fungicides were tested in vitro to determine efficacy dosage. Out of six fungicides with different doses, acrobat @ 0.75 $\mu\text{g/ml}$ was found most effective to inhibit mycelial growth of *P. cajani*. The selected fungicides with specific dosage from in vitro experiments were further validated in the greenhouse on PB moderately resistant (ICPL 99010, ICPL 20135, ICPL 99048) and susceptible (ICP 7119) lines via a combination of seed treatment and soil drench. The results indicated that Ridomil Gold (25 $\mu\text{g/ml}$), Indofil M 45 (10 $\mu\text{g/ml}$), Acrobat (0.45 $\mu\text{g/ml}$) and Curzate M8 (50 $\mu\text{g/ml}$) were equally effective in minimizing the disease incidence in pigeonpea with seed treatment followed by soil drench applications.