

**Research Article****Cultural, Morphological and Pathogenic Variability in *Alternaria* spp causing Early Blight of Tomato in Andhra Pradesh****P Rama Devi, J Krishna Prasadji, T Srinivas, Y Ashoka Rani and G Ramachandra Rao***Department of Plant Pathology, Agricultural College, Acharya NG Ranga Agricultural University, Bapatla 522 101; Email: ramadevipuvvada@yahoo.com***Abstract**

An investigation was carried out to study the cultural, morphological and pathogenic variability among the 16 isolates of *A. alternata* and four isolates of *A. solani* causing of tomato early blight collected during 2011-12 and 2012-13 from major growing districts in united Andhra Pradesh. Colonies of most of the *A. alternata* isolates were light grayish to brown, while *A. solani* were mostly light grayish brown on potato carrot agar. *A. alternata* isolates differed in radial growth (6.48 to 8.98 cm), time taken for sporulation (8.00 to 12.23 days), spore production ( $9.56 \times 10^4$  to  $32.44 \times 10^4 \text{ ml}^{-1}$ ) and conidial dimensions (27.54 to 59.99  $\mu\text{m}$  length; 9.41 to 18.29  $\mu\text{m}$  breadth and 3.56 to 22.76  $\mu\text{m}$  beak length). Such differences were also observed among *A. solani* isolates in radial growth (6.89 to 8.08 cm), time taken for sporulation (16.17 to 18 days) and spore production ( $0.67$  to  $2.15 \times 10^4 \text{ ml}^{-1}$ ). Isolates also exhibited wide and significant differences in the number of spots produced, total spotted area and disease ratings. Wilk's test revealed that the characters *viz.*, Number of spots produced, per cent spotted area and conidial beak length contributed maximum to determine the diversity among twenty isolates (*Alternaria* spp) which were grouped into five clusters based on Euclidean ( $D^2$ ) distance statistic (Mahalanobis, 1936).

**Key words:** *Alternaria* spp, early blight, variability, tomato**Citation :** Devi P Rama, Prasadji J Krishna, Srinivas T, Rani Y Ashoka and Rao G Ramachandra. 2017. Cultural, morphological and pathogenic variability in *Alternaria* spp causing early blight of tomato in Andhra Pradesh. *J Mycol Pl Pathol* 47(2): 176-192