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Abundance, infestation and disease transmission by thrips on groundnut as influenced by climatic variability at Kadiri, Andhra Pradesh

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ABSTRACT

Abundance, infestation and disease transmission by thrips studied on groundnut at Kadiri of Anantapur (Andhra Pradesh) over six *kharif* seasons of 2011-16 indicated significantly higher abundance of thrips in 2016 over 2011 to 2015 with infestations on par among 2013, 2014 and 2016 and higher over other seasons. Peanut bud necrosis disease (PBND) transmission by thrips was significantly lower in 2015 and 2016 and higher in 2014. Associations of abundance of thrips with infestation and PBND were significant. Significant influence of PBND by the thrips infestation of only the current week implied significance of concurrent population in disease transmission.Significant positive effect of minimum temperature on incidence of PBND and negative effect of rainfall on thrips infestation were noted.Predictions of thrips abundance, infestation and PBND through multiple linear regression (MLR) models revealed positive influence of minimum temperature lagged by a week. Distribution of rainfall over its amount associated with thrips infestation besides negative role of wind with PBND was noted. Prediction models of PBND incidence combining weather and thrips abundance (R^2:0.39) and weather and infestation (R^2:0.53) showed that the PBND incidence was dependent on relative humidity and prevalent wind over previous two weeks in addition to thrips abundance or infestation.

Keywords: Groundnut, thrips, abundance, peanut bud necrosis disease, model, Kadiri