Application of silica to suppress the disease infestation of Phytium ultimum and increase growth of Bermudagrass cv Satiri

ABSTRACT

An experiment was conducted at glasshouse of Unit Latihan Turf, Taman Pertanian, Universiti Putra Malaysia, to find out the effect of different doses of silica (Si) on growth of Bermuda cv Satiri and to suppress the Pythium ultimum disease infestation. Two sources of silica were used in this study: Turf speed® (T. speed), content 15% of potassium silicate (K_2SiO_3) and Tune up®, content 10% Sodium Silicate (SiO2). Percent disease severity, shoot density, total dry weight, root and shoot dry weight and root-shoot ratio were determined. Application of Turf speed 10 ml L^{-1} produced the highest shoot density (125/25 cm^2), shoot dry weight (2.49 g) and total dry weight (4.76 g). Tune up (1.0 ml L^{-1}) and without application of any Si produced the highest disease severity (73.69%) and (69.75%) respectively, while, tune up (1.0 ml L^{-1}) produced the lowest disease severity (44%). The study proved that application of T. Speed (10 ml L^{-1}) and Tune up 2.0 ml L^{-1} produced good growth, quality and reduced P. ultimum infection of Bermuda cv Satiri.