P9.1 High environment temperatures are suitable for corn stunt spiroplasma

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Thirty two maize genetic materials (including a susceptible control) were inoculated with *Spiroplasma kukelii* and cultivated under two different environmental conditions. The plants were cultivated in a screen house with a plastic roof, during April-June, and September-November, under day/night average temperatures of 27.8±1.8/ 15.6±2.5 °C (average 20.2±1.7 °C) and 30.4±2.4/ 18.9±1.4 ^{0}C (average 23.7±1.2 °C), conditions 1 and 2, respectively. Each treatment was replicated five times, with an experimental unit of one plant per pot with 5 Kg of soil (320 pots for each experiment). For inoculation, two spiroplasma infective leafhoppers *Dalbulus maidis*, obtained under controlled conditions, were confined per seedling, eight days after sowing during four days. Negative control were plants exposed to healthy, non-infective leafhoppers. At maize flowering, the disease symptoms were evaluated on a 1 to 5 scale. The plants were harvested, and dry weights determined. Percentage dry weight reduction caused by the disease in relation to healthy plants was calculated for each material. In conditions 1 and 2, respectively, 18 and 20 genetic maize materials showed symptoms of corn stunt and 22 and 54% of total diseased plants showed symptom severity of 3 or more. Average reduction of dry weight was 7 and 12%. Five materials showed a higher incidence and symptom severity at higher temperatures with dry weight reductions of 2, 0, 0, 8, 34%, and 31, 16, 22, 31, 51%, for conditions 1 and 2, respectively. Results showed that average of temperatures around 30/19 °C (day/night) can intensify symptoms and damage by corn stunt spiroplasma.

Keywords: ***Dalbulus maidis, Spiroplasma kunkelii, Zea mays***