

Abstract

Cynodon dactylon plants were observed at 5 locations in Mbita and 2 locations in Bungoma areas of western Kenya showing symptoms similar to Bermuda grass white leaf (BGWL) disease, caused by a phytoplasma. Affected grasses exhibited whitening of leaves, bushy growing habit, small leaves, shortened stolons/rhizomes, stunting, proliferation of auxiliary shoots and death. Phytoplasma aetiology being suspected, leaf samples of 6 symptom-bearing and 6 symptomless plants were taken from each location at Mbita and Bungoma. Total DNA was extracted from the collected leaves and used as template in a nested polymerase chain reaction (nPCR) assay. Phytoplasma infection was confirmed by the amplification of a 1200 bp 16S rDNA nPCR fragment from all symptom-bearing *C. dactylon* plants tested. No amplification was recorded in the symptomless plants. The 1200 bp amplicons were gel purified and directly sequenced. The partial 16S rDNA sequence of the BGWL phytoplasma was submitted to GenBank (Accession No. GU944766). The BGWL phytoplasma 16S rDNA sequence exhibited 100% of identity with that of '*Candidatus* Phytoplasma cynodontis' strain LY-C1 (EU409293), which belongs to the BGWL group (16SrXIV), and 99% of sequence identity with other BGWL phytoplasma members. BGWL disease was first reported in Taiwan, and is known to occur in several Asian countries, Sudan, Italy, and Cuba. This is thought to be the first report of the BGWL disease and its associated phytoplasma in Kenya. The disease is significant since *C. dactylon* is widely used for forage and turf in the region.