The causal agent of sugarcane green grassy shoot disease has been identified using the polymerase chain reaction (PCR) method comparing with sugarcane white leaf and other phytoplasma infected plants. The universal primers which were designed base on the 16S rRNA gene of phytoplasma were applied in PCR reaction. Three DNA amplified products of sugarcane green grassy shoot disease are (GGS1) 1174, (GGS2) 827 and (GGS3) 556 bp which showed DNA pattern distinct from others. Southern blot and hybridization analysis showed that (GGS1) 1174 bp has closely genetic relation to white leaf disease, faba bean phyllody and clover proliferation. These DNA amplified products (GGS1, GGS2 and GGS3) were cloned and their DNA sequence have been determined and match searched in GenBank database. The result showed that GGS1 compared to the causal agent of white leaf disease have their nucleotide sequence 93.8% similarity, other phytoplasma 78.6–100% similarity. DNA sequence of GGS2 and GGS3 were 7.3% similarity and 59.6–81.5% similarity. The result of this experiment can be concluded that the causal agent of sugarcane green grassy shoot is phytoplasma and GGS1 and GGS3 have genetic closely related to phytoplasma infected white leaf disease.