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Survey of the incidence and distribution of five viruses infecting yams in the major yam-producing zones in Benin

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Abstract

Surveys were conducted in 2004 and 2005 to determine the incidence and distribution of viruses infecting yams in four major yam-producing agro-ecological zones in Benin. Yam leaves collected from 69 fields and one experimental screen house were indexed for Cucumber mosaic virus (CMV), Dioscorea mottle virus (DMoV), Yam mild mosaic virus (YMMV), Yam mosaic virus (YMV) and yam-infecting badnaviruses [*Dioscorea alata* bacilliform virus (DaBV) and *Dioscorea sansibarensis* bacilliform virus (DsBV)] by enzyme-linked immunosorbent assay and immunocapture polymerase chain reaction. Eighty-two per cent and 66% of leaf samples tested in 2004 and 2005, respectively, were infected with CMV, YMMV, YMV and/or badnaviruses. DMoV was not detected. Yam-infecting badnaviruses were the most prevalent virus infection, detected in 45% of the total leaves sampled followed by YMV (31%), YMMV (27%) and CMV (2%). Although the occurrence of CMV was low, this is the first record of CMV in yams in Benin. Mixed virus infections were detected in 48% (2004) and 39% (2005) of the infected leaves. A mixture of YMMV and badnaviruses (DaBV or DsBV) was the most common mixed infection detected. *Dioscorea alata*, with a higher incidence of badnavirus infection (81%), YMMV (51%) and CMV (8%) was more heavily infected than *Dioscorea rotundata*.

