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NEW DISEASE REPORT

Slow decline: a new disease of mature date palms in North Africa associated with a phytoplasma

P. Cronjé[a], A. J. Dabek[b], P. Jones[c]* and A. M. Tymon[c]

[a]*Sugar Association Experiment Station, Mt Edgecombe, KwaZulu Natal, South Africa;* [b]*FAO, Rome, Italy; and* [c]*Plant Pathology Department. IACR Rothamsted, Harpenden Herts AL5 2JQ, UK*

Slow Decline (SD) or El Arkish is an established lethal disease of uncertain aetiology that affects mature date palms (*Phoenix dactylifera* L.) in Northern Sudan. It is common along the Nile between Dongola and Merowe–Karema, where it causes steady annual losses estimated at 6%. Palm mortality occurs between 12 and 24 months after the first appearance of symptoms. SD symptoms include a yellowing of the lower canopy starting with the outermost (oldest) fronds and progressing towards the young central fronds and emerging spear leaf. All fronds dry white to light-brown and are then shed, leaving an erect dry tuft of young leaves at the top of the trunk which may break off to leave the trunk standing alone. In some case, the white dry spear leaves on palms can be seen from the ground prior to the appearance of any foliar yellowing. Young offshoots of SD-affected palms also show frond yellowing and white spear necrosis as the crown dies. Occasionally, the spear can be pulled out to reveal rotten, foul-smelling basal tissues. Although mature palms were too tall to observe any inflorescence or fruit symptoms, there was no evidence of fruit drop.

Using a nested polymerase chain reaction together with general phytoplasma primers which amplify the 16S/23S rDNA (Cronje *et al.*, 1998), phytoplasma-specific products, 1250-bp in size, were amplified from four of six SD-affected palms (one trunk and three of five petiole samples) but not from symptomless palms from the same area. The sequence of the SD phytoplasma 16S/23S rDNA intergenic spacer (GenBank Accession number AF268000) showed a very high (99%) homology with comparable sequences of phytoplasmas associated with White tip die-back, a newly reported disease of young date palms (Cronjé *et al.* 2000), and Bermuda grass white leaf (BGWL) disease from Sudan (Genbank Accession numbers AF100411, AF100412).

References

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*E-mail: phil.jones@bbsrc.ac.uk

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