

White grub (Coleoptera: Scarabaeidae) pests of pineapple, sugarcane and black wattle in South Africa

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The South African economy's primary agricultural sector contributes about 3% to the country's gross domestic product (GDP), but represents about 6% of total employment (DST, 2013) and remains a key opportunity for national poverty alleviation, job creation, economic development and household food security. Important South African agricultural products include pineapples, sugar and black wattle, all of which are attacked by white grubs that must be identified to control them effectively. Comprehensive identification data currently do not exist, but we will provide morphological and molecular tools suited to farm and laboratory to address the white grub threat. Pineapples (*Ananas comosus*) are one of the most commercially important South African subtropical crops, with a production area of 7200 hectares and about 35 000 workers employed by farms and ancillary industries (DAFF, 2013a). Preliminary research identified six species of white grub attacking pineapples in the Eastern Cape (Smith et al. 2005), but unidentified species are also pests in KwaZulu-Natal. The South African sugar industry, through both cultivation and industrial processing, contributes an annual average direct income of R8 billion to the national economy and directly or indirectly employs about one million people (more than 2% of South Africa's population) (DAFF, 2013b). Way & Conlong (2013) reported a variety of unidentified white grubs attacking sugarcane crops. Although the rate of new afforestation in South Africa has declined, 38.8% of the newly afforested commercial timber area comprises wattle plantations. In particular, the commercial black wattle (*Acacia mearnsii*) industry contribute R 800 million to South Africa's GDP and employs more than 22 000 workers (DAFF, 2013c). Recent research revealed 13 species of white grub attacking black wattles (Echeverri-Molina and Govender, 2016), none of which were identified. We will provide keys and barcodes for these pests.