

# Pests threatening pine

By Brett Hurley

*Pinus species consist of over 50% of planted exotic forestry species in South Africa, and are thus an important component of the country's forestry industry and a major contributor to its economy.*

One of the major threats to the continued use of *Pinus* species in South Africa is the losses incurred by insect pests. Since the introduction of pine to South Africa in the late 17th century, many insect pests native to South Africa have adapted to feed on pine. Furthermore, various insects which feed on pine in the tree's native range have been accidentally introduced into South Africa. The rate of introduction of these non-native insects has increased over time due to the increase in international trade and transport.

Insect pests of pine currently in South Africa can be divided into four major



*Elme Breytenbach pinning and sorting through insects collected in traps during the monitoring of the Sirex woodpast in pine plantations inside the newly built laboratory linked to the Fabi insect quarantine facility*

groups, namely: wood and bark borers; defoliators (foliage feeders); sap-suckers; and pests of establishment. Wood and bark borers include the Sirex woodwasp, the deodar weevil and a number of bark and ambrosia beetles. These insects use the inside of bark and/or the wood to feed on and to make a home. Damage by these insects includes under bark girdling, extensive tunnelling which weakens the tree, and/or the introduction of symbiotic fungi that weaken or kill the host. Defoliators include various species of beetle and the larvae of moths (caterpillars). Although defoliators seldom cause tree death, heavy infestations can result in stunted growth and predispose the tree to other pests and diseases. The major sap-suckers of pine are three introduced species of aphid. Heavy infestations result in stunted growth, and in severe cases death of trees. Various insects attack pine in its establishment phase

(ie transplants). These include whitegrubs, termites, cutworms, grasshoppers and crickets. These insects can cause severe losses, resulting in stands needing to be replanted.

There are different methods used to control forestry insect pests. These include biological control, chemical control, silvicultural control, breeding and selecting for resistance, or a combination of these methods. The control strategy used will depend on the particular insect and environment involved. Effective monitoring of forestry pests is an important factor in achieving successful control. Monitoring tools include traps, surveys, and, importantly, the involvement of foresters and farmers who are often the first to encounter pest infestations. Research in the TPCP focus specifically on identification methods, population dynamics, monitoring tools and systems, and biological control. MN