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MASTER OF SCIENCE DEGREE

Department of Conservation Ecology and Entomology and Department of Horticultural Sciences

Faculty of AgriSciences

We invite applications for an MSc/MScAgric (Entomology/Horticulture) in the Department of Conservation Ecology and Entomology (and in collaboration with the Department of Horticultural Sciences). The study involves postharvest control of phytosanitary insect pests of South African export fynbos cut flower products. A bursary is available for a full-time position for two years (2015-2016), depending on research progress. Details are as follows:

Postharvest control for fynbos flowers and associated phytosanitary insect pests

The presence of insects in cut flowers is one of the most serious limiting factors influencing the South Africa protea industry. Fynbos cut flower products are indigenous to South Africa and are thus host to a wide variety of insects which have evolved together with African *Proteaceae*. These insects have the potential to become serious invaders in other regions of the world where *Proteaceae* or related families are cultivated. Thus, the presence of insects in flower heads causes rejections of export consignments for phytosanitary reasons.

A comprehensive understanding of the range and complexity of insect pests which affect the South African cut flower export industry is needed, as well as means to mitigate the problem.

CATTS (controlled atmosphere temperature treatment system) is a chemical-free technology that combines heat and atmospheric stress, in the form of a low oxygen/high carbon dioxide environment, to control phytosanitary pests on export agricultural products.

The main objectives of the study are:

- To identify the major insect categories to be considered for postharvest control to comply with export and import regulations for phytosanitary markets;
- To establish the effect of CATTS treatments followed by simulated cold-storage shipping on the mortality of phytosanitary pests and flower quality.

Requirements:

- Four year BScAgric or BScHons (Entomology or Horticulture) or equivalent
- Good analytical and practical skills
- Highly motivated
- Valid driver's license

For queries regarding the project and application process, please contact:

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