

Protecting stored grains against pests using a new silica technology – understanding distribution and extension pathways



Key details

Location

Tanzania

Duration

Start Jul 2019

End Jun 2021

Budget

AUD 236,170

Commissioned organisation

Davren Global Pty Ltd

Partners

Davren Global Pty Ltd; Tropical Pesticides Research Institute, Tanzania; Plant Health Services, Ministry of Agriculture Food Security Cooperative, Tanzania

Project Leader

Dr David Eagling

ACIAR Research Program Manager

Dr Eric Huttner

Program

Crops

Project code

CIM/2017/031

new pest management technology, based on a form of silica known as synthetic amorphous silica (SAS), to small landholders in Tanzania.

The proposed research activity will focus on understanding the range of insect pests for which SAS can demonstrate a level of control. In addition, this data will be collated as a first step towards product registration.

ACIAR has supported an initial assessment of the technology (CIM-2015-009) in which SAS was applied by hand to insect pests in laboratory / enclosed field shed settings in Timor-Leste and Tanzania.

Summary of outcomes to date

2020–21

- The development of a technology using synthetic amorphous silica (SAS) for the control of insect pests in storage has progressed.
- Scheduled in-country activities in Tanzania have been disrupted by COVID but the project was adapted and was still able to demonstrate control of a range of insect pests relevant to commodity storage in Tanzania.
- A prototype application device has been completed with key design functions informed by prior in-country staff input, such as the ability of the device to be self-reliant for power.

Overview

This project aimed to inform distribution/extension pathways for a

- The device has completed initial field-testing in Australia and is now ready for shipment to Tanzania.
 - It was intended that the application device would form the basis of a demonstration-based activity including in-country consultation to understand preliminary costings and explore potential distribution and service delivery models for the new technology.
 - As in-country visits are not possible a local, ACIAR-endorsed consultant was subcontracted to carry out the in-country interviews and using the information Davren provided to him, he has prepared business cases for the two identified commercialisation models.
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Project outcomes

- Determining the target range of storage insect pests for which SAS may provide control.
- Exploring and demonstrating how the principles, present in the current SAS prototype application machines developed by Davren Global, may be re-engineered to be relevant in Tanzania.
- Undertaking a community consultation process through small landholder focus groups to inform both the development and in-country testing an application device for small landholders and exploring issues around distribution / service delivery models for the new technology.
- Bringing together the new knowledge and learnings in the form of a draft business plan to inform future distribution, support and financing of the technology.



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