

Managing Director

Inert dust provides effective insect control

By Lloyd O'Connell

Inert dusts have been used since ancient Egyptian times to preserve and protect grain and other foodstuffs. Modern inert dusts (or diatomaceous earths), are mainly based on the mineral diatomite which is essentially amorphous silicon or silica. These dusts abrade and absorb the waxy cuticle of insects which leaves the insects prone to dehydration. The advantage of these materials is they are non-toxic replacements for the residual chemicals used as surface treatments and grain protectants.

A recently developed diatomaceous earth deposit in southern Qld is providing an Australian-sourced and registered inert dust for grain protection. Qld DPI trials carried out by entomologists Pat Collins and Tina Lambkin, have tested the efficacy of the local product (retailing as Absorba-cide) as a stored grain protectant and insecticidal surface treatment for insect pests. The local product was also compared to the imported alternative — Dryacide.

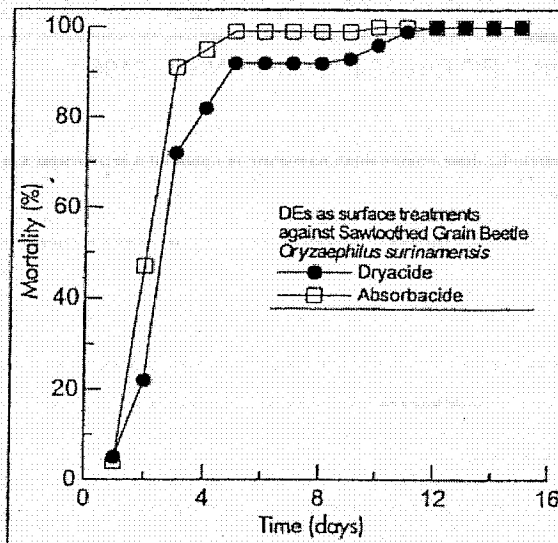
Results showed very good levels of control against the major pests: Lesser grain borer; Granary weevil; Rice weevil; Sawtoothed grain beetle; and, the Rust-red flour beetle.

Trial results showed effective control as both grain protectant and surface treatment

As a grain protectant applied at a rate of one kg per tonne of grain, the DEs completely suppressed populations of Sawtoothed grain beetle and were very effective against Granary weevil suppressing more than 98 per cent of population growth. Both products were almost as effective against Rice weevil. Lesser grain borer was the most difficult species to control with DEs at around 84 per cent suppression.

In surface treatment applications at a rate of two grams per m², Granary weevil and Rice weevil were completely controlled five days after application, sawtoothed grain beetle after 10 days with 100 per cent mortality of the remaining species in 10 to 13 days.

The trials concluded that as grain protectants, there was no significant difference between the activities of the local and imported DE products.



Major stored grain pests like the Lesser grain borer (TOP) and Granary weevils (BOTTOM) are well controlled by inert dusts.

Internal.

Sources of Amorphous silica (also know as Inert dust, or diatomaceous earth)

ABSORBA-CIDE® :

Mt Syliva Mining is the company producing the amorphous silica at Mt Sylvia (near Gatton in SE Qld.)

Absorba-cide® (900g/kg amorphous silica) has been tested at the DPI&F labs (Dr Pat Collins) and these tests demonstrated it was equal to Dryacide® in it efficacy against stored grain insect pests. See results in attached article from Australian Grain Dec 2001 – Jan 2002. Retail prices quoted for a 12.5kg bag was in the range of \$88 - \$100 per bag.

Julies Guerassimoff is the Qld. rep for 'Grow Choice Pty Ltd'. This company supplies retail outlets including Primac Elders. Julies is a good source of practical & technical information on the use of amorphous silica products. Ph. 07 325 41274 Mob. 0428 775143
Email jguerassimoff@bigpond.com
Head office for Grow Choice is Tamworth NSW - Ph. 1800 817676. Manager is Robert Fagan, Tamworth - Ph. 02 6766 3979.

A new liquid formulation of Absorba-cide is a product called Abrade® (450g /kg) Retails at approx. \$11 / L. . This liquid formulation may assist ease of use for grain storage structural treatment. The standard alternative is to mix Absorba-cide dust in water and keep well agitated while spraying storage surfaces.
See web site labels & information on Absorba-cide & Abrade. www.growchoice.com.au

DRYACIDE® :

Dryacide is imported from USA in 11.35kg bags which are distributed through Primac Elders, AWB Landmark and CRT rural merchandising stores. The current price is set by the above retailers and is in the range of \$100 - \$130 per 11.35kg bag at their various regional outlets. Entosol is the company importing & distributing Dryacide.

Web site has some good information on Dryacide: www.entosol.com.au

Technical information Contact: Roger Allanson (e.mail rallanson@entosol.com.au)

Ph. 02 9758 4552 Mob. 0412522049

"ENTOSOL" (entomological solutions) PO Box 28 Roselands NSW 2196

Roger has had a number of years experience in the grains industry has a sound technical understanding on how to use the product. He can also supply a useful Dryacide CD with video footage to show how it can be applied.

— Mostly W.A. Stockpile.
