



MiteX

chemical free insect control for poultry
and feed storage areas

solves lousy insect problems... 'naturally'

kiotechagil

Performance in **aquaculture&agriculture**





MiteX

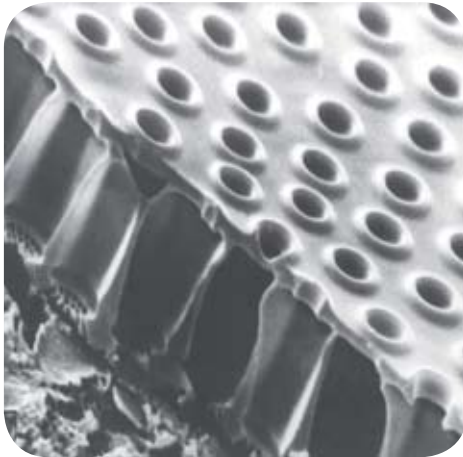
A natural non-chemical insecticide which may be used in poultry houses, raw materials and feed storage areas without risk to birds, finished feed or workers. Composed of purified skeletons of fossilised silica based marine algae it is approved as a feed additive within Europe.

MiteX has microscopic sharp edges and a high oil binding capacity which attaches to, then lacerates the waxy surface of insect pests causing desiccation. It has long term activity for as long as the powder remains dry, killing new insects as they hatch, or move from their daytime hiding place to where they feed.

MiteX has been demonstrated to have superior oil absorption, up to 30% higher than competitors.

MiteX has been tested by the brewing and baking industries with no effect on brewing or baking quality. There are no resistance problems or withholding times.

Diatoms found in MiteX



Dried and purified, feed grade skeletons of fossilised, silica-based, microscopic, unicellular algae found in ancient beds of marine deposits.



insect control by MiteX

Mites, beetles and weevils are from the same family, arthropods, characterised by a hard exoskeleton or cuticle, segmented bodies and jointed legs. The waxy surface of the cuticle protects the body from moisture loss but the need to maintain the integrity of this outer surface is a natural weakness that enables MiteX to be effective as a non-chemical pesticide.



Two of the most important and common external parasites of poultry are:

- The red chicken mite
- The northern fowl mite

Both feed on blood and heavy infestation can have the following effects:

- Irritate and stress the birds
- Lower weight gain
- Reduction of egg production by 10-15%
- Increased mortality

Red mites generally feed on the birds at night, retreating during the day to crevices in the poultry house and under equipment where they lay their eggs. Red mites have also been implicated in the transmission of salmonella due to contaminated blood. Normal cleaning and disinfection may not reduce their numbers.

Mites can survive 8 months without feeding which emphasises the necessity for a thorough treatment of hiding places and use of a persistent treatment.



In grain storage major financial damage is caused by insects, affecting all feed materials. Beetles, weevils and mites live in the surface layer of stored grains.

They remain active at temperatures up to 32°C and relative humidity above 65%. Mites in particular can reproduce at ambient temperatures as low as 5°C and refrigerated storage may not be sufficient to prevent infestation.

High moisture conditions can reduce the efficacy of MiteX and ventilation of grain stores is recommended when using the product. MiteX is not volatile and forced ventilation will not cause it to lose efficacy. With moist grain treatment using an anti-mould product such as Mycostat, or artificial drying should be used prior to storage.



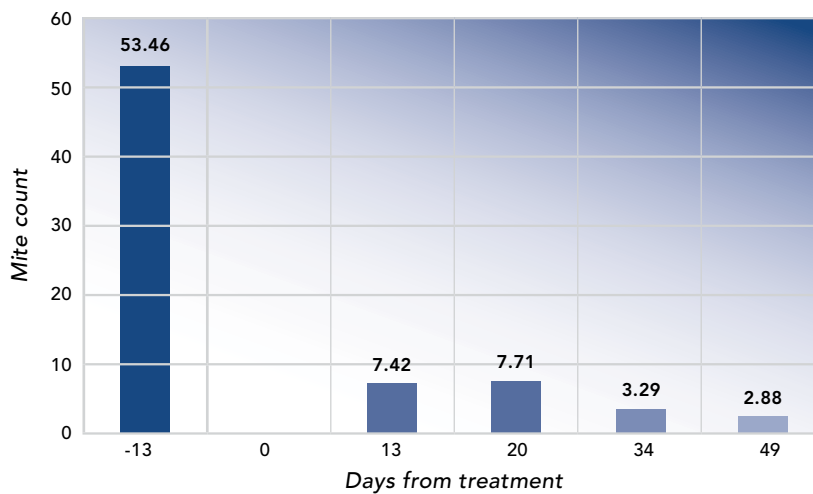
trial results

1 Effect of MiteX in infested housing

Two commercial layer houses of 15,000 birds each were selected with existing red mite infestations. Within each house 24 sites were selected for monitoring the infestation level using a consistent collection and counting process. One house was treated with MiteX at 30gm/m², the other acted as a control.

Treatment saw an immediate and highly significant reduction in count, with virtual elimination of the mites 13 days after treatment.

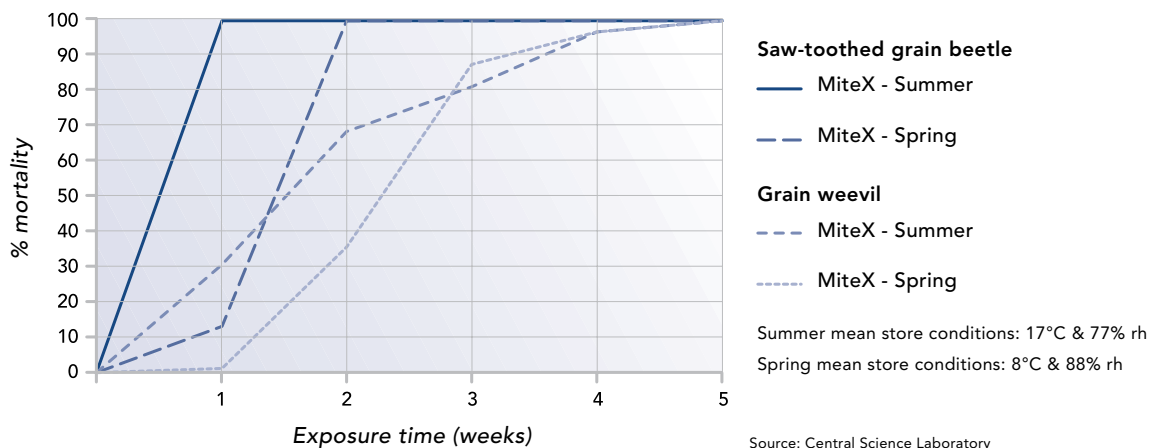
Counts were continued at 1, 3 and 5 weeks with no significant change to the low level over this time. The untreated shed retained high counts throughout the same period.



2 Treatment of silo fabric

A trial was carried out by the Home Grown Cereal Authority using a site at the Central Science Laboratory, York with six 20 tonne steel bins. One week before treatment during summer 60,000 grain weevils and 30,000 saw-toothed grain beetles were introduced into the building and bins. MiteX at 10g/m² was applied to the walls and floor of the empty steel bins. In the spring a second batch of insects was released.

Complete control was achieved after five weeks, whether insects were exposed immediately after treatment (summer) or 37 weeks later in the spring.



Source: Central Science Laboratory



application

The key to effective control of insects is thorough coverage of the affected area.

Animal Housing:

- Use MiteX at 20g/m² of hard surface area if infestation is not severe. In severe situations increase usage to 30g/m². For caged birds this approximates to 3-5gms per bird. A second application may be required up to six weeks after placement if feathers and litter cover the treated surface.
- MiteX may be used on all types of poultry but is ideally suited to longer-term production units with approximately annual clean outs, such as breeders and layers. Biosecurity will also be enhanced by eliminating potential sources of disease.
- In free range situations use of MiteX in moveable dust baths considerably enhances the efficacy on the flock.

Grain Storage:

	SILO STORAGE	FLOOR STORAGE
PRE-HARVEST	Treat silo fabric at 10g/m ²	Treat floor area at 30g/m ²
PREVENTION	Treat top 30cm with 200g/m ² (Approx. 1kg/tonne*)	
INFESTED GRAINS	Treat top 30cm with 600g/m ² (Approx. 3kg/tonne*)	

*For silo storage it may be necessary to admix the appropriate tonnage to cover the top 30cms. For floor storage the MiteX should be raked into the top surface area.



Using an applicator with a short length of plastic tubing will give a light electrostatic charge to the MiteX powder. This will attract MiteX to metal cage surfaces and the fabric of metal silos affecting the insects venturing onto those surfaces.



safety

It is approved as a feed ingredient and is currently under evaluation as a chemical free biocide under European Directive EC 91/414.

MiteX is...

- non-toxic to animals and humans. It is not calcined and has a low free respirable crystalline silicate content at less than 1%.
- **demonstrated to be effective by the Home Grown Cereal Authority.**
- **approved for use in organic farming by the Soil Association.**
- safe to use in malting barley. When trialled by Brewing Research International at **double the recommended rate** was found to have no effect on barley germination, malting performance or malt quality for brewing.
- MiteX has also been demonstrated to have no affect on the baking quality of wheat flours.

packaging and storage

MiteX is double bagged in 25 kg plastic sacks for easier handling.

It must be stored cool and dry to prevent moisture absorption. Part used bags should be closed after use.

MiteX loses its abrasive activity if it gets damp but will regain this activity with rigorous drying.



For further information

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