

Comparison with Competitor

	Silo DUST	Competitor® Dust
Pour Density (g/ml)	0.473	0.473
Tap Density (g/ml)	0.641	0.641

Rates and Timing of Application

SITUATION	PEST	RATE	CRITICAL COMMENTS
Mixing with grain for human or animal consumption	Angoumois Grain Moth,	200 g per tonne of grain	Meter into the conveying system to ensure thorough and even distribution. Clean the premises to be treated thoroughly. Apply SILO EC before filling the storage facilities
Combine harvesters	Granary Weevil, Maize Weevil,	1 kg mixed with sufficient straw to carry the dust through the combine	Treat harvesters at the start and/or end of each harvesting season.
Bagged grain to control infestation and prevent reinfestation of bagged grain	Rice Weevil, Saw-toothed Grain Beetle	35 g per square metre	Dust each bag lightly or dust the complete stack. Also dust the surrounding areas. Thoroughly clean storage areas before use and treat with SILO EC



For treatment of Grain and Grain Stores

Based on pirimiphos methyl, SILO Dust and SILO EC control a wide range of pests.

DIRECTIONS FOR USE:

IT IS AN OFFENCE TO USE THIS PRODUCT ON ANIMALS

For the control of Grain Storage pests			
Storage Situation	Pests	Application Rate	Comments
Disinfestation of empty grain stores, silos, grain handling equipment and the treatment of bagged small grains	Saw-toothed Grain Beetle, Granary Weevil, Maize Weevil, Rice Weevil, Red Flour Beetle, Confused Flour Beetle,	200 ml in 10 litres of water	Note: Lesser Grain Borer (Rhizopertha dominica) may require higher rates or an alternative material.
Unpainted concrete surfaces	Angoumois Grain Moth, Keuhniella,	As above	
Other surfaces	Mediterranean Flour Moth,	100 ml in 10 litres of water	Spray to point of run-off.
Bagged grain	Fruit Moth, Cereal Mite, Flour mite,	50 - 100 ml in 5 litres of water per 100 square metres	Use the higher rate for existing infestations.
Inaccessible places or supplementary fogging	Flat Grain Beetle, Indian Meal Moth, Lesser Meal Worm, Hide Beetle, Psocids	50 ml per 450 ml of diluent e.g. white oil, odourless kerosene or diesel. This volume is sufficient to treat 500 m ²	Ensure buildings (Silos and Grain Stores) are sealed to prevent loss of fog or vapour.
Mixing with stored grain	Brown House Moth, Bean Weevil, White Shouldered House Moth, Australian Spider Beetle, Cadelle, Dried Fruit Moth	8ml per tonne of grain	Recommended where long-term protection is required. Apply dilute with sufficient water to obtain uniform distribution. It is not essential to cover every grain as the fumigant action of SILO 500 EC will help with overall insect control.

Good flowability for mixing with grain

- **Powerful 3-way activity.**
- **Very good persistence on all inert surfaces.**
- **Low mammalian toxicity; LD₅₀ dermal and oral toxicity >2000 mg/kg (observe all label safety directions when spraying and using).**
- **Internationally established MRLs for stored grain.**
- **No withholding periods on stored grain**



GENERAL INFORMATION:

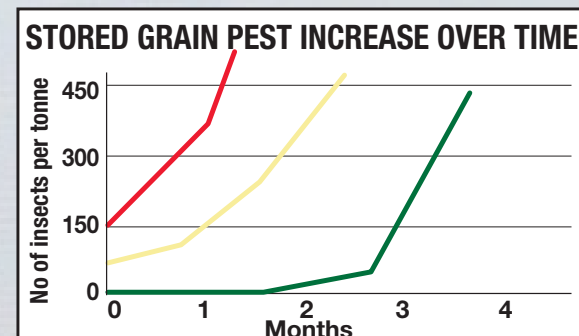
SILO EC is a fast acting broad-spectrum organophosphate insecticide of low mammalian toxicity. It kills insects by contact, ingestion and fumigant action. **SILO EC** controls a range of pests in grain and grain stores. Insect pests controlled include: Flies, Wasps, Beetles, Weevils and Moths. **SILO EC** provides rapid knockdown of insect pests and will persist on walls, floors and other inert surfaces to give residual control.



A non chemical solution for the PROTECTION of grain and CONTROL of Stored Grain pests. Proven in Europe

Mode of action: Protectant and curative, **SILO ECO** works by abrading the waxy cuticle of the pest and then absorbing moisture leading to pest dehydration and death

It is very important to get on top of storage pests before introducing grain to the store. Ensure good storage hygiene before introduction of grain. Use Silo EC spray which is pirimiphos methyl based and also Silo Smoke Generator which is permethrin based to manage potential resistance development with 2 different chemistries. If there is concern over loss of performance use Silo ECO the non chemical, physical solution as a mixture to grain.



- ✓ **The number of insects present at the start of storage is critical**
- ✓ **Treat the storage areas and grain at the right time to cut postharvest losses!**

Trial Results – Large silo grain storage trials at 2 sites in Mid Canterbury summer 2013.

Site 1	Untreated	Silo ECO 1kg/Tonne	Silo ECO 2kg/Tonne	Silo ECO 'CAP'* 200g/m ²	Silo DUST 200g/tonne
Total Number of insects per 1.5kg sample	1.00 (667 insects per tonne)	0.17	0	0	0

Pest species site 1. Granary Weevil, Rice Weevil, Saw-toothed Grain Weevil

*Silo ECO 'CAP' Incorporated into the top 100mm of the stored grain at 200g/square metre.

Site 2	Untreated	Silo ECO 1kg/Tonne	Silo ECO 2kg/Tonne	Silo ECO 'CAP'* 200g/m ²	Silo DUST 200g/tonne
Total Number of insects per 2kg sample	2.00 (1000 insects per tonne)	0.17	0	0	0

Pest species site 2. Granary Weevil, Rice Weevil, Saw-toothed Grain Weevil, Plaster Beetle

*Silo ECO 'CAP' Incorporated into the top 100mm of the stored grain at 200g/square metre.

RECOMMENDATIONS

Situation	Rate	Comments
Empty Storage areas pre-use	Use approx 10g/sq metre of surface area.	Apply Silo ECO as a dry dust to empty stores paying particular attention to cracks, crevices, corners, airways etc where pests can lodge
Stored Grain Elevator treatment	1 – 2 kg/ Tonne	Ensure that the silo has been thoroughly cleaned and treated prior to use Add Silo ECO evenly to the moving stream of grain during filling of the store. Typical application points are auger hopper or belt conveyors. Use of an automated powder applicator is highly recommended. Small quantities of grain can be treated by hand. Treated grain should be at <14% moisture at the time of treatment or subject to drying soon after treatment. Use the lower rate as a protective treatment and the higher rate for disinfestation.
Bulk Store surface treatment. After grains have been placed in store, cooled and dried to storage temperature and moisture conditions.	Protectant – 200g/ sq metre of surface in clean grain. Curative – for the control of storage populations - 600g/sq metre of surface.	Ensure store has been suitably cleaned and treated with Silo ECO or other suitable treatment before harvest. Apply Silo ECO to the grain pile surface. Rake the product into a depth of approx 30 cms. Continue to maintain the temperature and moisture content of the grain pile at normal storage conditions. Monitor for temperature and pest activity. Control of infestations can take several weeks. Part treatment of a grain pile will cause pests to migrate to untreated areas, so surface treatment is not recommended for use on grain that is infested prior to storage. The high rate is suitable for the control of newly established surface infestations.

Withholding Period: 0 days. Treated grain may be used for animal feed or for human consumption.





DISINFESTATION OF EMPTY SILOS AND AGRICULTURAL BUILDINGS

STORED GRAIN PESTS ROB GRAIN QUALITY: Unless controlled, grain pests breed quickly and can cause substantial losses by direct feeding damage plus deterioration and contamination of grain. For many years NZ farmers have relied heavily on the active ingredient - pirimiphos methyl - for disinfestation and grain storage. Now they have a new weapon to contain these pests - **SILO® SMOKE**

BREAK THE CYCLE WITH SILO SMOKE.

By using separate chemical groups (rather than combined), farmers can help manage resistance potential.

SILO®SMOKE contains a synthetic pyrethroid which is different chemistry from the organophosphate pirimiphos methyl used to treat empty agricultural buildings for many years. **SILO SMOKE** is an important anti-resistance alternative.

SILO SMOKE is an ideal way to disinfest empty silos and agricultural buildings. Insects typically hide and live in secluded places. The smoke from the **SILO SMOKE** penetrates into cracks and crevices that are difficult to reach with a spray application.

Not for use on stored grain or treatment of any agricultural produce.

SILO SMOKE is a permethrin based smoke generator for broad spectrum insect control in empty grain silos and agricultural buildings. Permethrin has a high level of activity against a wide range of insect pests as per the label. It is both a stomach and contact insecticide and exhibits adulticidal, ovicidal and particularly larvicidal activity.

PREPARATION: Evacuate all people and animals. Close all ventilators, windows and doors (except exit door) before treatment. Block all known leakages. If more than **1 SILO SMOKE** generator is required place them evenly throughout the building before lighting.

IGNITION OF THE SILO SMOKE GENERATOR: Tear off metal foil and light exposed tip of the fuse / igniter. Ignite the furthest **SILO SMOKE** generator from the door first, then work quickly towards the exit.

AFTER IGNITION:

Leave the treated area closed for as long as possible, preferably 24 hours.

SILO SMOKE PERFORMS:

A grain pest trial was conducted in an agricultural building in Canterbury NZ in 2014. Saw Tooth Beetles with some grain were held in light, porous bags at various distances out to 10 metres from the smoke generators.

100% control was recorded with SILO SMOKE at all distances.



Pack sizes - 31gm & 100gm

Number of **SILO SMOKE** Generators per Grain Silo:

2 Convenient pack sizes

SILO SMOKE Generator	Grain Store size	No of SILO SMOKE Generators
31 g	Up to 100 Tonne	1 SILO SMOKE 31 g
	100 – 200 Tonne	2 SILO SMOKE 31 g
100 g	200 – 400 Tonne	1 SILO SMOKE 100 g
	400 – 800 Tonne	2 SILO SMOKE 100 g

To relate Silo size in cubic metres from the label directions to tonnes of grain, use a multiple of approximately 1.5 Tonnes to each cubic metre e.g. a 400T silo is roughly 600 cubic metres.

RE-ENTRY: Do not re-enter treated areas for 12 hours after ventilating unless wearing a respirator.

Number of SILO SMOKE generators per Silo: A rough Silo volume to weight conversion is approx 0.7 eg. Silo Volume 100 cubic metres is approx 70 tonnes = 1 x 31g SILO SMOKE generator.

SIX STEPS to prevent and control insect damage to grain:

- 1 Remove all weeds, debris, e.g. old spilled grain, that can harbour insects from around the silo area. Remove all grain and dust etc inside the silo
- 2 Disinfest grain storages with **SILO SMOKE**
- 3 Treat empty grain handling machinery and buildings, if required, with **Silo®EC**
- 4 Store only clean dry grain
- 5 Treat grain with a grain protectant like **Silo®Dust** or non-chemical **Silo®ECO**
- 6 MONITOR stored grain condition, temperature, moisture to grain and insect activity. Take corrective action if required



© Copyright Etec Crop Solutions Limited 2014, all rights reserved.

All directions for use, recommendations, use rates, compatibilities and other technical information is proprietary to Etec Crop Solutions.

For further information contact:

Etec Crop Solutions Ltd.

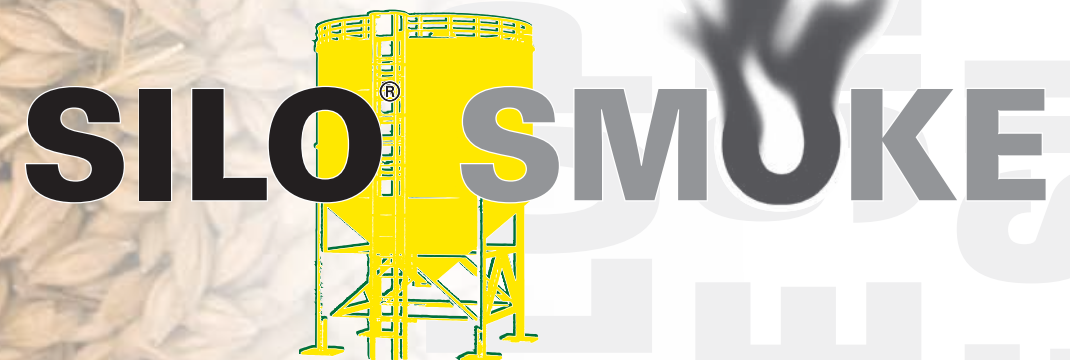
PO Box 51584, Pakuranga 2140, Auckland, New Zealand

Phone: 0800 100 325 www.etec.co.nz

Silo EC Registered pursuant to the ACVM Act. 1997, No P8502
HSNO Approval Code: HSR000196
Silo Dust Registered pursuant to the ACVM Act 1997, No. P8521
HSNO Approval Code: HSR000197
Silo Smoke, HSNO approval code: HSR100873
See www.foodsafety.govt.nz for ACVM registration conditions
Silo® is a registered trademark of Etec Crop Solutions Ltd.

SIL1115

STORED GRAIN PEST CONTROL FAMILY



'NON CHEMICAL' STORED GRAIN PEST CONTROL

