

ZERO TOLERANCE INSECT INFESTATION NOW!!

R. W. HUBER

NATURAL INSECTO PRODUCTS, INC.

630 North Eckhoff Street

Orange, California, U.S.A. 92668

INSECTO is 90% Natural Diatomaceous Earth and 10% Attractant. It will kill all species of grain insects, and continue to keep the grain virtually free of pests for as long as it remains on the grain.

INSECTO is NOT a POISON. It kills insects by body laceration, thereby causing the insects to lose their body fluids and to ultimately die by dehydration. While deadly to insects, it is, however, safe for employees and for the environment.

When used in a prevention program of bin and grain treatment, INSECTO can keep the grain undamaged and Pest-Free if properly applied. The cost of using INSECTO ranges from \$.015¢ to \$.04¢ per bushel in commercial elevators, and "On-Farm" storage.

Initially these costs may seem high when compared to past insecticide treatments, but remember: The New Regulations do not permit insects or damaged kernels in grain without dockage. The dockage can run from \$.02¢ to \$.60¢ per bushel for infested grain. More and more elevator managers are now refusing to accept infested grain; they know that in a few days, eggs will hatch and insects can then infest grain that had previously been "Pest-Free".

GOOD HOUSEKEEPING IS ESSENTIAL!

No old grain, fines or dust should be left to harbor insects. After cleaning bins, dust liberally with INSECTO. As new grain is received, it should be protected with one (1) pound per ton of grain. Again, when INSECTO is properly applied, grains should remain completely "Pest-Free"!

PREVENTION IS BETTER THAN TREATMENT!!

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I N S E C T O

A SAFE - NATURAL - NON-TOXIC GRAIN PROTECTANT

For centuries stored grain has been protected from insect attack in much of the less developed world by adding some form of product or dust to it. Common materials include plant ash, lime, dolomite, certain types of soil, and diatomaceous earth (DE) or Kieselguhr.

With the introduction of synthetic pesticides in the 1940's, and modern fumigants some time later, it was felt that a scientific solution to pest problems had been found. Although these materials provided enormous local benefits, a number of problems are beginning to be recognized. These include the development of resistance by insects, pollution of the environment, contamination of foodstuffs with residues, and exposure of users to toxic chemicals.

This led researchers to look again at the different powders to see which are most effective and how they can be improved. The most effective powder is diatomaceous earth. This is a geological deposit found in natural deposits throughout the world, diatomaceous earth composed of the old seabed skeletons of billions of microscopic algal cells called diatoms. The product is widely used as a filtering agent for water, beer and wine, and is recognized as safe for both humans and livestock, having been fed to livestock, poultry and pets.

At the same time, it has also been known for years that diatomaceous earth can be deadly to insects. Properly crushed and processed, the microscopic slivers of silica from the skeletons have the ability to penetrate the waxy film on insects which is the only protection on their bodies. Once this film is pierced, the insects face sure, swift death from dehydration.

The limiting factor in its use has always been the large quantities required to contact and kill in sufficient numbers. Relying on chance contact between insect and earth, it was necessary to use impractical amounts of powder in order to improve the odds of the insect coming in contact with it.

THE INSECTO "EXTRA"---Today this problem has been greatly reduced by adding a natural additive to diatomaceous earth, acting as a "magnet" to draw insects to their doom. Small quantities of diatomaceous earth with this otherwise harmless attractant proved to be effective as many pounds alone.

INSECT-PROOFING STORAGE AREAS AND TRANSPORT VESSELS - Applied with common dusting equipment, with no special safety measures other than wearing an ordinary dust mask, INSECTO should be dusted lightly (Approximately one (1) pound per 1,000 sq. ft.) on all interior surfaces of empty storage areas. Where possible, special attention should be given to dusting cracks, crevices and other areas where insects hide or crawl.

INSECT INFESTATION PREVENTION AND CONTROL

Any grain that is to be stored for more than six months can become seriously infested. The key to good storage is anticipating and preventing problems thru good stored grain management. New grain should never be placed on old grain unless the old grain is largely free from insect infestation.

INSECTO IS A "SAFE" FARM FUMIGANT:

If stored on the farm, it should be stored as far away as possible from feed rooms and feed bins because they are likely sources of new infestations. Before treating, make sure that the storage structure itself is virtually free of insect-infested grain. Leftover grain should be removed from bins. The floor and walls should be swept and vacuumed. This cleanup is most effective if done in early spring or immediately after the bin has been emptied.

All grain handling equipment, including augers, combines, trucks and wagons, should also be cleaned and grain residuals removed before harvest. Places where seed livestock feed and pet foods are stored can be serious sources of infestations. Grain and feed accumulations that are frequently overlooked include empty feed sacks, dusts created by the feed grinders, seed litter from the haymowers, feed left in animal self-feeders, and grain-based rodenticides.

BIN WALL, CEILING AND FLOOR TREATMENTS:

As soon as the bin is cleaned it can be treated with INSECTO. However, it is better to treat during the warm months when insects are active. The treatment will kill insects emerging from their hiding places, (cracks, crevices, under floors and in aeration systems). Also, insects crawling or flying in from the outside will be killed.

INSECTO is registered for bin treatments in those situations where the bins will be used to store Wheat, Barley, Buckwheat, Corn, Oats, Rice, Rye, Flax, Pea, Soybean, Sorghum (milo), Seed. Apply INSECTO to as many surfaces as possible, especially joints, cracks, ledges, and corners. Dust the ceilings, walls and floors, aiming for the cracks and crevices.

Dust the area beneath the bin, and bin supports; Dust to a six-foot border around the outside foundation (Repeat after each rain fall). In addition, treat pertinent areas in your cleaned harvesting equipment, elevators, augers, trucks or wagons.

EMPTY METAL GRAIN BINS:

The increased use of metal bins with perforated floors for grain drying and aeration has helped produce a serious insect problem in farm-stored grain. Grain dockage (broken kernels, grain dust and chaff) sifts thru the floor perforations and collects in the subfloor plenum creating a favorable environment for insect development. If possible, remove the perforated floors to clean the plenum area and dust thoroughly with INSECTO.

SURFACE TREATMENT:

Immediately after the bin is filled and the grain leveled, apply INSECTO as a surface treatment ("Top-Dressing"). This surface treatment will help control insects that enter the grain thru roof openings. Surface treatments alone generally will not keep the grain insect-free, but they can reduce insect populations during the storage period. Surface treatments are effective if the following limitations are understood:

1. Surface treatment will not control an established insect infestation already in stored grain; thus the grain must not be infested prior to surface treatment.
2. The surface treatment should not be disturbed, since it provides the protective barrier against insect infestations. Apply one portion (Dusting) to the grain surface and rake it in to a depth of 4". Now apply the second portion to the grain surface and take special care thereafter to make sure that the surface remains undisturbed.

INSECTS ARE FIGHTING BACK: A recent article in AMBIO talks about resistance to pesticides, 428 insect species are resistant to one or more pesticides. INSECTO is a physical control to which insects have a difficulty building up a resistance. Insects die from DEHYDRATION. . .

THE FUTURE OF INSECT CONTROL IS NOT WITH THE USE OF TOXIC CHEMICALS

FIELD TESTS:

In South Texas, where insects are a year long problems, a demonstration using INSECTO was conducted at Perry Grain Co., Robstown, Texas to both corn and grain sorghum (milo). INSECTO was applied to the corn at the rate of 0.75 pounds per ton and 1.5 pounds per ton of grain sorghum as they were turned. The results were as follows:

KINDS OF INSECTS AND NUMBERS*

GRAIN SORGHUM (MILO)

DATE	BIN	Tblm	FgBtl	Crypt	LGB	Wvl	M Lrv	Total
12/27/88	1	2	1	97	32	68	0	200
1/2/89	1	3	1	92	14	26	0	136-INSECTO
1/12/89	1	0	0	0	0	1	0	1 Added
1/17/89	1	0	0	0	0	0	0	0
1/27/89	1	0	0	0	0	0	0	0

CORN:

DATE	BIN	Tblm	FgBtl	Crypt	LGB	Wvl	M Lrv	Total
12/20/88	11	0	4	72	3	22	0	103-INSECTO
12/27/88	11	0	3	24	1	0	0	28 Added
1/2/89	11	0	8	0	0	1	1	10
1/12/89	11	0	0	1	0	1	0	2
1/17/89**	11	0	2	0	0	0	0	2

**The two (2) Cryptolestes (Rusty Grain Beetles) were at the inspection door and it is believed that they were migratory.

* Tblm-Tribolium; FgBtl-Fungus Beetles; Crypt-Cryptolestes; LGB-Lessor Grain Borers; Wvl-Weevils; M Lrv-Moth Larvae.

The Schweitzer Farm, Holly Colorado, turned 5,000 bushels of Wheat on May 5, 1989, into a BIN that was properly cleaned and treated with INSECTO. The results are as follows:

KINDS OF INSECTS AND NUMBERS*

DATE	Rusty Grain Beetle	Red Flour Beetle	Weevils	Total
5/2/89	104	10	0	120
5/12/89	6	0	0	6
5/19/89	0	0	0	2
5/25/89	0	0	0	0
6/8/89	0	0	0	0

No live insects were found after May 19, 1989. This is typical of the Field Tests that have been conducted at other Elevator Sites.

Additional field tests available upon request.

*Laboratory tests found no significant differences in RICE QUALITY when the rice was protected with INSECTO. Samples were submitted by Uncle Ben's Rice Mills, Texas. Laboratory No. 1830a-1841a, August 28, 1990.

	PROTEIN (Nx6.25)		ASH		MOISTURE	
	<u>UNTREATED</u>	<u>TREATED</u>	<u>UNTREATED</u>	<u>TREATED</u>	<u>UNTREATED</u>	<u>TREATED</u>
Processed Paddy	9.65%	8.55%	4.51%	4.35%	10.80%	10.50%
Hulls	6.40%	3.85%	14.82%	15.93%	8.60%	7.50%
Brown Rice	9.75%	9.65%	1.17%	1.33%	11.0%	10.80%
Rough Rice Paddy	8.30%	8.65%	4.28%	4.23%	11.0%	10.70%
Bran	18.10%	18.10%	7.65%	7.65%	9.30%	9.10%
Milled Rice	9.00%	9.10%	.60%	.615%	11.20%	10.80%

*Laboratory tests compared Untreated and INSECTO Treated WHEAT and found no significant differences in Ash & Moisture. Laboratory No. 7867,7869,7959 & 7960, dated March 30, 1990.

	ASH		MOISTURE	
	<u>UNTREATED</u>	<u>TREATED</u>	<u>UNTREATED</u>	<u>TREATED</u>
WHEAT	1.66%	1.60%	10.50%	10.10%
MILLED FLOUR	.431%	.435%	13.60%	13.10%

BAKING TESTS: INSECTO applied at 0.2% by weight with flour, did not cause any changes in the rate of fermentation or proof of the dough, or affect the volume and taste of the baked bread nor had any adverse organoleptic effects.

* Doty Laboratory, Cereal Technologists, N. Kansas City, Mo. 64116.

The U.S. Department of Agriculture, Agricultural Research Service Marketing Report 51-6, 1966: La Rue, 1965, 1966, 1967a, b, 1970, the following conclusions were reached by their research team:

1. Reduction in the test weight of wheat treated...inert dust did not affect the flour yielding capacity.
2. The addition of the dusts to wheat did not affect the bread baking properties of the flour. (La Rue 1967a)

It has been established that Diatomaceous Earth can be an effective alternative without harming the quality of wheat.

INSECTES RAVAGEURS, SEUIL DE TOLERANCE ZERO, TOUT DE SUITE !!

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RESUME

INSECTO -90 % de terre de diatomées et 10 % d'attractif-peut tuer toutes les espèces d'insectes déprédateurs des grains et contribuer à établir une protection quasi totale en permanence tant qu'il demeure sur le grain.

INSECTO n'est pas un poison. Il tue les insectes par la perte des liquides physiologiques et la mort arrive par déshydratation. Cependant, INSECTO est sans danger pour les employés et leur environnement.

Lorsqu'il est utilisé dans un programme de prévention des grains en silo, INSECTO les conserve des parasites sans dépréciation, s'il est correctement appliqué. Le coût d'utilisation d'INSECTO va de 6 à 15 cents/tonne pour les coopératives et jusqu'à 23 cents/tonne pour le stockage à la ferme.

Ces coûts peuvent d'abord sembler élevés, comparés à ceux des traitements insecticides classiques. Cependant, aux USA insectes et grains endommagés entraînent des réfections pouvant aller de 8 cents à 2,3 \$/tonne. De plus en plus de gestionnaires de coopératives refusent d'accepter les grains infestés car ils savent que, plus tard, les formes cachées donneront des adultes et infesteront les grains sains.

Le nettoyage est essentiel. Il ne faut laisser aucun vieux grain, paille ou poussière susceptible d'attirer les insectes. Après le nettoyage des cellules, saupoudrer avec INSECTO. Quand le grain nouveau arrive, il faut le protéger par une dose de 500 g de produit par tonne de grain. Lorsqu'INSECTO a été correctement utilisé, le grain devrait demeurer vierge de déprédateurs.

MIEUX VAUT PREVENIR QUE TRAITER !