

STORED GRAIN

Preparing Bins For Storage: The key to good grain storage is anticipating and preventing potential problems through good bin management.

Before treating with protectant, make sure that the bins are free of insect-infested grain. Leftover grain should be removed from the bin, and the walls should be swept and vacuumed. All grain handling equipment including augers, combines, trucks and wagons should be thoroughly cleaned and grain residues removed before harvest.

A residual bin spray such as malathion, methoxychlor or Reldan should be applied to all interior bin surface areas 2 to 3 weeks before new grain is placed in the bin. 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.

Apply the spray to as many surfaces as possible, especially joints, seams, cracks, ledges and corners. Spray the

ceiling, walls and floors to the point of runoff. Use a coarse spray at a pressure of more than 30 lb per square inch and aim for the cracks and crevices.

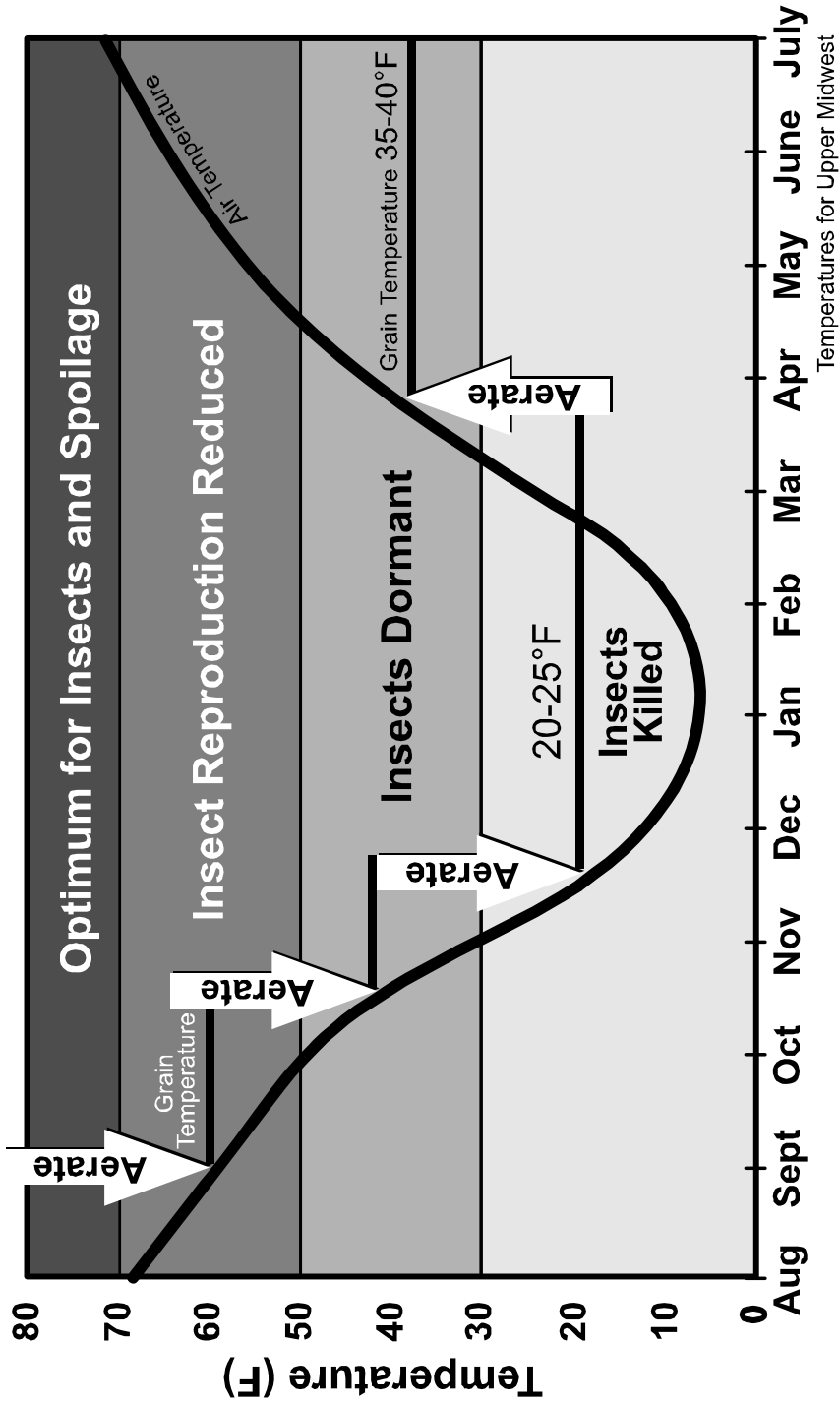
Spray beneath the bin, its supports, and a 6 ft border around the outside foundation. Treat the outside surface, especially cracks and ledges near doors and fans.

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 through the floor perforations and collects in the subfloor plenum creating a favorable environment for insect development. Unfortunately, the floors are usually difficult to remove, making inspection, cleaning and insecticide spraying in the plenum difficult if not impractical. The infested plenum may be disinfected with an approved fumigant such as chloropicrin.

TYPE OF TREATMENT	CROP	INSECTICIDE	Comments
Residual Bin Sprays: Clean, sweep and spray all bins before harvest. Note: Do not add grain to a treated bin for at least 24 hours or until walls have dried thoroughly.	All bins	methoprene Diacon II	Active ingredient is an insect growth regulator. It prevents the development of larvae into adults. Adult insects are not controlled.
		malathion	May not provide control of Indian meal moth. Check label for listing of this use.
		cyfluthrin Tempo	Check product label for rates of application. Do not apply to grain.
		chlorpyrifos-methyl + cyfluthrin Storcide II	Storcide combines the active ingredients of Reldan (chlorpyrifos methyl) and Decis (deltamethrin).
Surface Treatment: Apply insecticide to surface after grain is binned. Note: To ensure control, remove all surface crusting and webbing before treatment.	Wheat Barley Corn Oats Rye Soybeans Sunflowers	Bacillus thuringiensis, subspecies kurstaki Dipel	(Indian meal moth larvae only.) As a surface treatment, apply ½ lb of Dipel in 5-10 gal. of water per 500 sq ft of grain surface area: mix into top 4 inches.
		diatomaceous earth Insecto, Dryacide	4.0 lbs per 1,000 sq ft. Treat only the top 1 to 2 ft of the grain mass.
Grain Protectant: All the grain is treated when bin is being filled. Insecticides may be applied as a spray or dust to the grain as it is being augered into the bin. These products may also be used for treatment of the grain surface for registered commodities.	Corn Sorghum	pirimiphos-methyl Actellic 5E	No food or feeding restrictions. Lesser grain borer is not listed as a target pest.
	Wheat Barley Oats Sorghum Corn	methoprene Diacon II	Active ingredient is an insect growth regulator. It prevents the development of larvae into adults. Adult insects are not controlled. Sunflowers are also on Diacon II label.
		malathion	May not provide control of Indian meal moth. Product not labeled specifically for application to stored grain should not be used.
		chlorpyrifos-methyl + cyfluthrin Storcide II	Storcide II combines the active ingredients of Reldan (chlorpyrifos methyl) and Decis (deltamethrin). Storcide II does NOT have export restrictions on the label.

Note: Chlorpyrifos-methyl (Gustafson Reldan 4E) products were subjected to EPA cancellation order of December 5, 2007, which prohibits the distribution, sale or use of chlorpyrifos-methyl products. A provision includes use of any existing stocks of chlorpyrifos-methyl until December 7, 2009. Storcide II is available as a replacement insecticide for broad-spectrum control of stored grain insects.

Cool Grain to Prevent Storage Problems



* Prevent crusting due to moisture migration by cooling grain to within 15°F of average outdoor temperatures.

* Cooling grain by 10°F doubles its allowable storage time

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