

News Column

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Keeping bin bugs at bay

Storing wheat on the farm to sell later or seed wheat for planting can save a lot of money, but if you let a bin of grain go out of condition, the investment you lose could be astronomical.

While there are a number of things that can go wrong in the bin, topping the list are problems with stored grain insects, according to Kansas State University entomologist Tom Phillips.

Phillips says there are several steps to take to make sure your grain comes out of the bin the same condition it went in. "Prior to harvest you'll certainly want to clean your bins, grain floors, sub floors, aeration ducts, and any grain-moving equipment. Also get rid of any discarded grain."

He points out that you'll want to keep grain moisture low when you're putting it into the bin. "Of course, 12 percent moisture or less is best for wheat, but if you get it too dry, you'll lose money on the grain because of weight loss from moisture loss." If you're going to store wheat for six months or less, then your moisture could be as high as 14 percent. For six to 12 months or longer, then 13 percent moisture will work.

Phillips says the insecticide Storcide II is the best material for treating bins prior to harvest. "It's also the best material for treating grain as it goes into the bin. Storcide II is a mixture of the compound known as Reldan, which is from the same class as malathion. It's formulated with a smaller amount of deltamethrin, which is a totally different class of insecticide. The two together provide control against a larger number of pest species than other grain protectants." He says malathion has widespread resistance problems.

Another material that could be used on wheat is Diacon II, which does not kill insects immediately. "But it can give longer term control of subsequent generations because it is an insect growth regulator. Still, Storcide II would also be good for special food wheats, but this and other chemicals would not qualify as organic. For organic purposes, the only grain protectant one could use is DE or 'diatomaceous earth,' which is a natural desiccant mined from the ground—not synthetic."

He also points out that the efficacy of your insecticide decreases as moisture of the grain and humidity go up.

Aerating the bins at night and again in fall/winter is also a great way for reducing insect problems. In-bin cooling is an alternative to drying, but can also dry the grain. Below 70°F, insect growth is significantly reduced. Between 60°F and 70°F, grain is safe from the standpoint of insect management as feeding and breeding are slowed.

Phillips also stresses that you should inspect grain every 21 days if temperatures are higher than 60°F. Smaller bins are easier to manage because there are fewer problems with moisture migration, for instance. And you should always be on the lookout for leaky bins.

The penalty for not watching the grain could include grain discounts, which commonly run 10 cents per bushel if your grain has two live insects per 1,000 grams. There are further discounts for insect damaged kernels or if your grain is musty, sour, or smutty. “If things get out of hand for some reason, then fumigation could be your next step,” Phillips said.

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