Stored Grain

Clean the storage bin
Good sanitation practices can prevent at least one early fumigation. Bins should be thoroughly cleaned at least two weeks prior to storing grain. All old grain, trash and debris should be cleaned from within and around the storage bins and fumigated or burned. Spray the bin inside and out including overhead with a labeled insecticide.

Treat the storage bin

- Centynal (Deltamethrin) – Apply 0.25-1.5 fluid ounces in 1 gallon water per 1,000 square feet.
- Diacon – D IGR ((S)-Methoprene) – Apply 1.5 ounces per 1,000 square feet.
- Diacon IGR *PLUS* ((S)-Methoprene + Deltamethrin) – 0.25-1.5 fluid ounces per 1,000 square feet.
- Tempo SC Ultra (ß- Cyfluthrin) – Apply 8-16 milliliters of concentrate per 1,000 square feet. See the label for water to add in preparing the spray solution.

Grain Protectants
Grain that is to be held in storage should be protected from stored grain insects. An approved grain protectant applied to the grain at the time of storage will help prevent an early infestation. Grain must be at the proper moisture content for storage. Do not apply before high temperature drying. High temperature and high moisture content of grain will shorten the residual life of grain protectants. See insecticide labels for specific application instructions. Most grain protectant solutions should be applied to the grain as it enters the storage bin on the conveyor belt unless it is applied as a surface treatment.

1. B.t. (*Bacillus thuringiensis*) sold as Dipel and others. Follow label directions for surface treatment only to control Indian meal moth.
2. Actellic 5E[1] (Pirimiphos-methyl): Corn and Grain Sorghum: 9.2-12.3 ounces per 5 gallons water per 1,000 bushels; as a surface treatment for Indian Meal moth 3 ounces per 2 gallons of water per 1,000 square feet. Actellic should give nine to 12 months of control of all stored grain insects in Louisiana (except lesser grain borer). **Not labeled or effective for corn stored in the shuck.**
3. Fyfanon (Malathion) 6 percent Grain Dust: Wheat, Corn, Oats – 10 pounds of dust per 1,000 bushels as grain is being loaded or turned into final storage. This insecticide may not be a suitable grain protectant because it breaks down rapidly and many stored-grain insects have developed high resistance to it in other states. National tolerance for malathion on grain is very low. Grain treated with malathion may be unmarketable in international markets. (See label for further mixing instructions)
4. Pyrenone (Pyrethrins) (6% pyrethrins and 60% PBO) – **Short-term knock-down control. Degrades rapidly.** Barley, corn, rice, sorghum, and wheat – mix 1 part Pyrenone with 29 parts water. Apply 3-5 gallons per 1,000 bushels.
5. Diatomaceous earth (several trade names). Barley, corn, oats, rice, rye, sorghum, wheat. Follow the label.
6. Dichlorvos resin strips (DDVP, Vapona). Barley, corn, oats, rye, sorghum, soybean, sunflower, wheat. One strip is needed per 1,000 cubic feet of bin headspace. Vapor is released from dichlorvos strips that kills adult Indianmeal moths preventing reproduction.
7. Centynal (Deltamethrin) –
   - Wheat 9.14 fluid ounces per 5 gallons of water per 1,000 bushels.
   - Barley 7.31 fluid ounces per 5 gallons of water per 1,000 bushels.
   - Oats 4.88 fluid ounces per 5 gallons of water per 1,000 bushels.
8. Sensat (Spinosad) –
   - Wheat 10.5 fluid ounces per 5 gallons of water per 1,000 bushels.
   - Barley 8.2 fluid ounces per 5 gallons of water per 1,000 bushels.
   - Oats 5.9 fluid ounces per 5 gallons of water per 1,000 bushels.
9. Diacon IGR *PLUS* ((S)-Methoprene + Deltamethrin) – Barley, corn, oats, popcorn, rice, rye, sorghum, wheat. Rates vary among commodities, 5.15-19.20 fluid ounces per 1,000 bushels.

Fumigation
Aluminum Phosphide (Phostoxin)–Used against rice weevils, lesser grain borer, flour beetles (bran bugs), sawtoothed grain beetle, flat grain beetle, Angoumois grain moth, and Indian meal moth. Bins must be gas-tight. Phosphine gas is deadly to people and other animals. Bin must remain closed after and during fumigation for 4 days at a minimum. Do not fumigate below 40 F. Follow all safety and application guidelines.