

Best Management Practices to Avoid Pest Contamination of DDGS

US Grains Council

The US Grains Council (USGC) hereby proposes a policy for companies in DDGS production and marketing networks to adopt best management practices that requires a third party pest control operator (PCO) be contracted to manage the pest control activities at a facility. The pest control program would involve all aspects of the DDGS industry in the US: transport, arrival and storage of raw grain at an ethanol plant, pest prevention at all locations within an ethanol plants as the raw commodities moves through all processes to result in finished DDGS, all handling of new DDGS as they are loaded and transported by truck or rail to a trans-loading facility, all aspects of loading shipping containers, transport of containers to shipping ports and any time on the ground before loading onto a ship. The USGC contracted with Dr. Tom Phillips, a stored-product entomology professor at Kansas State University (KSU), during 2016 to collect information about the potential for insect pest problems associated with DDGS. The Commission has also surveyed member companies to learn their practices and perspectives on pest problems and their experiences in working with commercial PCOs. Information from these studies helped to develop recommendations for optimal pest control for producing and delivering high quality and pest-free DDGS is elaborated below.

Developing Best Management Practices to Reduce Pest Risks for DDGS

Best management practices (BMPs) should be developed, reviewed regularly and updated at every ethanol plant and trans-loading facility so that the pest infestation risks for DDGS described above can be reduced and effectively managed as part of the regular day-to-day company activities. It is recommended that companies work together with Pest Control Operators (PCOs) in developing and following BMPs as described below.

Integration of QA/QC with a licensed PCO DDGS facilities should integrate their Quality Control/Quality Assurance programs with the pest control programs provided by a contracted PCO. First, the company should contract with a fully licensed and properly certified PCO. Although the company's internal QA/QC program may include duties related to pest control, an outside PCO should be contracted so that this key responsibility is shared with a second party who is responsible for regular attendance to standards related to pest risk, and with the commitment and qualifications to provide specialized services and respond to any problems that may arise. Selecting the best PCO may be influenced by location, company history or availability of a provider. Either local companies or national chains could meet the needs. Pest control industry organizations, such as the National Pest Management Association, may have member companies that have the expertise needed for the DDGS industry. PCOs with a customer base and expertise in grain storage, grain and feed processing, and all other food processing agriculture-related activities should be considered.

BMPs for prevention, monitoring and pesticide use at DDGS facilities

1. The DDGS company-PCO team should oversee prevention, monitoring and decisive use of pesticides or other mitigation when needed.

2. Prevention first requires the very best cleaning and housekeeping possible, particularly in and near high risk areas like receiving and load-out areas, and any areas in which raw materials are handled or finished DDGS are stored and prepared for sale.
3. Prevention in addition to good housekeeping can include sprays of effective residual insecticides to cracks-and-crevices, adjacent to or inside equipment or other stationary structures, and any other accessible surfaces in areas for high insect risk and areas where finished DDGS are prepared for shipment.
4. Facility renovations should be considered for areas where debris accumulates unnecessarily (e.g. hidden shelves), or where entry of vertebrate and insect pests can be prevented, such as insecure doorways or loading bays and broken roof sections or skylights.
5. Prevention in the loading of shipping containers should require that the insides and outsides of all empty containers be thoroughly cleaned before loading. Additionally, preventive sprays to all inside surfaces of a container, near door closures, wall joints and the entire wooden floor can help control hidden insects and thus prevent them from infesting new DDGS.
6. The PCO must be familiar with pest monitoring methods and be able to implement these in a practical and effective manner. Any unexpected increases in insect trap numbers should elicit further direct inspection and cleaning of that general area. Sources of infestation should be removed/discarded if found.
7. Following all the sanitation and monitor for pests in a facility, the most important monitoring related to the DDGS product is to take samples of new DDGS that are being loaded into a shipping container, truck or rail car bound for export. All such samples should be sieved and the insects found in each should be identified and counted to determine the level of infestation in that container. Routine product sampling can be contracted to licensed grain survey companies.
8. If any of these are the pests of most concern to the industry, then that container is beginning its journey with a measureable level of risk for insect infestation that may increase during time in transit and storage. Routine and effective sampling of DDGS loaded into containers should continue, as should sanitation and other prevention to reduce pest risk through a facility and thus lower the potential for contamination in the final product.

The USGC encourages all member companies to develop and adopt BMPs like those discussed here for effective sanitation, vigilant pest monitoring and coordinated programs with contracted pest control and fumigation companies.

Addendum:

A. Introduction

1. Pests, including insects, rodents and birds can pose a contamination hazard for feed processing facilities. Controls need to be managed and continually improved upon to limit the potential impact of pests on the process.

B. Scope

1. This policy describes the requirements for a Third Party Pest Control Vendor contracted to manage the pest control activities at a facility.

C. Policy

1. Pest Control Operator will be licensed, insured, and certified.
 - a. Supplier must provide a documented pest control program. The program shall include:
 - i. A designated pest control operator (PCO), including company name.
 - ii. Defined frequency of scheduled service intervals; site visits shall be monthly at a minimum.
 - iii. Instructions on labeling protocol including date and initials for all traps, bait stations, glue boards and insect light traps.
 - iv. Procedure for tracking unit inspections.
 - v. A list of pesticides used in the facility, along with where and how applied. (List all chemicals used even if they can be applied without a license.)
 - vi. Up-to-date schematic map, dated and including all traps, bait stations, glue boards and insect light traps. (All devices need to be tracked and trended.)
 - vii. Pest control company's proof of liability insurance.
 - viii. License for company.
 - ix. Certification for Pest Control Operator.
2. Pesticides
 - a. All pesticides used at the facility must conform to any restrictions in 40 CFR 152, 160-175. (EPA's Restricted Use Pesticide report)
 - b. MSDS must be provided for all pesticides used.
 - c. MSDS must be readily available for employees' reference.
 - d. Labels and mix procedures shall be on file.
 - e. Unlicensed/unapproved pest control chemicals will not be acceptable for use in a feed processing plant (example: cans of Raid).
3. Pest control supplier must provide service reports from the pest control organization or complete inspection records on service if performed internally. They must include:
 - a. Individual conducting service.
 - b. Services performed.
 - c. Date of service.
 - d. Application method used.
 - e. Chemicals, quantities and concentrations used, including the chemical lot numbers.
 - f. Signs of activity.

- g. Scheduled follow-up based on pest activity, if necessary.
 - h. Corrective actions documented for frequent activity or other issues noted on service reports or separate report.
 - 4. There is a pest activity trend report with corrective action(s) identified.
 - a. Documentation will include:
 - i. Identification and analysis of pest activity.
 - ii. Trend analyses for all pests control/monitoring devices (including traps, bait stations, glue boards, pheromone traps, insect light traps, electronic pulse units, etc.).
 - iii. Includes follow-up/corrective actions documented when a trend is identified.
- 5. INTERNAL Pest Activity
 - a. All areas should be free of reoccurring/existing “internal” pest activity. Specifically there shall be:
 - i. No evidence of live animals observed inside the facility such as cats, dogs, deer, etc.
 - ii. No evidence of excreta/pellets.
 - iii. No evidence of gnawed bags/cases or rodents on stored stock or numerous excreta on the floor/shelves of any storage area.
 - iv. No decomposed rodent(s) or other animals (frogs, lizards, etc.) in traps. The interior traps shall be checked often and the dead rodent(s) or other animals removed.
 - v. Insect level on glue boards should be at a very minimum.
- 6. EXTERNAL Pest Activity
 - a. Every effort shall be made to minimize/control external pest activity; including monitoring for signs of rodent and bird activity, removing decomposed rodent(s) or animals in bait stations and along perimeter and maintaining practices that discourage or eliminate bird nesting areas.
 - b. The exterior bait stations shall be checked and the dead rodent(s) removed.
 - i. Decomposed rodent(s) or other animals shall not be evident and could render bait stations ineffective.
 - ii. Gnawed rodenticide blocks (bait) and freshly trapped rodents should be noted as observations but no points should be deducted from this section.
- 7. A map or schematic must be available for all pest control devices.