



Agency Investigation of Manure Releases

Office of Land Quality

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Introduction:

The Indiana Department of Environmental Management (IDEM) is providing information concerning the Confined Feeding Program's accepted practices for responding to citizen concerns and spill responses related to manure. The purpose of this fact sheet is to inform and assist livestock producers, manure applicators, agricultural consultants, and neighboring parties how IDEM determines if manure is impacting surface water systems.

IDEM's CFO Program:

IDEM's Confined Feeding Operations (CFO) Program limits the impact of manure on the environment by regulating the management of manure at the production area and the application of manure on the land for its nutrient value to crop production.

Most releases of manure are a result of equipment failure or a rainfall event onto the land application area. When this occurs, IDEM is generally contacted either through the emergency spill line (888-233-7745) or complaint line by a facility representative or a private citizen. Once a call is received, an emergency responder or a CFO inspector will be assigned to investigate the reported release.

If a spill is alleged, it is important for the IDEM representative to determine the extent of the impact of the spill as quickly as possible. The most efficient method the agency uses is a field sampling kit to test for ammonia/nitrogen.

NOTE: A spill is defined under Indiana's spill reporting rules found 327 IAC 2-6.1. The definition of a spill under 327 IAC 2-6.1-4(15) is: "[a]ny unexpected, unintended, abnormal, or unapproved dumping, leakage, drainage, seepage, discharge or other loss of petroleum, hazardous substances, extremely hazardous substances, or objectionable substances. The term does not include releases to impermeable surfaces when the substance does not migrate off the surface or penetrate the surface and enter the soil."

Public Concerns:

IDEM's CFO staff are often asked about disease pathogens and bacteria present in manure being spread on fields that may run off into nearby surface waters. In most cases, citizens are referencing fecal coliform and *E. coli*. These bacteria groups have been referenced for decades as indicators of water quality.

As with many water pollutants, the behavior of fecal coliform and *E. coli* in the environment is complex. Factors affecting bacteria levels include weather, seasonal stream flow, water temperature, distance from pollution sources, livestock management practices, wildlife activity, age of fecal material, sewage overflows and rainfalls.

Why doesn't IDEM's CFO Program monitor for *E. coli*?

E. coli can be complex to measure. When sampling for *E. coli*, you must have an adequate sample that requires specific sampling protocols. Once the sample is taken, the sample must be "iced" and the holding time for analysis should not exceed six hours before delivery to the lab.

The time frame between analysis and receipt of the results impacts the cost. Since *E. coli* come from a variety of sources and cannot easily be traced back to that source, IDEM's CFO program monitors manure spills by sampling for ammonia/nitrogen.

When sampling for ammonia/nitrogen, IDEM staff utilize the LaMotte Ammonia/Nitrogen Field Sampling Kit. This field sampling kit can be easily utilized at the spill site and produce results within minutes after a water sample is taken. Results are valid within +/- 1 part per million (ppm) ammonia/nitrogen content and can detect ammonia/nitrogen up to 8 ppm.

While responding to a reported release, staff can easily determine the extent and origin by sampling up and down stream of the reported location. By being able to determine the extent of the release, IDEM staff can quickly implement a more efficient remediation effort which will include the source.

An ammonia/nitrogen test can be purchased for around \$100, is easy to use, and does not require any laboratory time to determine results. These kits are often purchased by farm operators to monitor their activities during land application or potential areas of runoff from their operations.

More Information:

For questions or concerns, please call the CFO Compliance Section in IDEM's Office of Land Quality at 317-234-6965 or 800-451-6027, option 6. IDEM's website provides additional information including guidance, forms, and useful links: www.idem.IN.gov/cfo. For free and confidential compliance and technical assistance from IDEM's CTAP staff, call 800-988-7901 or 317-232-8172, or request a consultation at www.idem.IN.gov/ctap/about-compliance-and-technical-assistance/.

For manure application guidance or information about a commercial applicators license, please contact the Office of Indiana State Chemist at 765-494-1492 or visit www.oisc.purdue.edu/contact_oisc.html?WT.cg_n=Content&WT.cg_s=Find_Agency.