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Pheasant Run
Draft Permit to Install and Draft Permit to Operate

General overview of the farm

Pheasant Run farm would be located in Defiance County, Mark Township, at 09504 Farmer-Mark Road in Mark Center, Ohio. Owned and operated by Cooper Farms, Inc. of Oakwood, Ohio, Pheasant Run would be in the Upper Maumee River Watershed.

The farrowing facility would have a design capacity of 7,100 swine weighing 55 pounds or more. The permitting threshold for swine weighing 55 pounds or more is 2,500 head; therefore, this facility has applied for both a draft Permit to Install (PTI) and a draft Permit to Operate (PTO) from the Ohio Department of Agriculture (ODA).

Overview of draft Permit to Install

The draft Permit to Install is for two new breeding/gestation barns 115 ft. wide by 454 ft. long that would house approximately 2,360 head of sows each. An acclimation building 82 ft. wide by 201 ft. long is proposed to house approximately 1,468 swine. In addition, two farrowing buildings 74 ft. wide by 438 ft. long would be constructed, each with a design capacity of approximately 456 sows. Each building would be constructed with a concrete pit below the housed animals. The shallow pits under the farrowing buildings would be drained into the breeding/gestation barns for manure storage. The pits under the breeding/gestation barns would be 12 ft. deep and the acclimation building would be constructed with an 8 ft. deep pit.

The manure storage volume calculated for the proposed operation includes the pits under the breeding/gestation buildings and the acclimation building. Each pit under the breeding/gestation buildings would be capable of storing approximately 4.5 million gallons of manure. Accounting for the manure that would be generated and drained to each of these respective pits from the farrowing buildings, approximately 6.3 million gallons would be produced annually. These concrete pits would provide for a combined manure storage period of 520 days. The acclimation building pit would be capable of storing approximately 918,000 gallons, with an estimate annual production of 602,000 gallons produced within this building. Therefore, this structure would provide approximately 557 days of manure storage. Department rules require that a fabricated structure provide a minimum of 120 days of storage.

A mortality compost building approximately 70 ft. by 100 ft. would also be constructed as part of the draft Permit to Install. This building would have 6-ft. perimeter walls with multiple composting bins to allow for proper management of the composting operation. The storage structure would be capable of storing over 370 tons of compost material. With an annual production expected at 40 tons, this structure would provide several years of storage.

Overview of the draft Permit to Operate

Pheasant Run has also been issued a draft Permit to Operate for the entire facility. The draft PTO would regulate operations with plans for manure management, insect and rodent control, mortality management and emergency response. It would be valid for a five-year period, at which time the owner would be required to renew the operating permit.

A Manure Management Plan is part of the draft Permit to Operate. Annual manure production at the farm would be approximately 6.9 million gallons of liquid manure from all the swine housing buildings. In addition, approximately 40 tons of mortality compost would be generated annually and is expected to be land applied.

The manure nutrient analysis for the gestation/breeding barns utilized estimated manure nutrient analyses from manure management software, which was then compared to analyses from similar type operations. The nutrient analysis for this liquid manure is:

Total nitrogen (N) per 1,000 gallon of manure = 24.2 lbs.
Phosphate (P_2O_5) per 1,000 gallon of manure = 18.8 lbs.
Potash (K_2O) per 1,000 gallon of manure = 24.6 lbs.

The annual volume of manure to be land applied from the breeding/gestation buildings would be approximately 6.3 million gallons. This liquid manure would be land applied by using a drag-line system, generally with some form of incorporation. Cooper Farms own approximately 352 acres and would also distribute manure to surrounding crop farmers, which is estimated at an additional 1,920 acres. A corn/soybean/wheat crop rotation was used for planning purposes. Expected crop yields are corn at 170 bushels per acre, soybeans at 50 bushels per acre and wheat at 70 bushels per acre. A typical annual application rate of 12,000 gallons per acre is planned, which would generally occur over two application periods.

The manure nutrient analysis for the acclimation barn utilized estimated manure nutrient analysis from manure management software, which was then compared to analyses from similar type operations. The nutrient analysis for this liquid manure is:

Total N per 1,000 gallon of manure = 42.5 lbs.
P_2O_5 per 1,000 gallon of manure = 25.7 lbs.
K_2O per 1,000 gallon of manure = 27.0 lbs.

The annual volume of manure from the acclimation barn would be approximately 602,000 gallons. This liquid manure would be land applied by using a drag-line system, generally with some form of incorporation. Cooper Farms own approximately 352 acres and would also distribute manure to surrounding crop farmers, which is estimated at an additional 1,920 acres. A corn/soybean/wheat crop rotation was used for planning purposes. Expected crop yields are corn at 170 bushels per acre, soybeans at 50 bushels per acre and wheat at 70 bushels per acre. A typical annual application rate of 9,500 gallons per acre is planned. For both forms of the liquid manure, breeding/gestation and acclimation buildings, approximately 580 acres of the available 2,272 acres would be applied to annually.

The nutrient analysis for the mortality compost was obtained from an actual analysis from a similar type operation and is as follows:

Total N per ton of manure = 36.1 lbs.
P_2O_5 per ton of manure = 87.1 lbs.
K_2O per ton of manure = 19.0 lbs

The annual mortality compost generated is projected at approximately 40 tons and would be spread on land owned by Cooper Farms. Based on an application rate of 2.5 tons per acre, it is projected that approximately 16 acres of cropland would be needed annually to utilize this compost.

The Insect and Rodent Control Plan (IRCP) is required as part of the draft Permit to Operate to minimize the presence and negative effects of insects and rodents. Pheasant Run has identified in the IRCP that pest of concern or that need monitoring are mice, rats, flies and ground hogs. Bait stations for rodents and mice would be located inside and outside of the facility and would be monitored and refilled on a monthly basis, or more often if rodents are noticed during daily chores. Fly activity would be visually monitored in areas where fly breeding is expected in the breeding/gestation barns. The mortality compost building would have a fly speck card that would be checked weekly. Any increase in fly activity would result with an increase in fly baiting. More detail on the Insect and Rodent Control Plan can be found in the draft Permit to Operate.

A Mortality Management Plan is also included in the draft Permit to Operate, and it describes how mortality would be handled at the Pheasant Run farm. Approved methods for disposal of mortality are burying, burning, rendering, land filling or composting. The option chosen by this facility is composting. In the case of a catastrophic mortality event, a rendering company would be notified to remove any loss.

Finally, an Emergency Response Plan is required to ensure accidents or emergencies are handled quickly and efficiently to maintain the safety of the environment, wildlife and water supplies. Any manure spills would be contained immediately with sawdust, bales of hay or straw or dirt, with additional measures if warranted. Cooper Farms has identified it owns or has access to the equipment that would be necessary to control a spill and clean up the site. In case of fire, there is a fire emergency response information sheet to assist farm personnel in contacting local fire protection districts. More detail on the Emergency Response Plan can be found in the draft Permit to Operate.

Finally, an Operating Record is contained in the draft Permit to Operate and includes all forms and information that must be maintained by the facility to show compliance with the department's rules. These records include inspection of the manure storage structures, manure characterization, land applications, insect and rodent control, distribution and utilization of manure and mortality management. ODA would inspect the entire facility as well as all of the operating records a minimum of twice-a-year.

Mote and Associates from Greenville, Ohio, prepared the Pheasant Run engineering plans and Cooper Farms completed the other sections of the permit application.