

**Governor** Ted Strickland  
**Lieutenant Governor** Lee Fisher  
**Director** Robert J. Boggs

**Livestock Environmental Permitting Program**  
A.B. Graham Building  
8995 East Main Street, Reynoldsburg, OH 43068  
Phone: 614-387-0470 • Fax: 614-728-6335  
www.agri.ohio.gov • lepp@agri.ohio.gov

### **5 C's Farm, Inc.** **Draft Permit to Operate**

5 C's Farm, Inc. is located in Defiance County, Hicksville Township, 06083 Cicero Road, Hicksville, Ohio 43526. The farm, which is in the Upper Maumee Watershed, is owned by 5 C's Farm, Inc. and operated by William Cleland, Sr. and William Cleland, Jr.

5 C's Farm, Inc. currently has a design capacity for 3,350 beef cattle in six separate housing buildings. Five of the buildings have a solid manure storage system with some manure being stored in these housing barns as a pen pack and additional manure storage provided on a stacking area around the feed bunker area. The sixth barn has a liquid manure storage system with slatted floors that allows the manure to be stored in a deep concrete pit below the housing area. Approximately 70% of the cattle and manure are on a solid system with the other 30% on a liquid manure storage system.

Barns 1,2,4,5 and 6 have a solid manure storage system and house a total of 2,350 head of cattle. The total manure produced by these cattle annually is approximately 1,028,420 cu. ft., which also includes bedding that is utilized in these barns. The barns can hold about one foot of manure, which provides a combined storage volume in the barns of 127,000 cu. ft. The stacking area around the barns and on the silage pad area provides approximately 89,400 cu. ft. of storage. The total solid manure storage available at the facility is approximately 216,400 cu. ft., or 77 days of storage. In lieu of the required 120 days of manure storage for a fabricated structure by ODA rules, 5 C's Farm has a five-year contractual agreement with Andre Farms that will remove solid manure on an average weekly basis for composting at their site.

Barn 3 has a liquid manure storage system and houses 1,000 head of cattle. The total manure produced annually is approximately 2,814,964 gallons. Two separate deep pits are constructed under this single barn, with one providing 675,070 gallons and the other providing 639,540 gallons of storage. Combined, the two deep pits provide 1,314,610 gallons of storage, for a storage period of 170 days.

5 C's Farm, Inc. has recently installed a pond to collect and contain all contaminated storm water that is generated at the facility. The drainage area that is contained by this pond is approximately 9.8 acres, which includes the silage bunker areas, manure stacking areas, mortality compost pad, the driveway areas where manure is handled and roof runoff from the barns. The pond has an operating depth of 12.5 feet, which provides a storage volume of approximately 7.5 millions gallons.



### ***Overview of Permit to Operate***

The 5 C's Farm, Inc. draft Permit to Operate (PTO) is for the entire facility. Under state law, the farm can house up to 1,000 beef cattle without requiring a permit from the Ohio Department of Agriculture (ODA). This draft permit is a renewal application for the PTO previously issued by ODA to the farm in 2004 that was valid for five years. The Permit to Operate is drafted to 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.

The Manure Management Plan in the draft PTO describes the disposal of all manure generated at this facility. Most of the solid manure, estimated to be 5,500 tons annually, is to be distributed off the farm and taken to the Andre Farms composting facility. 5 C's Farm has the ability to spread a small amount of solid manure on neighboring farmers' land, but no solid manure will be spread on land under 5 C's control. The manure nutrient analysis for the solid manure is as follows:

Total nitrogen (N) per ton of manure = 9 lbs.  
Total phosphate (P<sub>2</sub>O<sub>5</sub>) per ton of manure = 4.46 lbs.  
Total potash (K<sub>2</sub>O) per ton of manure = 5.94 lbs.

All of the liquid manure generated by 5 C's Farm, estimated to be approximately 3.0 million gallons, will be utilized as nutrients for crop production on approximately 1,470 acres. A nine-year cropping rotation was utilized in the plan, which consist of 690 acres of corn silage at an estimated yield of 27.5 tons per acre, 390 acres of corn grain at an estimated yield of 165 bushels per acre, 100 acres of wheat/straw at an estimated yield of 80 bushels per acre and 290 acres of soybeans at an estimated yield of 50 bushels per acre. The manure nutrient analysis for the liquid manure is as follows:

Total N per 1,000 gallons of manure = 25.10 lbs.  
Total P<sub>2</sub>O<sub>5</sub> per 1,000 gallons of manure = 6.86 lbs.  
Total K<sub>2</sub>O per 1,000 gallons of manure = 14.89 lbs.

The planned manure application rate for the liquid manure is 10,000 gallons per acre on 100 acres of cropland to be planted to corn silage. In addition to the liquid manure generated by the cattle, approximately 4.0 million gallons of storm water will be irrigated annually. This storm water will be irrigated on 125 acres adjacent to the facility that is under a center-pivot irrigation system, and an application rate of 32,160 gallons per acre would be employed. Application would generally take place multiply times per year during the growing season.

An Insect and Rodent Control Plan is required as part of the draft Permit to Operate to minimize the presence and negative effects of insects and rodents. The 5 C's Farm, Inc. Insect and Rodent Control Plan includes methods and practices to control house flies, horse flies, stable flies, mice and rats. Four "sticky traps" will be located in each barn and monitored on a weekly basis. Baseline data will be established to allow the owner to determine an action level as to when control measures need to be implemented. Rodent bait stations and areas of ponding water will be checked on a monthly basis, watering systems will be inspected daily for leakage/spillage,



feed alleys will be “pushed up” daily, and feed storage areas monitored daily when feeding and unusable feeds are disposed of with the manure. More detail on the Insect and Rodent Control Plan can be found in the draft Permit to Operate.

A Mortality Management Plan is required for the disposal of dead animals. Approved methods for disposal are burying, burning, rendering, landfilling or composting. 5 C’s Farm, Inc. currently is composting its mortalities on a compost pad located adjacent to the storm water pond. William Cleland, Jr. is certified through OSU Extension for mortality composting. All mortality compost will be spread on land owned and/or controlled by 5 C’s Farm. In the case of a catastrophic mortality event, mortalities would be disposed of through a rendering service.

An Emergency Response Plan is the last plan required by the draft Permit to Operate to ensure accidents or emergencies are handled quickly and efficiently to maintain the safety of the environment, wildlife and water supplies. Any spills would be halted and contained, the proper authorities would be notified, and the area would be cleaned and restored to the original condition. Prearranged emergency equipment and supplies, such as an irrigation pump, bulldozer, backhoe, and vacuum slurry tank, are also in place. In case of fire, there is a fire emergency response information sheet to assist farm personnel in contacting local fire protection districts.

Finally, an Operating Record is contained in the draft Permit to Operate that includes all forms and information that must be maintained by the facility to show compliance with ODA’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. These records would be inspected by the department at least twice annually.

Menke Consulting, Inc. of Greenville, Ohio, prepared the permit application and the “as-built” engineering plans were prepared by TriCar LTD. of Hilliard, Ohio.

