

SECTION 1: SITE INFORMATION

Description of Cattle and Dairy Facilities

Southern Cross Organics & Energy, LLC (SCOE) includes a confined cattle feeding operation and a dairy operation that has partnered with a neighboring vegetable and field crop farm to make efficient use of the manure solids and effluent and to allow for seasonal beef cattle grazing under the existing irrigation system (various center pivots) during different parts of the year. The facility is owned by SCOE and is managed by Mr. David Temple. Locating these dairy and cattle feeding operations in the middle of a large vegetable and forage production farm provides the unique opportunity that all manure/bedding materials and wastewater generated in the barns can be directly used on site as an organic amendment/fertilizer. A significant environmental benefit is gained by the fact that a portion of the inorganic fertilizer presently being used on the farmland can be offset by these slow release organic fertilizer materials that will be generated by this facility. The slow release nature of these organic materials allows for a net reduction of nutrients needed to grow the crops while improving soil tilth.

Landowner Goals

The landowner has expanded the existing confined animal management system to handle 1200 mature dairy cows in two new freestall barns. SCOE plans to continue to house 4,521 head of beef cattle or the equivalent number of dry cows based on manure production in the existing five stacked-bed confinement barns. Beef cows will have an average weight of 863 lbs and manure nitrogen (N) deposition rate of 94 lbs-N/year while a dry cow will have an average weight of 1250 lbs and manure N deposition rate of 180 lbs-N/year, which means one dry cow will have an equivalent manure production of 1.92 beef cows. Landowner goals include expanding facilities to handle the 2800 mature cows (2400 lactating and 400 dry cows) and maintaining the existing facilities for the beef feeding operation. To expand to 2800 mature cows two additional freestall barns will need to be constructed. The new dairy facilities are in addition to the existing facilities, such as conditioning pastures for new beef cattle stock, beef cattle confinement barns, feed production and processing facilities, methane digester, and effluent irrigation for recycling nutrients back to the crops. To accomplish the landowner goals, two new freestall barns have been constructed and two more are proposed, a new milk center/parlor has been constructed, a new sand lane and collection pit has been constructed, and expanded feed storage facilities for the dairy feed have been constructed.

Southern Cross Organics & Energy, LLC has two center pivots under their control while their partnering neighbor's farm has an addition 50 freshwater center pivot irrigation systems of which 16 are connected to the cattle and dairy waste management system to utilize the nutrients in the manure produces, see Figure 8 below. The wastewater effluent will be pumped to sprayfields where vegetables and forage crops are grown, crops such as peanuts, snap beans, carrots, sweet corn, field corn, potatoes, oats, cotton, sorghum, and bermuda and rye grasses. Conditioning pastures for young beef stock will be rotated through various non-sprayfield pivots. The very limited grazing for conditioning young will be done on bermudagrass, ryegrass, millet, or other residual crops. Solids from the existing stacked-bed confinement barns and any settled and screens solids will be either directly applied at agronomic rates on non-sprayfield pivots or hauled off site or will be composted first onsite before being applied at agronomic rates on non-sprayfield pivots or hauled off site. Composted solids are more desirable to the neighboring vegetable farmer because crops respond better to composted solids than raw solids.