



## **Threemile Canyon Farms Record of Environmental Stewardship**

Threemile Canyon Farms (TCF) is a fully integrated farm operating on a “Closed Loop” system of sustainable agriculture that optimizes resource use with minimal waste. The dairy and crop farms constructively use everything we create, from crop residues to dairy manure.

### **Renewable Energy**

**Methane Digester:** TCF’s methane digester powers approximately 1/3 of annual energy for farm operations while capturing 60,000 tons of carbon annually.

**Wind Turbines:** Wind turbines in operation on TCF deliver a highly desired renewable energy resource into our region's power grid. TCF continually develops renewable energy projects that take advantage of Oregon's wind resources and the farm's proximity to transmission lines.

**Renewable Natural Gas:** TCF’s methane digester will begin providing pipeline quality gas for Renewable Natural Gas (RNG) transportation fuel beginning in the Fall of 2019.

**Solar Power:** TCF is working with a renewable energy company on a solar development project. The anticipated project completion date is sometime in 2022-23.

### **Environmental Stewardship**

TCF’s “Multi-Species Candidate Conservation Agreement with Assurances” (MSCCAA) created in 2000 is considered a national model for voluntary conservation and species protection. The agreement secures 25 years of wildlife conservation area benefits on nearly a quarter of the TCF farm, or 23,000 acres. This is a formal agreement between the U.S. Fish & Wildlife Service, TCF, the Oregon Department of Fish and Wildlife, Portland General Electric, and The Nature Conservancy to address conservation needs of species that are candidates for protection under the Endangered Species Act.

### **Water Conservation**

**High Tech Irrigation:** TCF’s high-tech irrigation system and use of natural soil improvement methods minimizes our use of water resources. Precision, central-pivot irrigation systems minimize water lost to evaporation or over-watering. State-of-the-art wireless computer network monitors allow us to spot and repair leaks immediately.

**Zero Discharge:** TCF strictly adheres to a zero-discharge requirement, so dairy waste never enters streams or groundwater sources. TCF recycles and reuses all non-potable water.

**Green Water:** TCF collects water used to flush dairy waste in lined settling lagoons on the farm and injects the filtered organic liquids into the mainline irrigation system where it’s applied at agronomic rates while naturally fertilizing growing crops. TCF can apply this green-water on a circle by circle basis.



### **Precision Agriculture**

GPS: TCF has reduced field passes by over 50% by implementing Global Positioning System (GPS) auto-steering, reducing overlap, unnecessary tillage, and fuel consumption. New tillage equipment allows for single pass seedbed preparation which reduces compaction and maximizes nutrient and water utilization.

Strip Tilling: TCF uses strip tilling practices with GPS equipment to prevent top soil erosion and minimize fuel usage. Strip tilling also helps decrease top soil erosion and prevent wind damage to our corn crop.

Crop Management: TCF uses cover crops to mitigate disease and pest pressure, and naturally help restore soil health. Cover crops can reduce or replace some conventional crop inputs. TCF has extended its crop rotation schedule from the recommended one-in-three-years cycle to one-in-four-years, resulting in fewer problems with disease and pests, and reduced use of crop protectants.

### **Species Conservation**

The MSCCAA conservation area protects Columbia Basin grassland and several wildlife species reliant on the habitat, particularly four key species whose habitat has been shrinking: Washington Ground Squirrel, Ferruginous Hawk, Loggerhead Shrike, and Sage sparrow. It also helps chinook and Snake River sockeye salmon, steelhead trout, the white-tailed jackrabbit, Swainson's hawk, Western burrowing owl, grasshopper sparrow, long-billed curlew, Northern sagebrush lizard, two species of bitterbrush, two species of sagebrush, and three different grasses.

Our work with the Nature Conservancy continues to serve as a national model for voluntary conservation efforts.

### **Air Quality**

TCF exceeds compliance with air quality best management for dairy operations. According to the Oregon Department of Agriculture (which evaluated air emission mitigation best management practices on TCF in 2017), TCF is exceeding compliance with air quality programs in Oregon's neighboring states of Idaho and Washington. TCF has been recognized by the Oregon DEQ for its continuous adaptation of Best Management Practices - notably the development of a methane digester, the sustainable application of manure on our farmland, and optimizing waste management lagoon storage times to reduce ammonia emissions.

### **Climate Change and Carbon Policy**

TCF's leadership is actively involved in supporting progressive state policies on Climate Change and Carbon Policy. TCF actively supports the State's carbon reduction and renewable energy policies, along with its partner, Tillamook Creamery, to find the best solution for Oregon.