Conservation and Environmental Stewardship

Situation Overview:

A. *How does this farm view their environmental responsibilities for both the farm and land? Please describe.* We view environmental responsibility as one of our most important values. We strive to not only comply with the regulations but to exceed the standards both in conservation practices and nutrient management. Our management decisions are strategic to the seasons and weather conditions in regard to soil and water conservation.

B. *The following conservation and environmental best management practices (BMPs) have been incorporated into the farm plan the last 5 to 10 years:*

- Crop residue management
- No-till planting
- Double and triple cropping
- Contour farming
- Contour strip cropping
- Filter strip
- Conservation buffers
- Crop rotations
- Cover crops
- Permanent vegetative cover
- Grassed waterways
- Diversions
- Pasture and hayland plantings
- Rotational grazing
- Stream bank protection
- Stream crossings
- Animal trails/Walkways
- Structure for water control
- Spring development
- Barnyard runoff controls/Heavy use area protection (i.e...Animal concentration areas)
- Water (manure) storages/Manure stacking
- Manure composter
- Milk house waste
- Roof runoff management
- Precision feeding/Feed management
- Integrated pest management

C. *Does the farm have a Nutrient Management Plan (NMP) or Manure Management Plan?* Yes. *Did this project change the way the farm handles animal manure? Please describe.* We were already in compliance with the standards.

D. *Is manure applied in the winter months (generally December – February)? Is the manure applied in winter due to not enough storage or for other reasons such as timing, field conditions in spring, etc.? [if yes, for what particular reason(s):]* Yes, primarily due to timing. We apply on alfalfa in December, after it is dormant.

E. *Does the farm have a conservation plan or an agricultural erosion and sedimentation control plan? If yes, what are the key components?* Yes. All best management practices are followed. Double cropping and no-till practices are the core of our plan. We keep as much of the land in vegetation as possible.

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F. *Was the farm a CAFO (Concentrated Animal Feeding Operation) or CAO (Concentrated Animal Operation) before the grant project?* No. *After?* Yes. We were a CAO after the expansion.

G. *Did a farm expansion require the development of an Odor Management Plan and any odor management Best Management Practices? How did you become aware of these requirements? Did you find enough experience private sector planners to assist?* Although not required, odor control was a top priority. With the covered manure storage and low volume open storage, odor is not an issue on our farm.

H. *If this project included new conservation or environmental changes, how did they impact farm profitability? Please describe.*

- Manure storage and processing funded 95% by grants:
  - Able to recycle manure with separator and compost drum which reduced bedding costs on entire operation by more than $30,000/year
  - Additional revenue from sale of surplus composted solids, estimated $10,000/year
  - Cover on manure storage reducing rainwater collection in manure resulting in reduced hauling costs, estimated $5,000/year
  - Additional maintenance and operation costs, estimated $10,000/year
- High efficiency lighting
  - $5,000/year estimated savings
  - Received $10,000 rebate through electricity supplier
- Recycling of plate cooler water from milk cooling
  - $5,000/year estimated savings
- Robotic milking uses significantly less water per cow than a parlor

I. *Can the farm quantify the environmental impact of the project? Please describe.*

- Reduction of carbon footprint with lower fuel costs
- Reduction of runoff due to improved storm water management
- Over 1.5M cu. ft. methane gas flared annually
- Virtually no manure spreading in winter

J. *What is the most significant environmental/conservation improvement made on this operation within the last 5 years, and what improvement(s) did it result in?*

- The new manure processing and storage system, as described above.
- No-tillage resulted in more timely planting and double cropping with lower fuel costs and minimized erosion.