New Dataset Submittal Form, Nitrogen Management Project Protocol

A. Information on Parties Submitting Data

1. Name:
2. Title:
3. Organization:
4. Phone:
5. Email:
6. Other involved parties:
7. If you are submitting a data set that you were otherwise not involved in developing, do you have consent from the researchers to submit their data to the Reserve?

B: Basic Information on Dataset

1. Reference data sets must be published. Please provide complete citations for any publications in which the dataset being submitted has been published. If you are not listed as one of the contributing authors for the study, please explain your relationship to and/or interest in submitting this dataset.
2. Where did the study take place? Please provide information on the location of each study site (MLRR or LRR, state, county, city, etc.)
3. Please list the years in which data were collected, noting in which years data were collected year-round and in which years data were collected during the growing season only.
4. Please describe the crop type and/or rotations, including *all* crops in the rotation, cover crops, and fallow years
5. Briefly describe the proposed activity or practice change that the dataset demonstrates will consistently result in N2O emission reductions. Does this activity potentially impact other GHG emission sources, sinks or reservoirs? In which sources, sinks, or reservoirs would GHG reductions occur?
6. Are you submitting this data set for purposes of developing a new Tier 2 methodology? Validating an existing Tier 2 or 3 methodology?

C: Management descriptors (Please describe the following for each treatment evaluated)

1. Tillage practices (conventional till, reduced till, strip till, conservation till, no till, etc.)
2. Rate (amount) of nitrogen applied
3. Types of nitrogen fertilizer applied (please include all, including both organic and inorganic sources)
4. How nitrogen was placed and applied (banded, broadcast, injected, etc.)
5. Timing and frequency of nitrogen application
6. Irrigation type, application frequency and amount
7. Residue handling (left on field, removed from field, including percent remaining incorporated into field, etc.)

8. Other inputs used (i.e. starter fertilizer, phosphorus, etc.)
9. Impact on yields (please describe what, if any, impact the project activity has had on yields. Was any other agronomic event potentially responsible for external impacts on yields over the course of the study?)

D. Study Design Spatial and Temporal Sampling

1. Please provide the following information on the spatial design for each study site:
    i. Number of replicate plots
    ii. Size of replicate plots
    iii. Number of chambers per plot
    iv. Are chambers randomly distributed? Or do they follow a method of stratified sampling? If sampling is stratified, which and how many functional locations were examined?
    v. Is flux data collected via chamber-based methods, tower-based (micrometeorological) methods, or other methods?
    vi. Does the dataset use a sample collection method consistent with one of the following soil methods?
        - USDA ARS GRACEnet Chamber-based Trace Gas Flux Measurement Protocol; the Soil Science Society of America Methods of Soil Analysis
        - Canadian Society of Soil Science Soil Sampling and Methods of Analysis
        - Long-Term Ecological Research Standard Soil Methods
        - Methods in Ecosystem Science.
        - No, the dataset is not consistent with one of the methods above. (Please provide a copy of the sampling protocol implemented and a comparison of how it differs from the required protocols.)
    vii. Please provide a brief description of methods of data collection, including chamber design, sample collection and handling, and gas analysis.
    viii. (Optional) Please provide a visual representation or diagram of the chamber and experimental design.
2. Please provide the following information on the temporal frequency of measurements taken at each study site:
    i. How many times per week were flux measurements typically taken during the experiment?
        a. Were measurements taken with increased frequency after fertilization? If so, what was the increased frequency and for how long were measurements taken at this increased frequency?
        b. Were measurements taken with increased frequency after first irrigation? If so, what was the increased frequency and for how long were measurements taken at this increased frequency?
    ii. At what time of day were flux measurements taken? Were multiple flux measurements taken daily?

E. Location descriptors

1. Please describe the soil characteristics of the study site, including soil texture or series, soil organic matter content.
    i. Is this soil typical of the region?
    ii. If not, what soil is typical of the region?
2. Please describe the weather of each study site:

i. What is the precipitation amount and distribution for the study site (or closest weather station) in the years of the study?
ii. What is the average annual precipitation for the study site (or closest weather station)?
iii. Does weather during the study years represent weather “typical” of the region? If not, please discuss why.
iv. Is the study site located in a region that experiences freeze/thaw cycles?
    a. If yes, does the dataset include at least one full year of flux measurement data?
    b. If no, please provide a list of comparable experiments in the region that did collect year-round flux measurements.
v. Is the study site located in a region that experiences non-growing season precipitation (and lacks freeze/thaw cycles)?
    a. If yes, does the dataset include at least one full year of flux measurement data?
    b. If no, please provide a list of comparable experiments in the region that did collect year-round flux measurements.

3. Describe any notable environmental and/or agronomic events that occurred during the experiment and indicate if they have influenced GHG emissions or resulted in crop damage

F. Treatment of Outliers

1. In the Minimum Data Standard, the Reserve distinguishes between outliers at three distinct stages of the experimental process. Please describe how outliers were treated at each of stage of data collection and analysis in the study (as discussed in the minimum data standard). Please address all types of outliers, including both positive and negative outliers.