



## **Request for Proposals**

### **Soil Health and Texture Laboratory Measurements**

#### **Background**

The Soil Health Institute has projects to sample soils in agricultural production regions across the United States. As part of multiple collaborative projects, a minimum of 3,100 soil samples will be collected in Spring 2024 from across the United States. Approximately 28% of samples are expected to contain inorganic carbon (carbonates) and 50% of samples will be collected from Federal Fire Ant Quarantine Zones. Furthermore, approximately 4,000 samples will be collected in 2025.

#### **Request**

The Soil Health Institute requests proposals to measure the following metrics on 2024 soil samples:

1. Total carbon and nitrogen via [dry combustion](#);
2. Residual water content determined by oven-drying at 105°C for 24 hours;
3. Inorganic carbon on select samples via [modified pressure calcimeter](#);
4. Particle size analysis via [hydrometer with wet sieved sands](#);
5. Aggregate stability via [slaking image analysis](#);
6. 24-hour carbon mineralization potential via [alkaline trap or gas analysis](#);
7. Oven-dry weight of samples for calculation of bulk density (680 cm<sup>3</sup> core volume); and
8. Soil pH via 1:1 soil-water slurry.

Samples will be shipped in batches of approximately 30 samples as collected, and data delivery for each batch would be expected within one month of receipt of samples.

#### **Specific Requirements**

The proposal must specifically address the following:

1. Detailed steps, timeline, and budget for each of the items above.
2. Use of QR codes for sample tracking.
3. Example .xlsx or .csv data delivery file.
4. Expenses related to processing soils from Fire Ant Quarantine Zones if located in a non-quarantined location.
5. Documentation of current APHIS permits if not located in USDA Fire Ant Quarantine Zone.

#### **Submission**

Proposals addressing each of the above requirements are to be submitted to Elizabeth Rieke, Measurement Standardization Lead, at the following address: [erieke@soilhealthinstitute.org](mailto:erieke@soilhealthinstitute.org). Please include "Measurement Proposal" in the subject.

Proposals will be reviewed starting November 15, 2023.