

## Setting up Benchmark Sites

### Ecological Process:

The establishment of benchmark sites is not tied to a specific ecological process but serves the critical purpose of setting initial reference points. These benchmarks allow for the monitoring and comparison of various ecological processes over time. This approach is essential for gaining insights into how ecosystems function and respond to environmental changes. It also informs effective land management strategies aimed at regenerative organic agriculture, biodiversity preservation, and overall ecosystem health.

### Why Perform This Monitoring:

Benchmark sites are established to help land managers assess the impact that their management decisions are having on the regeneration of their soil's health. By returning to benchmarked sites, both impact and direction of change can be observed in-field. These observations can be used to inform on-farm decision making, access additional markets for your products and share your story with your customer base.

### Tools and Materials:

- Phone for taking pictures and geolocating
- Field Map - include a field map in the data sheet, clearly marking the field's boundaries, fixed reference points such as the nearest entrance, and recording the closest GPS point. Ensure there is a North arrow indicating orientation, with north at the top of the page.
- Data sheets
- Site Criteria Sheet
- Clipboard
- Field notebook
- Pen/Pencil/Marker
- Field flags
- Tote/Bucket

## Selecting Benchmark Locations:

### (What To Sample)

1. Connect with the Participant for Site Selection: Email the site selection criteria sheet to the participant to define parameters for choosing the sampling area.
2. Pre-visit Preparation:
  - Once the participant has selected their “best”, “worst” and “unmanaged” areas, go over their reasoning with them to confirm the validity of site selection.
  - Confirm the field locations for best field, worst field and unmanaged area with the participant using a Google Maps screenshot.
  - Identify potential sampling sites using Google Maps - final confirmation of sites will take place in the field
3. Farm Visit:
  - Before taking pictures, make sure that geolocation is enabled on your phone.
  - Visit the farm to locate and confirm the chosen sampling area.
  - Confirm the sampling area by entering the field and selecting a location that meets criteria:
    - Stay at least 10m away from any roadways or field edges.
    - Stay at least 10m away from shelterbelts or treed areas, considering their influence extends approximately 10 times the height of the trees.
    - Is relatively homogenous in terms of topography and apparent crop health.
  - Visually approximate and mark the boundaries of the sampling area (marking is optional).
  - Take geotagged photos to accurately record locations of each of the 10 sampling points as well as an overall site photo.

### (How to Sample)

- Minimize disturbance as you move through the sampling site - limit your movements to reduce compaction traveling when possible between crop rows. Avoid stepping on or breaking plants.
- Documentation: Take geotagged photos and prepare to record exact GPS coordinates at home or in the office after the farm visit for accuracy.

### (Where to Sample)

- Take soil samples and place infiltration rings between rows whenever possible.
- Take note of and avoid areas of potential compaction such as tractor trails.