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| **Table 1**. Summary of soil quality analysis sampling procedures, schedules, and methods | | | |
| **Soil Quality Parameter** | **Soil Sampling Procedure** | **Sampling Schedule** | **Analysis Method** |
| Soil temperature | One iButton/plot | Continuous throughout fall and growing season | iButton datalogger |
| Soil moisture | One probe/plot | " | Soil moisture sensor |
| **PHYSICAL** |  |  |  |
| Aggregate stability | Composite of 5 soil cores (depth=15 cm) per plot | Before seaweed application (Oct 11); before sweet corn seeding (May 12); at sweet corn harvest (Sept 12) | Wet sieving for determination of water stable aggregates |
| Available water capacity | Two 15 cm cores per plot | " | Water content at field capacity |
| Infiltration | One ring/plot | " | Flooded/ponded infiltrometer method |
| Bulk density | Three samples/plot | " | Dry weight per unit volume |
| **BIOLOGICAL** |  |  |  |
| Organic matter content | Composite of 5 soil cores (depth=15 cm) per plot | Before and after seaweed application, monthly through growing season | Loss-on-ignition at 550°C |
| Active carbon | " | " | KMnO4 oxidation, colorimetric determination |
| Potentially mineralizable nitrogen | " | " | Comparison of extractable NH4 before and after 7 d incubation |
| Beneficial and plant-parasitic nematodes | " | " | Modified pie plate extraction; counting; dT-RFLP community analysis |
| Soil respiration | In-field test (1/plot) | " | CO2 evolution measurement |
| Fungal:bacterial biomass ratio | Composite of 5 soil cores (depth=15 cm) per plot | " | Fungal ergosterol extraction; comparison to total microbial biomass N |
| Microbial biomass N | " | " | Chloroform fumigation, K2SO4 extraction |
| Earthworm abundance | 30 x 30 x 30 (width x length x depth) sample (1/plot) | Before seaweed application (Oct 11); before sweet corn seeding (May 12); at sweet corn harvest (Sept 12) | Counting |
| Insect abundance | Three pitfall traps/plot | Before and after seaweed application, monthly through growing season | Pitfall trap collection, visual identification to family |
| **CHEMICAL** |  |  |  |
| Nitrate, ammonium | Composite of 5 soil cores (depth=15 cm) per plot | " | KCl extraction, microplate colorimetric analysis |
| Phosphate | " | " | Morgan's Solution extraction, microplate colorimetric analysis |
| Potassium | " | " | KCl extraction, ICP analysis |
| Ca, Mg, Fe, Al, Mn, Zn, Cu | " | " | X-Ray Florescence |
| Sulfur, sulfate | " | " | XRF, aqeuous extract and spectrophotometric analysis |
| Heavy metals (Pb, Cd, Ni, Cr) | " | Before seaweed application (Oct 11); before sweet corn seeding (May 12); at sweet corn harvest (Sept 12) | XRF |
| Salinity (electrical conductivity) | " | Before and after seaweed application, monthly through growing season | EC meter, 1:2 soil:water |
| pH | " | " | pH meter, 1:1 soil:water |