A Simple C/N Assay for Introductory Soil Science. (A01-ippolito122638-Poster)

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Abstract:

Colorado State University's Introductory Soil Science Laboratory is typically taught using wet laboratory experiences. In one such experiment, students learn about microbial C and N transformations via a 2-week soil incubation experiment. We developed a simple assay for assessing C/N ratios relative to mineralization. In 100 mL plastic jars, we mixed together 20 g soil, 0.20 g of ground wheat straw, and 5 mL of increasing (NH4)2SO4 solution concentrations (0.005% to 0.50%). After a 2-week incubation period, we added 95 mL of H2O to each jar, agitated the jars to suspend the soil, shook the jars for 10 minutes on a reciprocating shaker, filtered, and analyzed the filtrate for NO3-N using NO3 test strips and a Nitrachek test meter. We determined the C/N of each mixture and related the ratio to N transformations. Results will be presented.

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