# Stability/Maturity Indices For Composted Dairy and Swine Manures. (S03-wang102328-Poster)

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## Abstract:

Chemical characteristics, respiration rate, the Solvita Maturity Index and a cucumber plant growth greenhouse bioassay were performed on samples removed during composting of dairy manure amended with straw (DT) or sawdust (DS) and hog manure amended with shredded wood (HW). The C/N ratio of the three composts decreased from initial values of 25 for DT, 34 for DS and 19 for HW to 9, 13 and 15, respectively. Final respiration rates were 0.39, 0.60 and 0.19 mg CO2-C/g volatile solids/d and maturity index values were 6, 6 and 7, indicating mature composts. Stepwise regression analysis of compost characteristics versus cucumber plant dry weight revealed any of several DT compost characteristics (EC, compost age, total N, organic C, C/N ratio, ash content, CO2 respirometry, maturity index) as good indicators of potential plant growth. At least two characteristics were needed for DS composts and even five characteristics were inadequate for HW composts. Foliar analysis identified N availability as the principal factor limiting growth in 'mature' DS and HW composts. No combination of characteristics predicted plant growth for all three types of 'mature' composted manures.

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