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## **BIODEGRADATION RATES OF A POLY CULTURE VERSUS A MONOCULTURE**

Plants grown in polycultures generate larger yields of biomass versus plants grown in monocultures, given similar growth conditions. Since polycultures produce biomass at higher rates versus monocultures, how do rates of biodegradation differ in polycultures versus monocultures? In order answer this question the following procedure was implemented. The first step consisted of preparing 84 soil-block jar microcosms in accordance to the ASTM D1413 standard, giving enough variation to give consistent data and allowing for two separate harvests. After the jars were constructed, blocks (0.75 in<sup>3</sup>) of different wood species variations were added to the jars. Wood blocks (n=6 pretreatment) of species aspen, spruce, and northern white pine were oven dried and weighed prior to adding them to the jars. The polyculture, consisting of the three wood species, had 2 blocks of each species within each jar for a total of 6 blocks while the monoculture had all 6 of the same species. There were three sets of jars, one set containing a white rot fungus (*T. Tersicolor*), one set containing a brown rot fungus (*G. Trabeum*), and the third set containing the control with no fungus. The blocks were allowed to decay for a total of 8 weeks with a harvest of 3 blocks, 1 of each species, taken from each jar at 4 weeks and 8 weeks. After the harvests, the blocks taken from the jars will be oven dried and then weighed. The findings of this trial may help provide information on biodegradation in 'mixed feedstocks' during bioprocessing as well as important ecological data on biogeochemical cycling rates as influenced by crop management.



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