B-57: Effect of mixing of leaf litter of some agroforestry species on the time course of decomposition

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Decomposition of a slow-decaying litter type is expected to be faster in the presence of nutrient-rich, fast-decaying litter types. However, this effect has not been adequately studied in agroforestry tree species. Hence, the time course of decomposition on leaf litter of *Gliricidia sepium, Acacia auriculiformis, Mangifera indica, Artocarpus integrifolia* and rice straw was studied individually and 50:50 w/w mixtures of *G. sepium* + *A.. integrifolia, G. sepium* + *M. indica* , *G. sepium* + rice straw, *A. auriculiformis* + *A. integrifolia* and *A. auriculiformis* + *M. indica* at Mapalana, Kamburupitiya, using litter bag techniwque.

The decomposition of *G. sepium* and *A. auriculiformis* was rapid and lost over 55% of the original mass by 30 days. On the other hand, the mass loss of *M. indica* and *A. integrifolia* during the same period was only 28 and 24% respectively.

Mixing of *G. sepium* with *M. indica* resulted in an increase of the overall decomposition during the first month, suggesting, that the former has enhanced the decomposition of the latter. Similar trend was evident when *G. sepium* was mixed with *A. integrifolia.*

On the contrary, mixing of *A. auriculiformis* with *M. indica* and *A. integrifolia* had the opposite effect, thus delaying the overall decomposition. Therefore, identification of right combination of agroforestry species prove important in efficient nutrient supply and providing protective ground cover.