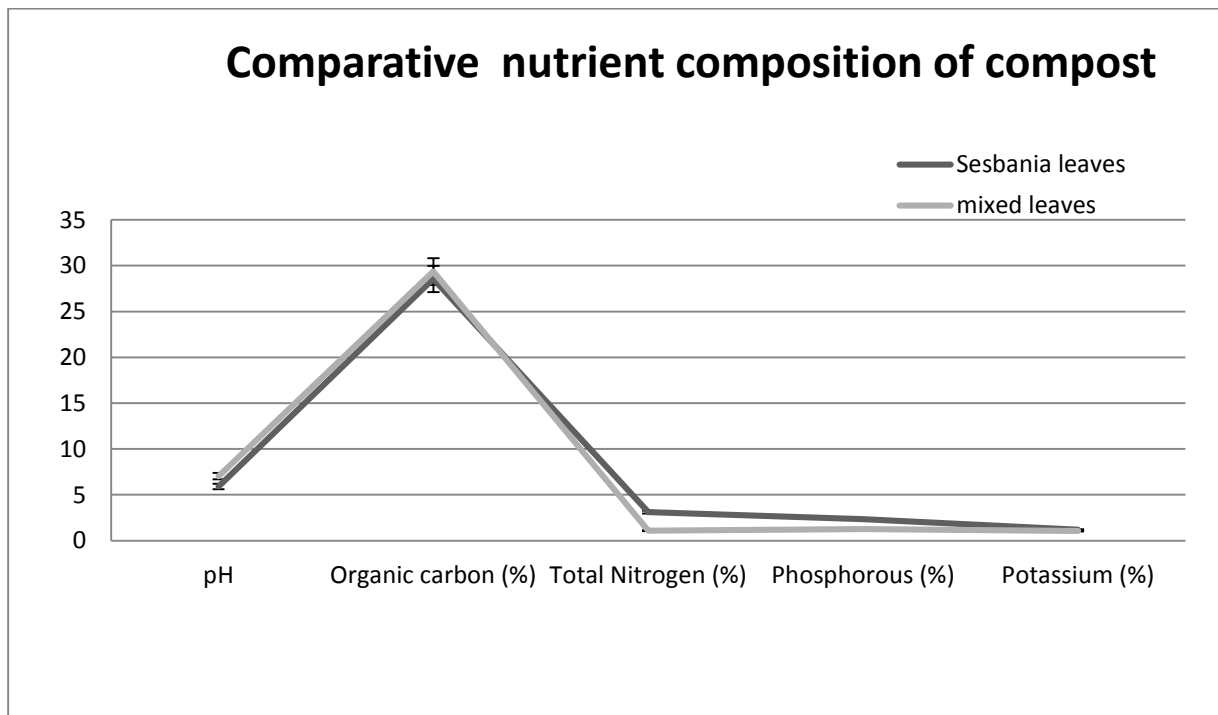


An executive summary of the final report of the work done on the minor research project of Anita D D Lima , entitled **Evaluation of Vermicompost from intercropping residue using *Eudrilus euginae*** sanctioned by UGC , vide sanction letter no. **MRP(S)-0506/13-14/KAMA002/UGC-SWRO** dated **28.3.2014**

The present work was done to enhance needs of farmers and gardeners to convert organic waste to vermicompost. Hence *Eudrilus euginae* is an efficient converter of plant and animal biomass to body proteins and has a wide tolerance to culture conditions and thus has wide range of feeding preference and adaptability. It has high consumption, digestion and assimilation rate. It also has a high fecundity and multiplication rates. Growth and maturity is fast and is disease resistant. Thus organic farming using *Sesbania* is an efficient method of growing better yield of crops during intercropping and the plants were found to be disease resistant when compared to the once which are growing without intercropping.



It has been observed that earthworms require high level of nitrogen ratio which may be favourable for its faster growth and multiplication. It was also observed that earthworms find it difficult to survive in soils which has lower organic carbon ratio. Therefore C:N ratio is one of the most important and critical factor which limits the growth and population of these

earthworms and it ranged between 8:1- 9:1 which indicates it to be preferable for agronomic use of composts. Vermicompost prepared using leaves of *Sesbania* indicated increased levels of nitrogen, phosphorous and potassium whereas decreased amounts of carbon and pH when compared to vermicompost prepared using mixed leaves. The pH content of primary compost and vermicompost was nearly alkaline which was also a crucial factor for luxuriant growth of these earthworms. Earthworms luxuriantly live in  $\text{pH} \leq 6$  or close to 7. Moisture content was maintained 50% and below to avoid excess retention of water thereby creating an anaerobic condition and decreasing the pH of soil thus making it acidic. Earthworm casts have higher available nitrogen, phosphorus, potassium, and calcium contents than surrounding soil. Earthworms also increase the overall microbial respiration in soil, thereby enhancing microbial degradation of organic matter. The soil enriched with vermicompost of *Sesbania* leaves provides additional substances that are not found in chemical fertilizers. Vermicomposting is a way out to loads of organic agro-wastes that are being destroyed and burned by farmers and to recycle and reuse these agro wastes to promote the development of agricultural in more efficient, economical and environmentally friendly manner.