

## PRODUCTION OF COMPOST FROM AGRICULTURAL WASTES FOR ALLEVIATION OF SOIL ACIDITY

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### Introduction

Soil in Malaysia is mostly leached and weathered (Tessens and Shamshuddin, 1983). As such, organics in these soils are easily mineralised resulting in the soils being infertile (Shamshuddin et al. 1995). High amount of sawdust, chicken dung and palm oil mill effluent are produced annually in the country. These materials can be recycled into value-added product such as compost. The study was conducted to produce compost from the agricultural wastes for amelioration of infertile Malaysian soils. Addition of compost will increase soil organic matter and improves the physico-chemical properties of the soils.

### Materials and Methods

In this study, compost was prepared using various combination of sawdust, chicken dung and palm oil mill effluent. Microorganism was added to activate the process of composting. Changes in temperature of the composting materials were

monitored over a period of 35 days. The compost was then applied to acid soils.

### Results and Discussion

The results of the study showed that the maximum temperature of 68°C was reached within 4 days of composting. The control treatment did not show any temperature increase. It was found that chicken dung addition increased the compost pH slightly as compared to the control. The composts were dark brown in colour. Additionally, it was crumbly and odourless. It was noted that addition of activators (special microorganism) increased plant nutrient contents in the soils, but decreased the C: N ratio. The presence of activators in the materials expedited the process of composting as well as improved the quality of the composts. This compost is now ready for testing. A study to test the effectiveness of the compost as a soil ameliorant using corn as a test crop is ongoing.

### Conclusions

Production of compost from saw-dust and palm oil mill effluent requires activators to expedite composting process.] Addition of this compost to acid soils will improve their fertility. In this way, agricultural wastes have been turned into a value-added product.

### References

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