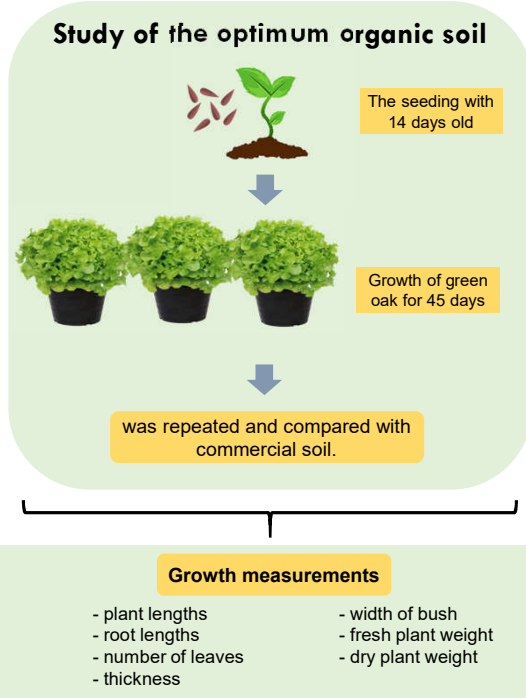


Abstract

Nowadays, the amount of waste in Thailand is very large and management remains a problem. There are many methods, the easiest way to do it is by composting it. Bio Axcel Co., Ltd. has developed a food waste recycling system to change food waste to compost or BA organic soil. In this present study, BA organic soil was mixed with soil and coconut dust at various ratios (0% - 70% by volume) in order to find the optimum organic soil recipe for growing salad vegetable in a pot system. Salad crop was cultivated for 45 days in 8 single plant pot. The all growth parameters of plant that plant 10% BA organic soil by volume gave higher. Than that when compared with the soil and other proportions of BA organic soil Thus, BA organic oil could be used as a fertilizer for plant growing.

Keyword: food waste; green oak lettuce; organic soil; compost; pot plant systems

Materials and Methods



Conclusion

Physicochemical characteristics and the nutrient contents of BA organic soils obtained from BIOAXEL Co., Ltd., Koh Sa-mui, Surat Thani, were found to be within acceptable limits stipulated by the Thai Agriculture standards for compost (TAS 9503 2005). BA organic soil utilization were observed and measured in the experimental planting of green oak lettuce using this BA organic soils. The use of this BA organic soils with 10%v/v adding in soil and coconut gave the best outcome. Thus, BA organic oil could be used as a compost for planting.

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Introduction

Thailand generated average amount of 27.93 million tons of municipal waste per year, which is 18 million tons of food waste. Land fill is the method to manage this waste. However, this method not only use a large area but also has affected on environment problems. The easy way to get rid of this waste is to make compost. BIOAXEL Co., Ltd., Surat Thani, Thailand has developed a food waste recycling system to change the food waste to compost or BA organic soil (BA) in commercial name. After checking the BA organic soil quality, it was found to be within acceptable limits stipulated by the Thai Agriculture Standard for compost (TAS 9503 2005). However, utilization of BA organic soil has been lacking of information. Thus, this work aimed to study the utilization of BA organic soil for growing salad vegetable in pot plant system.

Result

Study of the optimum organic soil



The best ratio was found that the organic soil formula 10% BA. (Figure 1.)

Therefore, repeated experiments were conducted to select the soil recipes with the best salad vegetable growth. BA organic soil formulations (10% and 30%) and commercial soils by volume at harvest life of 45 days.

Figure 1. Comparative assessment of growth of Green oak salad vegetable: T1: 100% soil (control), T2: 5% organic soil, T3: 10% organic soil, T4: 30% organic soil, T5: 50% organic soil, T6: organic soil 70%

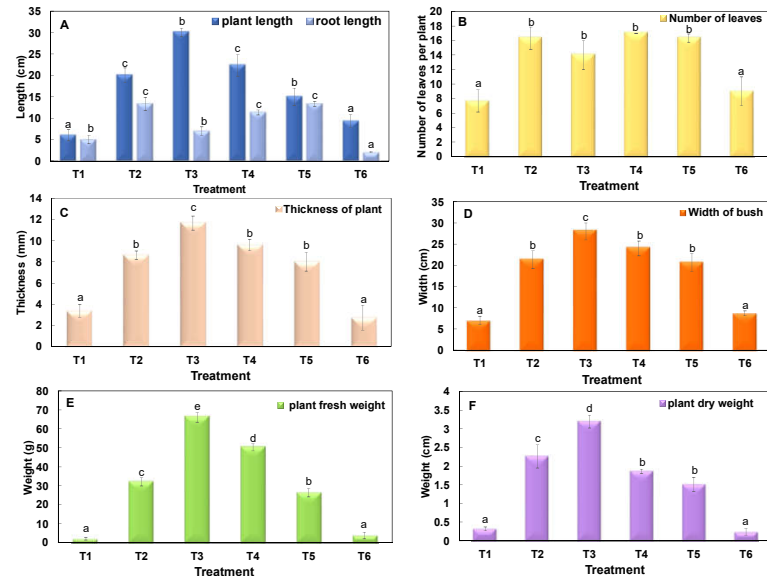


Figure 2 Growth parameters of green oak: plant length root length(A), number of leaves per plant(B), thickness of plant(C), width of bush(D), plant fresh weight(E), and plant dry weight(F) of green oak. Vertical bars represent the standard deviation (n=3). The same letters are significantly different by Tukey's test (p=0.05).