

ABSTRACT OF THESIS

Thesis title: Introduction to Eggplant Production in Laos

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Eggplant (*Solanum melongena L.*) is one of the most popular vegetable crops in Laos. It is widely cultivated for both household consumption and sale in the market. Despite the importance of this vegetable in the culture and economy, there is little available information on its cultivation practices in the country. The research was conducted in Nanga Village, Naxaythong District, Vientiane Capital, with the aim of studying different cultivation methods and their effects on growth and yield performance. The four treatments studied were chemical fertilizers, organic compost, mulching with rice straw, plus a control with no inputs. In parallel with the experiment, a small market survey was carried out in local markets of Vientiane to determine consumer demand and seasonal price fluctuations. Differences appeared to be obvious when comparing the treatments. Fertilizer use guaranteed the best results and proved eggplant to be a sensitive crop to nutrient supplies. Compost improved soil structure and fertility, while by its nature, it is a sustainable and locally available option for smallholder farmers in returning reasonable yields, although the yield was lower than in fertilizer treatment, but the difference was not statistically significant. Rice straw mulching behaved moderately in yields but added additional points in moisture conservation, weed control, and temperature regulation. The control performed the least because nature differentiated soil fertility inadequately sustains yield. The market survey conducted in three local markets in Vientiane finds eggplant consistently demanded throughout the year. Traders reported that generally, the supply decreases in the rainy season; thus, the prices rise from around 8,000-10,000 LAK/kg in the dry months to 12,000-15,000 LAK/kg in July-August. Both traders and consumers emphasized medium-sized glossy purple fruits as preferred

and easy to sell and handle. These findings further emphasized that a steady supply maintained through good management practices and proper use of compost and mulch should be one of the means to stabilize the market and farmers' income in Laos. It is concluded that no single method fits all conditions. Whereas fertilizer grants a quick output gain but also creates dependence, compost provides for long-term soil fertility, mulching gives inexpensive soil and water benefits, and the control shows the necessity of using inputs. It is proposed that an integrated approach, using compost and mulching with a slight amount of fertilizer, offers the best solution for smallholder farmers in Laos.