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ECONOMIC EFFECTS OF PRUNING AND BAGGING TECHNOLOGIES IN MANGO PRODUCTION IN SELECTED MAJOR PRODUCING AREAS IN THE PHILIPPINES

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ABSTRACT

The effects of pruning and bagging technologies on 332 mango growers in Luzon, Visayas and Mindanao were analyzed in terms of improvement in fruit quality, reduction in the use of chemicals, change in pest management cost, productivity, and net income over pest management cost. Control of pests and diseases during production was mainly chemical control using active ingredients of varying toxicity. Pruning reduced the volume and cost of chemicals, and decreased the cost of pest management as indicated by the estimated cost function. Pruning is a yield increasing technology based on Cobb-Douglas production function. Net revenue above pest management cost was higher for adopters than for non-adopters of pruning. While bagging reduced the volume and cost of chemicals, it did not reduce the cost of pest management because bagging is relatively costly. Nonetheless, bagging resulted in higher yield and a higher proportion of yield sold to exporters. Net revenue above pest management cost for adopters in Luzon was higher than for non-adopters by about $10 per tree. The difference was not significant, but represents a big opportunity for growers with limited capital. The technology has important backward linkages in terms of rural labor and recycling of papers as bagging materials but can reduce the use of chemicals. The technologies have long-term effect on the environment and the "mango-eating" public via reduction in the use of chemicals. The continued adoption of the technologies could minimize environmental pollution and accumulation of the ill-effects of chemicals on the health of workers, households members and consumers.

Keywords: mango, pruning, bagging, cost function, production function, backward linkages