
Cost and Return on Investment of in Season Cropping and off-Season Cropping of Rambutan, The Economic Fruit Crop in Nakhon Si Thammarat

Sugalya Preecha^{*}, Unchalee Sondee, Punvacee Junnim, Chalermkiat Ranglek and Suwisa Chaisuwan

Department of Accounting, Faculty of Management Technology, Rajamangala University of Technology Srivijaya, Nakhon Si Thammarat Campus, 80110, Thailand

Precha S., Sondee U., Junnim P., Ranglek C. and Chaisuwan S. (2016). Cost and return on investment of season cropping and off-season cropping of rambutan, the economic fruit crop in Nakhon Si Thammarat. *International Journal of Agricultural Technology*. 12(7.2):2095-2099.

Rambutan, economic fruit crop in Nakhon Si Thammarat, Thailand can be produced both in season and off- season. Research on cost and return on investment of in season cropping and off-season cropping of rambutan, economic fruit crop in Nakhon Si Thammarat was done to survey general economic and social aspects; and compare the financial cost and return between in season cropping and off-season cropping. The data was collected from 15 sampled farmers of each both population. The result showed that the almost farmer, 95 % was male only 5 % was female. The most of them were the middle age during 45-60 year with the highest of 79 %, the second group was the older than 60 years with 21 %. For education level, the major of them were primary school with 85 % and the higher education was only 9%. All farmers grow rambutan “Ngo Rongrian” variety only. The financial analysis revealed that the cost of in season production was 952.58 USD/hectare which conducted the fixed cost of 440.95USD /hectare (46.29%) and the variable cost of 511.63USD /hectare (53. 71%).The income was 1,928.02USD /hectare with net profit 975.44USD /hectare. Net profit to cost ratio was 102.40 % net profit to sales ratio was 50.59%. While the cost of off-season production was higher than in season production of 3,367.79USD /hectare which the fixed cost of 601.26USD /hectare (17.85%) and the variable cost of 2,766.53USD /hectare (82.15 %). The income was also higher of 21,508.14USD /hectare with net profit 18,140.35USD /hectare and net profit to cost ratio was 538.64% while net profit to sales ratio was 84.34%.

Keywords: cost and return, income, in season cropping, off-season cropping

Introduction

Fruit crop is an important economic crop in Thailand. Thai tropical fruit crop is very popular both in domestic and international consumers and also gain

^{*} **Coressponding Author:** Unartngam J.; **E-mail:** skpreecha@yahoo.co.uk

more income several thousand million USD a year. Thailand is the land which has the optimal geography and climate for tropical fruit crop including durian, mangosteen, longan, lychee, mango, pummelo, rambutan, pineapple, aroma coconut, tamarind etc. The optimal growing area is from northern to southern of Thailand. The total amount of exporting product was 1,000,000 ton/year and the farmers got income which value was high as 300 million USD/year (Department of Agricultural Economics, 2016).

In southern part of Thailand, Nakhon Si Thammarat is the major growing area of Thailand. Produce was harvested at the same period; it was over supply in the market consequent to the low price. The farmers received low income due to reduce growing area by re-growing oil palm and rubber tree that will be easily cultural practice and higher income.

When fruit crop was oversupply, several farmers in this area developed and adopted the new technology and cropping system to produce off-season. However, fruit crop is long term production; they need high loan for the first period of cropping before they give the yield. Off-season production also need more intensive practice, more input, more technology, knowledge and experience. Most farmers lacked product cost management, cropping management to produce good quality for the satisfaction of consumer both in domestic and exporting market.

Tropical Fruit Crop and Tree Research Center, Department of Plant Science, Faculty of Agriculture, Rajamangala University of Technology Srivijaya (Saiyai), Nakhon Si Thammarat, Thailand developed the effective technology and transferred to the farmers to improve the cultural practice, cropping management (pruning, fertilization, irrigation, growth and flower stimulation, pest management grading etc.) and also adapted the weather condition and climate to set the suitable of production period. Now, several farmers succeeded to produce off-season of durian, rambutan, and mangosteen which higher income. This research was done to analysis cost and return of rambutan product in season and off-season cropping of farmers in Nakhon Si Thammarat. The result should be used to approach for development of quantity and quality and increasing value add of rambutan and used for decision making of farmers to produce in season or off-season

Materials and methods

Population and Sample: This research was selected the farmers at rambutan growing area in Nakhon Si Thammarat, Thailand for data collection

by specific sampling technique. The data was collected from 15 sampled farmers of each both population.

Research tool: Questionnaire was conducted to collect data with 2 parts included: part1, question related to general aspect of social and economic data; and part 2, question was conduct to collect data about cost and return of rambutan product in season and off-season.

Data collection: Primary data was collected by interviewing 15 farmers sampling of each group as mention above. For the secondary data was collected from thesis, research report and data collected by institute/department which related work on farmer included: Office of Agricultural Economics, Department of Agriculture and Tropical Fruit Crop and Tree Research Center, Department of Plant Science, Faculty of Agriculture, Rajamangala University of Technology Srivijaya (Saiyai).

Results

Part1: Social and economic aspect analysis informed that the almost farmers growing rambutan, 95 percentage was male only 5 % was female. The most of them were the middle age during 45-60 year with the highest of 79 %, the second group was the older than 60 years with 21 %. All farmers were marriage and the majority of them, family member was 3-4 persons/family (53 %). There were only 27 % which have family member 5-6 persons/family. Education level, the major of them were primary school with 85 % and the higher education, bachelor was only 9% and 6 % of secondary school. For family income, most of them, 80 % had income 143-286 USD/month, a few, 6 % had higher than 286 USD/month. All of farmers grow rambutan “Ngo Rongrian” variety only.

Part2: Financial analysis of cost and return of in season and off-season rambutan cropping, result indicated that cost of production of in season cropping was 952.58 USD/hectare. When conducted the fixed cost was 440.95USD/hectare (46.29%) and the variable cost of 511.63USD /hectare (53.71%).The income was 1,928.02USD /hectare with net profit 975.44USD /hectare. Net profit to cost ratio was 102.40 % net profit to sales ratio was 50.59%. While the cost of off-season production was higher than in season production of 3,367.79USD /hectare which the fixed cost of 601.26USD

/hectare (17.85%) and the variable cost of 2,766.53USD /hectare (82.15 %). The income was also higher of 21,508.14USD /hectare with net profit 18,140.35USD /hectare and net profit to cost ratio was 538.64% while net profit to sales ratio was 84.34% (Table 1).

Table 1 Comparison cost and income on rambutan in season and off-season production in Nakhon Sri Thammarat. (per hectare/year)

	In season		Off-season	
	USD/hectare	%	USD/hectare	%
Income	1,928.02		21,508.14	
Production cost				
1. Variable cost				
1.1 Agricultural material cost				
Seedling	35.70	3.75	32.13	0.95
Soil preparation	151.74	15.93	360.61	10.71
Chemical fertilizer	208.87	21.93	1,337.12	39.70
Organic fertilizer	22.32	2.34	248.50	7.38
Pesticides	-	-	285.28	8.47
Growth regulation	-	-	81.41	2.42
Fuel	10.53	1.11	40.88	1.21
1.2 Pesticide application labor cost	-	-	25.86	0.77
1.3 Pruning labor cost	-	-	214.22	6.36
1.4 Weeding labor cost	71.41	7.50	112.29	3.33
1.5 Farming equipment cost	5.36	0.56	5.18	0.15
1.6 Electric cost	5.72	0.60	23.03	0.68
Total variable cost	511.64	53.71	2,766.53	Zcxv
2. Fixed cost				
Property tax	10.71	1.12	10.71	0.32
Equipment depreciation	430.23	45.16	590.55	17.54
Total fixed cost	440.95	46.29	601.26	17.85
Total production cost	952.58	100.00	3,367.79	100.00
Net profit	975.44		18,140.35	
Net profit to cost ratio		102.4		538.64
Net profit to sales ratio		50.59		84.34

Discussions

Financial analysis of cost and return on rambutan production both in season and off- season in Nakhon Si Thammarat found that the farmers that produce off-season had higher cost than in season since it needed intensive practice and more input factor for better quality and marketing acceptable. The variable cost included soil preparation, chemical fertilizer, organic fertilizer and

pesticides on off-season was 360.61, 1,337.12, 248.50 and 285.28 USD/hectare, it was higher than in season of 151.74, 208.87, 22.32 and 0 USD/hectare. (Table1). However, the total produces from off-season was low, while the demand was too high, the price was 0.14-0.28 USD/kg in season raised to 1.5-3 USD/kg due net profit to cost ratio was 538.64% while net profit to sales ratio was 84.34% as mention above. The high return on off-season cropping was confirmed by the report of Tropical Fruit Crop and Tree Research Center, Department of Plant Science, Faculty of Agriculture, Rajamangala University of Technology Srivijaya (Saiyai), it revealed that off-season product gave extreme higher income than in season. The net profit to cost ratio was 610 % and net profit to sales ratio was 85.92%. When compared with in season, net profit to cost ratio was only 102.4 % and net profit to sales ratio was 50.59%. Financial analysis of cost and return of this research could be concluded that off season production gave higher income than in season. It should be convinced more farmers change from in season to off-season production.

References

- Komatut, D. (2551). Cost Accounting 12th ed. Chulalongkon University Printing, Bangkok. Earjiraponhpun, S. 2553. Cost Accounting. McGrawhill, Bangkok.
- Office of Agriculture Nakhon Si Thammarat. (2558). Available on: <http://www.nakhonsri.doae.go.th/pa.htm>.
- Office of Agricultural Economics. (2558). Available on: <http://www.oae.go.th/main.php?filename=price>.
- Office of Agricultural Extension and Development 5 Song Kla. (2558). Available on: <http://www.sdoae.doae.go.th/web59/index.html>.
- Tropical Fruit Crop and Tree Research Center. (2558). Department of Plant Science, Faculty of Agriculture, Rajamangala University of Technology Srivijaya (Saiyai).