CHAPTER VI

MARKETING COST

The descriptive analysis based on accounting data was used to calculate the marketing costs of the first fifteen high value vegetables of the Project's sale sections and rates of turnover of vegetable marketing in the Project. The cost was of concern because the firm that does not achieve a price that covers their costs would not survive in the long term. The final price in the marketplace is affected by internal (marketing strategy, cost) and external (customer, competitor) factors (Schaffner *et al.*1998). In this chapter the vegetable costs of Chiang Mai and Bangkok sales sections were compared to the retail prices of the Project and other brand names in marketplaces to assess the opportunity to sell each product in various marketplaces. The prices from the results of hedonic price models were the lowest prices, which were calculated from the lowest qualities of vegetable in each marketplace. The results of the cost analysis would provide the information that helps to set the appropriate selling price in each marketplace of the Project. The vegetable cost consists of management cost, purchased price of vegetable, trimming cost, loss through trimming of vegetable, and opportunity cost.

6.1 Management Cost of Vegetables

The costs of management per kilogram of vegetable in both Chiang Mai and Bangkok were estimated by using the proportion of vegetable sale value and total expense, divided by total amount of purchased vegetable. Total expense is expense accruing to all products, which consists of salary, utility, expense, storaging, and the asset.

Management cost of vegetable = ((VI*100/TI)*TP/100)/TQ

Where VI = Vegetable Sale Value

TI = Total Sale Value

TP = Total Value Purchase of the Project

TQ = Total Quantity Purchased Vegetable

The proportion of Chiang Mai and Bangkok vegetable sale value from the total in 2000 was equal to 54.79 % and 39.46% respectively. In 2000 the total amount of vegetables purchased by the project were equal to 5,360,743.43 kg. and 28.62 % of them were sent to Bangkok sale section. The vegetable management costs per kg. of Bangkok and Chiang Mai sale sections are equal to 2.52 and 2.26 baht per kg. as shown in Table 6.1.

Table 6.1 Management Cost per kg. of Vegetable in 1999/2000

	Chiang Mai Sale Section	*Bangkok Sale Section*
Total Income	110,419,045.27	87,991,871.86
Total Expense	15,749,678.56	9,798,559.26
Vegetable Income	60,499,241.84	34,724,603.19
Percentage of Vegetable Income	54.79%	39.46%
Vegetable Expense	8,629,341.16	3,866,846.73
Total Vegetable Amount	3,826,287.69	1,534,455.74
Expense per 1kg. of Vegetable	2.26	2.52

Source : The Royal Project Foundation, 2000

6.2 Vegetable Cost

The vegetable prices of both sales sections are the same, which are the prices paid to the farmers by the Project. As mentioned earlier, the farmers under the project could sell their products to the other merchants if the prices offered by the Project are lower. Therefore the prices paid to the farmers by the Project were the bidding prices between the Project and other merchants. Almost all of the 15 studied vegetable purchasing prices fluctuated by season except michilli, Chinese cabbage, common tomato, and Japanese pumpkin for which the farmers' prices are stable throughout the year.

6.3 Trimming and Packaging Cost

Trimming and packaging cost of each vegetable consists of labor cost per kg., plastic bag, lime, and the depreciation of plastic crates, knives, and warehousing. The trimming and packaging costs of each vegetable are different depending on the time of packaging, wage rate per day, weight of vegetable per crate, total quantity of each vegetable per year, quantity and purchased price of equipment/tool and fixed inputs used per unit of vegetable, and time period of fixed inputs usage (Wiboonpongse, 1999).

6.4 Opportunity Cost

The opportunity cost is the income foregone by keeping a given set of resources out of the most profitable alternative use that would be practicable (Abbot, 1986). In this study it was measured by using the interest rate (4%) of depositing the money in the bank.

6.5 The Cost of Unsold Vegetable of Chiang Mai Sales Section

The costs of the left vegetables were calculated from the amount of left vegetable in each month and its purchase price. From 15 studied vegetables, it was found that the loss value of 8 vegetables of the Chiang Mai sales section were highest in summer. Those vegetables were cos lettuce, carrot, baby carrot, sweet pepper, common tomato, cherry tomato, cucumber, and snap bean (Table 6.2). The left values of head lettuce, celery, and michilli were high in winter and the left values of zucchini and Chinese cabbage were high in the rainy season. There was no red cabbage left in 2000. The loss of left products depended on the amount left and the purchase price in each period. It correlated to the purchased amount, the left amount was high when the purchased amount was high. The left values of 15 selected vegetables are shown in Table 6.2, and the cost per kg. of each vegetable are presented in Table 6.5. The costs of left vegetables per kg. were calculated from the value of the left and the amount of each vegetable sold by the Project.

Table 6.2 Percentage and Value of left Vegetables of Chiang Mai Sales Section in 1999/2000

	Value of loss from Left Vegetable			Percentage of Left Amount	Total Value of loss from Left Vegetable
	Winter[1]	Summer[2]	Rainy[3]		
1. Head Lettuce	476,149.40	230,696.66	171,411.64	4.56	878,257.70
2. Cos lettuce	62,141.10	71,341.04	24,136.00	7.04	157,618.14
3. Celery	118,896.75	-	17,829.66	3.55	136,726.41
4. Carrot	15,936.75	35,706.15	5,698.58	2.06	57,341.48
5. Baby Carrot	2,385.00	16,043.23	-	2.77	18,428.23
6. Red Cabbage	-	-	-	-	-
7. Michilli	35,691.25	6,111.32	10,429.93	1.39	52,232.50
8. Chinese Cabbage	5,727.73	5,634.69	13,783.21	0.59	25,145.63
9. Sweet Pepper	-	7,211.64	-	0.37	7,211.64
10. Common Tomato	-	50,590.36	16,105.50	2.73	66,695.86
11. Cherry Tomato	-	11,377.01	910.00	0.80	12,287.01
12. Japanese Pumpkin	-	1,325.00	-	0.03	1,325.00
13. Japanese Cucumber	-	36,244.52	31,433.84	3.03	67,678.36
14. Zucchini	1,670.50	845.55	33,741.00	1.98	36,257.05
15. Snap bean	15,549.00	57,262.13	14,232.36	2.45	87,043.49

Source: The Royal Project Foundation,2000
Calculated

6.6 The Cost of Trimmed Vegetable of Chiang Mai Sales Section

The costs of loss from trimmed and left vegetables were calculated from the percentage of vegetable to be culled out and the amount of left vegetable which were recorded by the packaging section of the project throughout the year, and the purchase

[1] November -February

[2] March - June

[3] July - October

head lettuce, michilli, Chinese cabbage, cos lettuce as the percentage of culled out parts of these vegetables were high (Table 6.3). The value of trimmed vegetable was mainly dependent on the amount broken and destroyed from pest and disease, and the purchase price in each period. All of the vegetables purchased was graded by using the standard of the Project. This process was done by the Packaging Section of the Project in Chiang Mai. The loss value of trimmed vegetable was shown in Table 6.3. And the costs of loss from trimmed product per kg. in each season, are shown in Table 6.5.

Table 6.3 Percentage and Value of Loss from Trimmed Vegetable of Chiang Mai Sale Section in 2000

Vegetable	Percentage of trimmed vegetable	Value of loss from trimming
1. Head Lettuce	46	7,989,377.69
2. Cos lettuce	41	532,967.83
3. Celery	36	964,659.71
4. Carrot	13	266,933.10
5. Baby Carrot	7	85,219.14
6. Red Cabbage	25	468,190.60
7. Michilli	45	1,289,040.00
8. Chinese Cabbage	42	1,614,587.09
9. Sweet Pepper	4	57,128.54
10. Common Tomato	0.4	7,404.69
11. Cherry Tomato	1	19,203.03
12. Japanese Pumpkin	0	0.00
13. Japanese Cucumber	3	58,124.97
14. Zucchini	10	148,189.58
15. Snap bean	0	0.00

Source: The Royal Project Foundation,2000

6.7 The Cost of Loss from Left and Trimmed Product of Bangkok Sales Section

The data of trimmed and left vegetable of Bangkok sale section were not recorded separately. Therefore the costs of left and trimmed product of Bangkok were the same number. The loss value of each vegetable were as follow:

Table 6.4 Percentage of Destroyed and Value of Left and Trimming of Vegetable of Bangkok Sales Section in 1999/2000

Vegetable	Percentage of Trimmed and left vegetable	Value of loss of trimmed and left vegetable
1. Head Lettuce	56.21	3,595,296.56
2. Cos lettuce	53.08	532,967.83
3. Celery	27.96	360,966.40
4. Carrot	5.18	31,315.55
5. Baby Carrot	15.64	65,499.32
6. Red Cabbage	22.48	145,317.69
7. Michilli	37.66	547,529.77
8. Chinese Cabbage	39.39	595,025.87
9. Sweet Pepper	5.33	24,025.44
10. Common Tomato	11.37	126,319.56
11. Cherry Tomato	8.44	54,517.56
12. Japanese Pumpkin	17.62	97,957.31
13. Japanese Cucumber	13.76	72,578.43
14. Zucchini	20.34	64,362.17
15. Snap bean	7.13	46,023.80

Source: The Royal Project Foundation

Head Lettuce

In 2000 the prices paid to the farmers were 23.15, 18.20, and 20.59 baht per kg. The quantities purchased by Chiang Mai sales section were 333,257.50, 316,603, and 226,904.5 kg. in winter, summer, and rainy season respectively. The purchased quantity of Bangkok sales section was less than Chiang Mai; the amounts in each season of Bangkok sales section were 82,719.30, 111,302.46, and 130,509.90 kg. The cost of loss from trimmed product of Chiang Mai sales section was high because the average percentage of head lettuce to be culled out was equal to 46%, it was equal to 8,279,082.27 baht in 2000 (Table 6.3). The costs of trimmed leaf of Chiang Mai sales section were equal to 17.98, 21.49, and 29.21 per kg.(Table 6.5) in winter, summer, and rainy season respectively.

Another important cost was the value of left product due to non-sale. For Chiang Mai sales section it was equal to 878,257.70 baht in 2000 (Table 6.2), the values of the left head lettuce were equal to 476,149.395, 230,696.66, and 171,411.64 baht in winter, summer, and rainy season respectively. The average costs of the loss per kilogram were equal to 2.3, 1.70, and 1.94 baht (Table 6.5), while percentage of the left head lettuce were equal to 5.02%, 5.64%, and 3.31% in winter, summer, and rainy season. The costs of left and trimmed of Bangkok were higher than Chiang Mai, especially in summer. In each season the costs of the left and trimmed product per kg. of Bangkok sale section were equal to 23.77, 105.65, and 48.11 baht per kg.(Table 6.6)

Total costs of head lettuce of Chiang Mai sales section were 48.83, 46.57, and 57.02 baht per kg.(Table 6.5) in winter, summer, and rainy season. The cost in rainy season was highest because the loss of trimmed product was higher than other seasons. Total cost per kg. of head lettuce of Bangkok were 47.66, 130.49, and 75.25 baht per kg.(Table 6.6) in winter, summer, and rainy season. The cost of head lettuce in summer of Bangkok sales section was not significantly different from Chiang Mai sale section (Appendix 3) due to percentage of culled out leaves and left product being high only in May (92.35%).

The results from the hedonic price model reveal that the lowest retail prices of non-chemical residue head lettuce in supermarket in Chiang Mai were equal to 62.83, and 78.83 baht per kg. in summer and rainy season and the highest retail prices of this product were 78.91 and 94.19 baht per kg. More over it was found from the model that the retail price of the Project's head lettuce was lower than the other brand names by 24.09 baht per kg. Eventhough the retail price of the Project's head lettuce was less than the other brand names, all of purchased product in Chiang Mai sales section could not be sold. Therefore the Project has to expand the head lettuce market in order to reduce the loss from left product at Chiang Mai sales section. It was found that the lowest retail prices of head lettuce in Bangkok in summer and rainy season were 103.75 and 119.75 baht per kg. and the highest retail prices were 119.11 and 135.6 baht per kg. However both sale sections have to reduce the loss from the left product.

Cos Lettuce

The lowest purchased price of the Project was in summer (Table 6.5), especially in March. The prices average at 25.66, 17.40, and 26.22 baht per kg. The quantities purchased by Chiang Mai sales section in 2000 were 29,204.5, 33,441, and 27,611 kg., and purchased quantities of Bangkok sales section were 15,675.40, 16,103.40, and 25,603.40 kg. in winter, summer, and rainy seasons respectively. Percentage of part to be culled out of this vegetable in Chiang Mai sales section was equal to 41%, its value was 681,454.5 baht throughout the year (Table 6.2). The average costs of trimmed vegetable per kilogram were 18.55, 13.89, and 21.19 baht per kg. and percentage of culled parts were 39.70%, 41.81%, and 42.52% in winter, summer, and rainy season respectively. The cost of loss from trimming in the rainy season of Chiang Mai sales section was highest because the proportion of culled out leaves and purchase price were higher than the other seasons. The cost of loss from trimming per kg. in winter was higher than summer, even if the percentage of culled out leaves in winter was lower

because it's purchase price per kg. was higher than in summer. In 2000 Chiang Mai sales section lost 157,618.14 baht due to products left (7.04% of total). Percentages of the left product were 8.43%, 9.46%, and 2.94% with the average costs per kg. at 3.02, 3.56, and 1.72 baht per kilogram (Table 6.5) in the summer, winter, and rainy seasons respectively. In winter and summer, the value of the left products were high due to the percentage of left product being high in January and February, 34.92 %and 36.43% respectively. The value of the loss of left and trimmed product of Bangkok sales section was equal to 532,967.83 baht. The costs of loss in the summer and rainy seasons were higher than vegetable costs, they were 17.00, 25.54, and 50.43 baht per kg. in the winter, summer, and rainy seasons.

Total costs of cos lettuce of Chiang Mai sales section were equal to 52.41, 40.00, and 54.64 baht per kg. in the winter, summer, and rainy seasons respectively (Table 6.5). 46.62% of the cost per kg. was vegetable cost and 38.14% was the loss from culled out leaves. The costs of this product at Bangkok sales section were 42.92, 49.56, and 83.92 baht per kg. in the winter, summer, and rainy seasons respectively (Table 6.6). In the rainy season, the cost to Bangkok sales section was significantly different from Chiang Mai sales section because the percentage loss in this season was high, it was 60.09% of total cost per kg.

The results from the hedonic price model represents that the lowest retail price in supermarkets in Chiang Mai in the summer and rainy seasons were 70.85 and 70.49 baht per kg., which can cover the total costs of the project's product. The Project can compete in the market by selling product at a lower price than the other brand names in Chiang Mai. However the results from the hedonic price model represent that the lowest retail prices in Bangkok were 117.41 and 117.05 baht per kg., while the costs of cos lettuce at Bangkok sales section were 49.56 and 83.92 baht per kg. in the summer and rainy seasons. In summer, Bangkok sales section can expand the market of this product by selling at lower prices than other brand names, or gain profit and provide more

income to the farmers. In the rainy season, the loss of left and trimmed product needs to be reduced in order to compete in the market.

Celery

In 2000 the amount of celery purchased by Chiang Mai sales section in each season were 55,423, 28,150.5, and 28,029.5 kg. with the purchasing prices at 19.94, 26.02, and 34.08 baht per kg.(Table 6.5) in the winter, summer, and rainy seasons respectively. The quantities of Bangkok sales section were 13,291.90, 7,519.5, and 18,091.50 kg. in the winter, summer, and rainy seasons. Apart from the purchase price, another important cost was the loss of trimmed product, its value to Chiang Mai sales section was 964,659.71 baht (Table 6.2) throughout the year. In each season percentages of trimmed product at Chiang Mai sales section were 36.92%, 31.96%, and 40.16% and the costs of trimmed celery per kg. were equal to 14.99, 13.06, and 24.35 baht per kg. in the winter, summer, and rainy seasons respectively. The value of culled out product per kg in the rainy season was higher than the other seasons because its purchase price and the percentage of celery trimmed were highest. Total value of left product was equal to 136,726.41 baht in 2000 (Table 6.6). This loss was high in winter, 8% of total purchased amount, which was equal to 118,896.75 baht. Therefore even if the purchase price in winter was lowest, the cost of left product was 5.19 baht per kg. The value of the loss of trimmed and left product to Bangkok sales section was 360,966.40 baht (Table 6.4), the costs of this loss were 23.04, 7.12, and 5.46 baht per kg. in the winter, summer, and rainy seasons.

Total costs of celery at Chiang Mai sales section were equal to 45.52, 44.42, and 65.29 baht per kg. in the winter, summer, and rainy seasons respectively. While the costs of celery per kg. to Bangkok were equal to 54.37, 40.25, and 47.48 baht per kg. The cost Bangkok in the rainy season was significantly different from Chiang Mai sales section.

The results from the hedonic price model show that the lowest retail prices in the supermarket in Chiang Mai in the summer and rainy seasons are 49.11 and 67.69 baht per kg. respectively. However the retail price of the Project in the market was higher than other brand names by 23.18 baht per kg. Chiang Mai sales section has to reduce the cost of celery to compete with other brand names in the market. Otherwise this product has to be sold to Bangkok which has the lowest prices in supermarket and foreigner-business-area super markets equal to 76.48 and 70.12, baht per kg in summer, and 95.06 and 88.70 baht per kg. in the rainy season.

Carrot

Purchasing prices of carrot in each season are harmonious throughout the year. They were 16.51, 13.97, and 17.78 baht per kg. in the winter, summer, and rainy seasons respectively. The purchased amounts of Chiang Mai and Bangkok sales sections were 45,023 kg., 50,393.5 kg., and 28,484.5 kg. and 13,291.90, 7,519.5, and 18,091.5 kg. in the winter, summer, and rainy seasons respectively. Total value of the left carrot of Chiang Mai sales section was 57,341.46 baht (Table 6.2), the value of left carrot was highest in summer, (35,706.15 baht) due to the percentage left being higher than the other seasons. While the highest value of left and trimmed product of Bangkok sales section was in the rainy season, especially, the percentage of loss from left and trimmed in June, was 37.78% and its cost per kg. was 10.66 baht. Total value of this loss was 31,315.35 baht (Table 6.4) in 2000. The value of trimmed carrot at Chiang Mai sales section in 2000 was equal to 266,933.10 baht (Table 6.3), and in each season the costs of trimmed product per kg. were equal to 3.75, 1.72, and 4.40 baht per kg.(Table 6.5) in the winter, summer, and rainy seasons. The cost of trimming per kg. in summer was lowest because the purchase price and percentage culled out were lower than the other seasons (9.27%) while it was equal to 4.40 baht per kg. in the rainy season because purchase price and percentage culled out were higher than the other seasons (15.26%). Total costs of carrot to Chiang Mai sales section were equal to 25.25, 21.29, and 27.22 baht per kg.

the winter, summer, and rainy seasons. The costs of carrot to Bangkok sales section were not significantly different from Chiang Mai sales section (Appendix3), they were 21.09, 21.71, and 28.19 baht per kg in the winter, summer, and rainy seasons respectively.

The results from the hedonic price present that the lowest retail price in super markets in Chiang Mai were equal to 20.66 and 28.75 baht per kg. in the summer and rainy seasons. Moreover it was found from the model that the retail price of the Project was higher than the other brand names at 14.66 baht per kg.. If the Project cannot reduce total cost, the product of the Project has to be sold in supermarkets or in the foreigner-business-area super markets in Bangkok, due to the lowest retail prices of both marketplaces were 26.92, 35.01 baht per kg. and 51.74, 59.83 baht per kg. in the summer and rainy seasons respectively. Moreover the prices of the better quality carrot in the summer and rainy seasons were 52.53 and 60.62 baht per kg. in supermarket in Bangkok and they were 77.35 and 85.24 baht per kg. in the foreigner-business-area supermarket in Bangkok.

Baby Carrot

The prices that the Project paid to the farmers in each season were equal to 43.00, 25.48, 43.33 baht per kg in the winter, summer, and rainy seasons. The purchase price decreased when supply increased. The purchased amounts of Chiang Mai sales section were 9,126, 17,294.4, and 4,775.3 kg. which were more than Bangkok. The purchased amount of Bangkok in the summer and rainy seasons were equal to 5,580.60 and 1,966 kg About 76.25% and 72.85 % of baby carrot costs to Chiang Mai and Bangkok sales section were purchase price. The costs of baby carrot to Chiang Mai sales section were equal to 57.69, 35.16, and 53.38 baht per kg.,(Table 6.5) while the costs to Bangkok sale section were 57.56, 35.29 and 55.27 baht per kg.,(Table 6.5) in the winter, summer and rainy seasons respectively. In 2000 Chiang Mai sales section had some left product whose its value was equal to 18,428.23 baht, and the costs of the left

product per kg. were 0.40, 1.94, and 0 baht per kg. in the winter, summers, and rainy season respectively. Apart from the purchase price, the cost of loss from trimmed product to Chiang Mai sale section also influenced to the cost per kg. in each season. Percentages of this loss were 11.04%, 5.68%, and 4.67%, where the costs of trimming were equal to 8.34, 2.29, and 4.09 baht per kg.(Table 6.5). The value of loss from trimming and left product to Bangkok sales section was 65,499.32 baht (Table 6.3) which was equal to 10.56, 2.79, and 4.71 baht per kg.(Table 6.5) in the winter, summer, and rainy seasons respectively.

The results from the hedonic price model show that the lowest retail prices of baby carrot in Chiang Mai were 52.21 and 67.41 baht per kg. and the highest retail prices were 55.3 and 71 baht per kg. in the summer and rainy seasons. Moreover the results from the hedonic price model represents that the retail price of the Project's product was higher than other brand names by 16.04 baht per kg., this means that in summer the retail price of the Project was at least equal to 68.25 baht per kg., while there was 3.74% of left product. Considering the cost to Chiang Mai sales section in summer, the selling price in Chiang Mai could be reduced to compete with other brand names. However the lowest retail price in Bangkok in summer was much more than in Chiang Mai, it was 110.25 baht per kg., while baby carrot's cost to Bangkok sale section was not significantly different from Chiang Mai sales section (Appendix 3). Therefore the Project has to increase sales volume in Bangkok in summer in order to gain more profit and provide more income to the farmers. In the rainy season, the costs to this product of both sales sections were not significantly different from each other, but the retail prices in Bangkok were much higher than in Chiang Mai. The lowest retail price in Bangkok was 122.49 baht per kg., while it was equal to 67.41 baht per kg. in Chiang Mai. The same as in the summer season, baby carrot has to be sold in Bangkok in order to gain more income and increase the price paid to the farmers.

Red Cabbage

The purchase prices of red cabbage were 24.60, 6.71, and 26.64 baht per kg. Purchased amounts of Chiang Mai sales section were 32,123.5, 40,813, and 37,711.5 kg., while the products sent to Bangkok were 19,849.20 , 9,843.30, and 12,658.70 kg. in the winter, summer, and rainy seasons respectively. In 2000 the value of loss from culled out leaves to Chiang Mai sales section was 468,190.6 baht (Table 6.2). The costs of trimmed product per kg. in each season were influenced by the purchasing price, they were equal to 8.09, 3.08, and 7.17 baht per kg.(Table 6.5) in the winter, summer, and rainy seasons respectively. There was no left product at Chiang Mai sale section in 2000. The percentage of loss from trimmed and left product to Bangkok sales section in 2000 was 22.48%, and its value was 145,317.69 baht. Total costs of red cabbage at Chiang Mai sale section were 37.36, 13.75, and 38.57 baht per kg and they were 38.54, 15.04, and 35.31 baht per kg. for Bangkok sales section in the winter, summer, and rainy seasons respectively.

The results from the hedonic price model represents the lowest retail price of non-chemical residue product in supermarkets in Chiang Mai were 38.17 and 64.26 baht per kg. and the highest retail price were 50.47 and 77.67 baht per kg. in the summer and rainy seasons. In 2000 all red cabbages purchased by Chiang Mai sales section were sold, there was no left product. The Project can increase sales volume of this product in Chiang Mai by keeping lower prices or increase their selling in the summer and rainy seasons to gain more profit and provide more income to farmers. In Bangkok the lowest retail prices in supermarkets in the summer and rainy season were equal to 46.34 and 72.43 baht per kg. The Project can compete with other brand names and expand their market by selling at low prices or sell the product at higher prices to gain more profit and provide more income to the farmers. Moreover the Project can gain more by selling red cabbage in the foreigner-business-area supermarkets in Bangkok due to the lowest

retail price in this marketplace being equal to 62.53 and 88.62 baht per kg. in the summer and rainy season.

Michilli

Purchasing prices of michilli of the Project were consistent throughout the year, they were 8.41, 10.80, 9.39 bath per kg. The purchased amounts of Chiang Mai sale section were 110,261.5, 50,530.5, and 67,390.5 kg. and they were equal to 77,109.90, 16,024.09, and 65,386.29 kg. for Bangkok sales section in winter, summer, and rainy season respectively. The value of leaves to be culled out, to Chiang Mai sales section was equal to 1,358,503.46 baht throughout the year. The costs of this loss were 7.16, 9.49, 10.05 baht per kg. in the winter, summer, and rainy seasons respectively. The costs of loss from left product to Chiang Mai sales section in 2000 was 52,232.49 baht, the left amount was highest in the winter season, 3,455.00 kg. (35,691.25 baht). However the cost of left product per kg. were slight and equal to 0.51, 0.09, and 0.27 baht per kg. due to the big volume sale of this product. Total costs of michilli to Chiang Mai sale section were equal to 19.77, 24.10, and 23.37 per kg. in the winter, summer, and rainy seasons respectively. The value of loss from trimmed and left product to Bangkok sales section was equal to 547,529.77 baht in 2000, the cost per kg. of the losses were 2.20, 9.57, and 13.92 baht per kg. in the winter, summer, and rainy seasons. The other costs of michilli to Bangkok sale section are shown in Table 6.6. Total costs per kg. of this product to Bangkok sales section were 14.62, 25.35, and 28.72 baht per kg.

The results from the hedonic price model represents that the lowest retail price in supermarkets in Chiang Mai were equal to 14.9 and 17.3 baht per kg. and the highest prices were 32.51 and 34.91 baht per kg. in the summer and rainy seasons respectively. Moreover the results also show that the retail price of the Project was lower than other brand names by 2.71 baht per kg.. In order to compete with the other brand names and avoid loss, the Project has to sell the better quality of product in Chiang Mai to get the

higher price. Even if the retail prices of the Project were lower than other brand names there was also some products of Chiang Mai left, its value was equal to 52,232.49 baht (Table 6.2). The Project has to expand the market to the other market places. In Bangkok the lowest retail prices in supermarkets were higher than in Chiang Mai, they were equal to 49.26 and 46.86 baht per kg. and the highest prices were 66.87 and 64.47 baht per kg. in the summer and rainy seasons, while the costs of this product to Bangkok sales section in both seasons were not significantly different from Chiang Mai sales section (Appendix 3). Therefore the products have to be sold in Bangkok to get the higher price.

Chinese Cabbage

Purchase prices for Chinese cabbage were consistent throughout the year, they were 6.69, 8.55, and 6.88 baht per kg. The quantities purchased by Chiang Mai sales section were 147,121.50, 116,202, and 246,269 kg. and quantities purchased by Bangkok sales section were 81,793.80, 37,846.70, and 97,983.30 kg. in the winter, summer, and rainy seasons respectively. The average percentage of Chinese cabbage leaves to be culled out at Chiang mai sales section was 45%, and its value was equal to 1,289,040.00 baht in 2000. The costs of trimmed vegetable per kg. were 4.75, 6.75, and 7.02 baht in the winter, summer, and rainy seasons respectively. In the rainy season the average percentage of leaves to be culled out was 47.16%, higher than the other seasons, this caused the higher cost of trimmed vegetable per kg.. Total value of left product to Chiang Mai sales section was 25,145.43 baht in 2000. The highest value of this loss was in the rainy season, 13,783.21 baht. The other costs such as trimming costs and opportunity costs are shown in Table 6.5. Total costs to Chinese cabbage of Chiang Mai sales section were equal to 15.44, 20.07, and 18.61 baht per kg. in the winter, summer, and rainy seasons respectively, they were fluctuated by purchase prices and percentage of culled out leave. Total costs per kg. of this product to Bangkok sales section were

13.67, 20.75, and 22.22 baht (Table 6.6). The vegetable cost and the loss from trimmed and left product influenced total cost.

The results from the hedonic price model represents that the lowest retail prices in the summer and rainy seasons in Chiang Mai were equal to 26.95 and 32.98 baht per kg., retail prices in the market in the rainy season were higher than in summer by 6.03 baht per kg. While the highest retail prices in the Chiang Mai the market in both seasons were equal to 30.72 and 33.03 baht per kg.. Moreover the retail price of the Project's product was lower than the other brand names by 7.69 baht per kg. In rainy season the Project can compete with other brand names in Chiang Mai by selling at the present price and expand the market, or increase the price to gain more profit and increase the price paid to the farmers. Therefore the cost of this product in Chiang Mai sales section in summer was nearly the lowest retail price in the market, the quality of product of the Project has to be better than the other brand names in order to sell at the higher price and cover the cost.

The retail prices in the summer and rainy seasons in Bangkok were higher than in Chiang Mai, especially in the foreigner-business-area supermarkets. The lowest retail prices in foreigner-business-area supermarkets were equal to 55.49 and 61.72 baht per kg. while retail prices in super market in Bangkok were 37.54 and 43.57 baht per kg. in the summer and rainy seasons. The product of the Project has to be sold in Bangkok due to the higher retail prices, and the cost per kg. to Bangkok sales section being lower than to Chiang Mai sales section in summer, they were not much different in the rainy season.

Sweet Pepper

Purchased quantities of sweet pepper in 2000 at Chiang Mai sales section were 10,282.5, 12,656.5, and 20,078.5 kg., and the purchased amount of Bangkok were 5285.30, 5546.5, and 4510.00 kg.. The average purchase prices were 49.38, 34.24, and, 31.49 baht per kg. in the winter, summer, and rainy season respectively. The cost of

sweet pepper was highly associated to the purchase price of the Project, about 84% and 79.65% of total cost for Chiang Mai and Bangkok sales sections were purchase prices.

In 2000, there was only 0.37% left at Chiang Mai sale section and its value was equal to 7,211.64 baht. There were no left products in the winter and rainy seasons, the products were left only in summer especially the loss through left product in May was 6,838.94 baht. Because the amount of left product was tiny, the cost of left vegetable per kg. was only 0.03 baht per kg. in the summer season. The costs of loss from trimmed product were equal to 57,128.54 baht (Table 6.2), they were 1.18, 1.15, and 2.14 baht per kg. in the winter, summer, and rainy seasons respectively. The other costs to Chiang Mai sales section are shown in Table 6.5. Total costs of this product of Chiang Mai sale section were 56.77, 41.03, and 39.12 baht per kg. in the winter, summer, and rainy season.

The results from the hedonic price model present that the lowest retail prices in Chiang Mai were 48.44 and 46.20 baht per kg. and the highest prices were 54.96, and 52.72 baht per kg. in the summer and rainy seasons respectively. In order to compete with other brand names in the market and avoid loss, the qualities of sweet pepper of the Project (which are sold in Chiang Mai) has to be better than the other brand names to get the high price. More over the results from the hedonic price model present that the lowest retail prices of sweet pepper in Bangkok were 103.66 and 101.42 baht per kg.. While the cost of sweet pepper per kg. to Bangkok sales section were not significantly different from Chiang Mai sales section (Appendix 3). Total cost per kg. of sweet pepper to Bangkok sales section were 43.83 and 40.07 baht (Table 6.6) in summer and rainy seasons respectively. This product has to be sold in Bangkok more than in Chiang Mai to get the higher income and increase the price paid to the farmers.

Common tomato

In 2000 the purchase prices of common tomato by the Project were steady throughout the year. They were 27.83, 25.41, and 27.69 baht per kg., while purchased quantities at Chiang Mai sales section were 11,796.5, 23,425.3, and 53,489 kg. and purchased quantity at Bangkok sales section were 4510, 5285.3, and 5546.5 kg. in the winter, summer, and rainy seasons respectively. About 83% and 73.69% of common tomato costs to Chiang Mai and Bangkok sales section were purchase price. The value of the left and trimmed common tomato of Chiang Mai sale section was equal to 66,695.36 (Table 6.2) and 7,404.69 baht (Table 6.3) respectively. And the value of left and trimmed product to Bangkok sales section was equal to 126,319.56 baht in 2000.

Total costs of common tomato to Chiang Mai sales section were 33.34, 32.36, and 33.27 baht per kg. in the winter, summer, and rainy seasons respectively. The results from the hedonic price model show that the lowest retail prices of non-chemical residue common tomato in the supermarkets in Chiang Mai were equal to 51.77, and 68.10 baht per kg. in the summer and rainy seasons respectively. However it was found from the model that the retail price of the Project was lower than the other brand names by 17.90 baht per kg. This means that the retail price of the Project was at least equal to 33.87 baht per kg. in summer, which covered only the cost. Chiang Mai sales section can increase their selling price by selling the better product's quality, in order to gain some profit due to the highest retail price of this product in the summer was 65.28 baht per kg.. However the retail prices of common tomato in Bangkok were much higher than in Chiang Mai. The prices in supermarkets in Bangkok and foreigner-business-area supermarket in summer were equal to 79.44 and 90.01 baht per kg. And the costs of common tomato to Bangkok sales section was 31.92 baht which was not significantly different from the cost to Chiang Mai sales section (Appendix 3). The Project can gain more profit and increase the price paid to the farmer by selling common tomato in Bangkok.

In the rainy season the highest retail price in the supermarket in Chiang Mai was equal to 88.81, the Project can expand their market by selling product at the low price or increase the selling price to gain more profit in Chiang Mai. Moreover the Project can gain more profit by selling the product to Bangkok due to the cost of common tomato in the rainy season at Bangkok sales section was not significantly different from Chiang Mai. The cost of common tomato to Bangkok in the rainy season was equal to 40.99 (Table 6.6), while the lowest retail prices in supermarkets in Bangkok and foreigner-business-area supermarkets were 95.27 and 106.34 baht per kg. In addition, left product could be disposed to the processing plants.

Cherry Tomato

Purchased prices of cherry tomato fluctuated by supply of the Project, they were 35.13, 18.17, and 31.11 baht per kg., while the purchased quantities of Chiang Mai and Bangkok sales sections were 16,674.30, 118,268.90, 22,369.00 kg., and 4,095.00, 8518.00, and 7676.00 kg. in the winter, summer, and rainy seasons respectively. About 83% and 75% of total costs to Chiang Mai and Bangkok sales sections were purchase prices. In Chiang Mai sales section, total values of left and trimmed product in 2000 were equal to 12,287.01 and 19,203.03 baht. Total costs of cherry tomato in each season fluctuated by purchase prices, which were equal to 40.33, 23.04, and 37.55 baht per kg. in the winter, summer, and rainy seasons respectively. The costs of cherry tomato to Bangkok sales section were equal to 38.27, 25.29, and 40.89 baht per kg.. The value of the loss from left and trimmed product was 54,517.56 baht. However the total cost per kg. to Bangkok sales section in the summer and rainy season were not significantly different from Chiang Mai.

The results from the hedonic price model show that the lowest retail prices of non-chemical residue product sold in the supermarkets in Chiang Mai were 15.6 and 44.5 baht per kg. in the summer and rainy seasons. And the highest retail prices were equal to 24.45 and 53.84 in the summer and rainy seasons. The project might face

difficulty in summer as the total cost of the Project's product was higher than the lowest retail price and near to the highest retail price. It was found that the loss from left product in summer was higher than the other seasons (11,377.01baht). Therefore cherry tomato of the Project has to be sold in the other marketplaces such as supermarket in Bangkok which the retail price was higher than in Chiang Mai by 33.24 baht per kg. The products in summer can be preserved in refrigerated store and sold in the rainy season due to the approximate periods for keeping tomato in refrigerated store for ripe tomato and mature green were 8-12 weeks and 2-6 weeks respectively (Abbott, 1986). In rainy season, the quality of the products sold in Chiang Mai has to be better than other brand names in the market to get higher prices or the market has to be expanded to Bangkok due to the lowest retail price in Bangkok being 77.74 baht per kg.

Japanese Pumpkin

Purchase prices of Japanese pumpkin by the Project were 13.50, 12.95, and 11.73 baht per kg. The purchased quantities of Chiang Mai and Bangkok sales sections were 54,808, 51,332, and 37,573 kg. and 16,161.42, 13,109.00, and 20,669.50 kg in the winter summer, and rainy seasons respectively. For Chiang Mai sales section there was no loss of trimmed product and the value of left product was 1,325 baht in 2000. The value of loss to trimmed and left product for Bangkok sales section was 97,957.31 baht. Total costs of Japanese pumpkin were totally dependent on purchase price. The costs to Chiang Mai sale section were 17.93, 17.28, and 16.00 baht per kg. and the costs to Bangkok sales section were 16.23, 19.15, and 26.24 baht per kg. in the winter, summer, and rainy seasons. The costs of Japanese pumpkin to Bangkok sales section were high due to the cost of loss from trimmed and left product being high in the rainy season.

The results from the hedonic price model reveal that the lowest and the highest retail prices of Japanese pumpkin in Chiang Mai supermarket were 35.59, 40.13 baht per kg. and 41.38, 46.22 baht per kg., moreover the lowest retail prices in Bangkok were equal to 55.27 and 60.31 baht per kg.. The Project has to expand the market of this

product in Bangkok to get the higher price as well as increase the price paid to the farmers under the Project.

Japanese Cucumber

Purchase prices of Japanese cucumber by the Project were equal to 17.33, 16.06, and 11.52 baht per kg. (Table 6.5). The purchased quantities of Chiang Mai sales section were 26,834, 37,901, and 69,393.5 kg. and they were 13,610.85, 20,007.50, and 7,286.50 kg. for Bangkok sales section in winter, summer, and rainy seasons respectively. There were 4.93 % and 4.17 % of products in Chiang Mai sales section left, the values were 36,244.52 and 31,433.84 baht, the costs of the left product per kg. were equal to 1.06 and 0.54 baht per kg., in the summer and rainy seasons respectively, there was no product left in winter. The value of trimmed product in 2000 at Chiang Mai sales section was 58,124.97 baht, and the costs per kg. were 0.24, 0.27, and 1.15 baht in winter, summer, and rainy season respectively. The other costs to Chiang Mai sale section are shown in Table 6.5. The value of left and trimmed product of Bangkok sale section was equal to 72,578.43 baht in 2000, the costs were equal to 0.43, 3.89, and 3.88 baht per kg.

Total costs to cucumber of Chiang Mai sales section were 22.35, 22.13, and 17.77 baht per kg. in the winter, summer, and rainy seasons respectively. While the costs to Bangkok sale section were equal to 23.78, 26.45, and 21.72 bath per kg.

The results from the hedonic price model show that the lowest retail prices in supermarkets in Chiang Mai were 28.23 and 21.2 baht per kg., and the highest prices were 32.32 and 25.59 baht per kg. in the summer and rainy seasons. The quality of the Project's cucumber has to be better than other brand names in order to sell at the higher price in Chiang Mai. Otherwise the product of the Project has to be sold in Bangkok due to the lowest retail prices in supermarkets, were equal to 67.22 and 60.19 baht per kg,

and moreover the retail prices in foreigner-business-area supermarkets were 103.80 and 96.77 baht per kg. in summer and rainy seasons.

Zucchini

Purchase prices of zucchini in 2000 for the Project were equal to 15.49, 18.43, and 18.32 baht per kg. The quantities purchased by Chiang Mai and Bangkok sale sections were 33,436.50, 32,906.50, 37,566.00 kg., and 4,095.00, 8,518.00, 7,676.00 kg. in the winter, summer, and rainy seasons respectively. In Chiang Mai sales section, the value of left product was equal to 36,257.05 baht. The left amount in the rainy season was 2,420.5 kg (6.44 % of total purchased amount) , which was more than the other seasons. It's value was 33,741.00 baht. The value of trimmed product was 148,189.58 baht, and its costs were equal to 6.04, 1.30, and 0.43 baht per kg.. The percentage of trimmed product in winter was higher than other seasons at 23.18% of the total purchased amount. The other costs are shown in Table 6.5. Total costs of zucchini to Chiang Mai sales section were 26.81, 24.82, and 24.40 baht per kg. While the costs to zucchini of Bangkok sales section were not significantly different from Chiang Mai sales section. They were 20.59, 25.27, and 34.84 baht per kg. in the winter, summer, and rainy season.

The results of the hedonic price model present that the lowest retail price in the supermarket, in Chiang Mai in the summer and rainy seasons were 26.96, and 14.27 baht per kg. And the highest retail prices in the market were 50.88 and 33.18 baht per kg.. Chiang Mai sales section has to compete with the other brand names by selling better quality of product in order to get the price that coves their costs. And it seems that supply of zucchini does not influence demand in the market, total quantities of zucchini that the Chiang Mai sales section sold in 2000 in each season were steady throughout the year, they were equal to 31,320.5, 32,060.96, and 31,766.00 kg. in the winter, summer, and rainy season respectively.Therefore the costs of zucchini in the summer and rainy seasons to Bangkok sales section were not significantly different from Chiang Mai, and

the lowest retail prices in the foreigner-business-area supermarkets were equal to 125.29 and 113.12 baht per kg.. The Project has to expand the market to other marketplaces such as in Bangkok instead of selling this product in Chiang Mai in order to get the higher prices and reduce the left product in Chiang Mai sales section.

Snap bean

Purchase prices of snap bean for the Project were 19.04, 15.01, and 13.10 baht per kg. The purchased quantities at Chiang Mai sales section and Bangkok were 45,012.5, 67,436.5 and 98,744 kg., and 16,153.00, 22,244.00, and 14,566.50 kg. in the winter, summer, and rainy season respectively.

For Chiang Mai sales section the value of left snap bean was equal to 87,043.49 baht (Table 6.6). The loss was high in summer, 4% of purchased quantity and its value was equal to 57,262.13 baht. However the costs of the left product per kg. in each season were tiny (Table 6.5) due to the large amount of sales volume. There was no loss of trimmed product. The other costs are shown in Table 6.5. Total costs of snap bean in 2000 were 20.30, 21.72, and 18.85 baht per kg. The value of left and trimmed product in Bangkok in 2000, were equal to 46,023.80 baht. The cost of trimming of this product was higher than other vegetables, it was equal to 2.86 baht per kg. Total costs per kg. of snap bean to Bangkok sales section were equal to 21.76, 23.34, and 21.61 baht per kg. in the winter, summer, and rainy seasons.

The results from the hedonic price model show that the lowest retail prices of snap bean in the supermarkets in Chiang Mai were equal to 26.42 and 19.6 baht per kg. in the summer and rainy seasons, and the highest prices in both seasons were 41.03 and 34.21 baht per kg. As the costs per kg. to Chiang Mai sales section were nearly the lowest retail prices in the market, the Project has to compete with the other brand names in Chiang Mai by selling that the quality is better than other brand names, to get the higher price. However this product has to be sold in Bangkok due to the lowest retail

prices of snap bean (in supermarkets and supermarkets in foreigner-business-areas) were equal to 53.16, 46.34 baht per kg. and 66.01, 59.19 baht per kg. in the summer and rainy seasons.

The results of the comparison between the costs of each vegetable of the Project and the lowest retail prices in each marketplace can guide the Project in terms of the price setting and segment the market. The costs of some vegetables of the Project such as celery, carrot, snap bean, zucchini, and Japanese cucumber are nearly to the lowest retail prices in Chiang Mai this causes the less comparative advantage in this market place. The Project has to sell those of products in other marketplaces that the retail prices are higher, otherwise the costs of the Project have to be reduced. For baby carrot it can be sold at the lower price than other brand names in any marketplace due to the margin of costs and the retail prices in the market are heap. The price of Japanese pumpkin of the Project can be increased and provide more income to the farmers due to the retail prices in the markets were lower than other brand names.

Table 6.5 The Cost of Vegetables of Chiang Mai Sales Section

	Management Cost			Vegetable Cost			Cost of Loss from Left			Cost of Loss from Trimming			Trimming Cost*			Opportunity Cost			Total		
Vegetable	W[1]	S[2]	R[3]	W	S	R	W	S	R	W	S	R	W	S	R	W	S	R	W	S	R
Head lettuce	2.26	2.26	2.26	23.15	18.20	20.59	2.32	1.70	1.94	17.98	21.49	29.21	2.2	2.2	2.2	0.92	0.72	0.82	48.83	46.57	57.02
Cos lettuce	2.26	2.26	2.26	25.36	17.40	26.22	3.02	3.56	1.72	18.55	13.89	21.19	2.2	2.2	2.2	1.01	0.70	1.05	52.41	40.00	54.64
Celery	2.26	2.26	2.26	19.94	26.02	34.08	5.19	0.00	1.38	14.99	13.06	24.35	2.05	2.05	2.05	0.80	1.04	1.36	45.22	44.42	65.49
Carrot	2.26	2.26	2.26	16.51	13.97	17.78	0.64	0.86	0.15	3.75	1.72	4.40	1.92	1.92	1.92	0.66	0.56	0.71	25.74	21.29	27.22
Baby carrot	2.26	2.26	2.26	43.00	25.68	43.33	0.40	1.94	0.00	8.34	2.29	4.09	1.97	1.97	1.97	1.72	1.03	1.73	57.69	35.16	53.38
Red cabbage	2.26	2.26	2.26	24.60	6.71	26.64	0.00	0.00	0.00	8.09	3.08	7.17	1.43	1.43	1.43	0.98	0.27	1.07	37.36	13.75	38.57
Michilli	2.26	2.26	2.26	8.41	10.80	9.39	0.58	0.09	0.27	7.16	9.49	10.05	1.02	1.02	1.02	0.34	0.43	0.38	19.77	24.10	23.37
Chinese cabbage	2.26	2.26	2.26	6.69	8.55	6.88	0.07	0.09	0.09	4.57	6.74	7.02	2.08	2.08	2.08	0.27	0.34	0.28	15.94	20.07	18.61
Sweet pepper	2.26	2.26	2.26	49.38	34.24	31.49	0.00	0.03	0.00	1.18	1.15	2.14	1.98	1.98	1.98	1.98	1.37	1.26	56.77	41.03	39.12
Common tomato	2.26	2.26	2.26	27.83	25.91	27.69	0.00	1.34	0.35	0.35	0.03	0.07	1.79	1.79	1.79	1.11	1.04	1.11	33.34	32.36	33.27
Cherry tomato	2.26	2.26	2.26	35.13	18.17	31.11	0.00	0.35	0.06	0.00	0.00	1.33	1.54	1.54	1.54	1.41	0.73	1.24	40.33	23.04	37.55
Japanese pumpkin	2.26	2.26	2.26	13.50	12.95	11.73	0.00	0.01	0.00	0.09	0.00	0.00	1.54	1.54	1.54	0.54	0.52	0.47	17.93	17.28	16
Japanese cucumber	2.26	2.26	2.26	17.33	16.06	11.52	0.00	1.06	0.54	0.24	0.27	1.15	1.84	1.84	1.84	0.69	0.64	0.46	22.35	22.13	17.77
Zucchini	2.26	2.26	2.26	15.69	18.43	18.32	0.11	0.02	0.57	6.04	1.30	0.43	2.08	2.08	2.08	0.63	0.74	0.73	26.81	24.82	24.40
Snap bean	2.26	2.26	2.26	19.04	15.01	13.10	0.23	0.99	0.11	0.15	0.00	0.00	2.86	2.86	2.86	0.76	0.60	0.52	25.30	21.72	18.85

Source : The Royal Project Foundation
Calculated

* Wiboonpongse, 1999

[1] November - February

[2] March - June

[3] July - October

Table 6.6 The Cost of Vegetables of Bangkok Sales Section

	Management Cost			Vegetable Cost			Cost of Loss from Left and Trimmed			Transportation Cost			Trimming Cost			Opportunity Cost			Total		
Vegetable	W[1]	S[2]	R[3]	W	S	R	W	S	R	W	S	R	W	S	R	W	S	R	W	S	R
Head lettuce	2.52	2.52	2.52	16.99	18.20	20.59	23.77	105.35	48.11	1.5	1.5	1.5	2.2	2.2	2.2	0.68	0.72	0.82	47.66	130.49	75.75
Cos lettuce	2.52	2.52	2.52	18.94	17.40	26.22	17.00	25.24	50.43	1.5	1.5	1.5	2.2	2.2	2.2	0.76	0.70	1.05	42.92	49.56	83.92
Celery	2.52	2.52	2.52	24.29	26.02	34.08	23.04	7.12	5.96	1.5	1.5	1.5	2.05	2.05	2.05	0.97	1.04	1.36	54.37	40.25	47.48
Carrot	2.52	2.52	2.52	14.31	13.97	17.78	0.27	1.24	3.75	1.5	1.5	1.5	1.92	1.92	1.92	0.57	0.56	0.71	21.09	21.71	28.19
Baby carrot	2.52	2.52	2.52	39.43	25.68	43.33	10.56	2.79	4.71	1.5	1.5	1.5	1.97	1.97	1.97	1.58	1.03	1.73	57.56	35.49	55.77
Red cabbage	2.52	2.52	2.52	23.38	6.71	26.64	8.78	2.61	2.66	1.5	1.5	1.5	1.43	1.43	1.43	0.94	0.27	1.07	38.54	15.04	35.81
Michilli	2.52	2.52	2.52	7.10	10.80	9.39	2.20	9.57	13.92	1.5	1.5	1.5	1.02	1.02	1.02	0.28	0.43	0.38	14.62	25.85	28.72
Chinese cabbage	2.52	2.52	2.52	5.66	8.55	6.88	1.69	5.75	8.97	1.5	1.5	1.5	2.08	2.08	2.08	0.23	0.34	0.28	13.67	20.75	22.22
Sweet pepper	2.52	2.52	2.52	49.83	34.24	31.49	2.76	2.23	1.32	1.5	1.5	1.5	1.98	1.98	1.98	1.99	1.37	1.26	60.58	43.83	40.07
Common tomato	2.52	2.52	2.52	23.27	25.91	27.69	2.16	0.00	6.38	1.5	1.5	1.5	1.79	1.79	1.79	0.93	1.04	1.11	32.17	31.92	40.99
Cherry tomato	2.52	2.52	2.52	29.63	18.17	31.11	1.90	1.04	2.97	1.5	1.5	1.5	1.54	1.54	1.54	1.19	0.73	1.24	38.27	25.49	40.89
Japanese pumpkin	2.52	2.52	2.52	11.50	12.95	11.73	0.25	1.66	10.02	1.5	1.5	1.5	1.54	1.54	1.54	0.46	0.52	0.47	16.23	19.15	26.24
Japanese cucumber	2.52	2.52	2.52	16.82	16.06	11.52	0.43	3.89	3.88	1.5	1.5	1.5	1.84	1.84	1.84	0.67	0.64	0.46	23.78	26.45	21.72
Zucchini	2.52	2.52	2.52	13.57	18.43	18.32	0.37	0.50	9.69	1.5	1.5	1.5	2.08	2.08	2.08	0.54	0.74	0.73	20.59	25.77	34.84
Snap bean	2.52	2.52	2.52	13.82	15.01	13.10	0.51	0.75	1.10	1.5	1.5	1.5	2.86	2.86	2.86	0.55	0.60	0.52	21.76	23.24	21.61

Source : The Royal Project Foundation
Calculated

[1] November - February

[2] March - June

[3] July - October