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**PHILIPPINE STATISTICS AUTHORITY**

# Production Costs and Returns of Selected Agricultural Commodities

2018 to 2020



The **Production Costs and Returns of Selected Agricultural Commodities**  
is an annual publication prepared by the Agricultural Accounts Division of the  
PHILIPPINE STATISTICS AUTHORITY (PSA)

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**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

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**FOREWORD**

The Production Costs and Returns of Selected Agricultural Commodities is the 18<sup>th</sup> edition released annually by the Philippine Statistics Authority (PSA). It contains 26 agricultural commodities classified into Fruits, Nuts, Root Crops, Vegetables, Legumes, Commercial Crops, and Fisheries. The publication covers the three reference years, 2018 to 2020. It includes a summary of findings for the 2020 data.

The costs of production of temporary crops are the total expenses incurred in production during the current season. For permanent crops like calamansi, durian, mango, papaya, coffee, cashew nut, and pili nut, costs of production refer to maintenance costs of the farms. In updating the costs of production, the assumptions are based on current levels of production/yield and prices of inputs and outputs. Gross returns are derived using the current yield level and the average price of output per kilogram. The interest on operating capital is updated annually, using the Average Banking Lending Rates from the Bangko Sentral ng Pilipinas. The input structures are based on benchmarks generated by the Surveys on Costs and Returns of selected agricultural commodities in the previous years.

The PSA welcomes comments and suggestions from the data users on how to improve the updating system for production costs and returns.



**DENNIS S. MAPA, Ph.D.**

Undersecretary

National Statistician and Civil Registrar General

Quezon City, Philippines  
September 2021

**PRODUCTION COSTS  
AND RETURNS OF SELECTED  
AGRICULTURAL COMMODITIES**



**PRODUCTION COSTS AND RETURNS  
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**PRODUCTION COSTS AND RETURNS  
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**ASSUMPTIONS AND PROCEDURES USED IN  
THE COSTS OF PRODUCTION FOR OTHER CROPS**

ITEM	BASIS/PROCEDURE
1. Cost of seeds/planting materials (Cash, Non-cash and Imputed)	Movement of farmgate price
2. Irrigation fee	
3. Lease rental	
4. Rental value of owned land	
5. Landlord's share	
6. Harvester/Thresher/Sheller's share	Movement of gross value of yield
7. Cost of fertilizer	Quantity used from the survey results multiplied by the current retail price of fertilizer by grade
8. Cost of pesticides	
Solid	Movement of the retail price for selected pesticides
Liquid	Quantity used from the survey results multiplied by the current retail price of pesticides
9. Soil ameliorants	Movement of the retail price of fertilizer
10. Cost of mulching materials	Movement of the retail price of fertilizer
11. Labor costs (Hired, Unpaid operator, Family and Exchange labor)	Number of mandays from the survey results multiplied by the current agricultural wage rates
12. Rental: Tools, Equipment, Machine and Animals	Movement of agricultural wage rates
13. Food cost	Movement of CPI for food
14. Transport cost	Movement of CPI for transport
15. Fuel and Oil	Movement of CPI for fuel and oil
16. Repair cost	Movement of CPI for minor repairs
17. Electricity cost	Movement of CPI for light
18. Interest on crop loans	Increase of 10 percent per annum
19. Other production cost	Movement of CPI for all items
20. Depreciation cost	Increase of 10 percent per annum
21. Interest on operating capital	Based on Average Lending Rates from Bangko Sentral ng Pilipinas (BSP)
22. Land tax	Increase of one (1) percent per annum



**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

**ASSUMPTIONS AND PROCEDURES USED IN  
THE COSTS OF PRODUCTION FOR MILKFISH AND TILAPIA**

ITEM	BASIS/PROCEDURE
1. Stocking materials (Fry and Fingerlings) (Cash, Non-cash and Imputed)	Movement of farmgate price
2. Fertilizer	
Organic	Movement of the average retail price of all types of fertilizer
Inorganic	Quantity used from the survey results multiplied by the current retail price of fertilizer by grade
3. Feeds	Movement of CPI for all items
4. Pesticides, Other chemical and other outputs	Movement of the retail price for all types of pesticides
5. Land tax	Increase of one (1) percent per annum
6. Rental: Land	Movement of farmgate price
Machine, Tools and Equipment	Movement of agricultural wage rates
7. Labor cost (Hired, Unpaid operator, Family and Exchange labor)	Movement of agricultural wage rates
8. Fuel and Oil	Movement of CPI for fuel and oil
9. Transport cost of inputs	Movement of CPI for transport
10. Irrigation fee	Movement of farmgate price
11. License/Permit	Movement of Fishpond Lease Agreement (FLA) rates
12. Interest payment on crop loans	Increase of 10 percent per annum
13. Electricity	Movement of CPI for light
14. Food expense	Movement of CPI for food
15. Repairs	Movement of CPI for minor repairs
16. Other expense (Containers, etc.)	Movement of CPI for all items
17. Other laborer's share	Movement of agricultural wage rates
18. Landlord's share	Movement of farmgate price
19. Harvester's share	Movement of gross value of yield
20. Lease rental	Movement of farmgate price
21. Depreciation	Increase of 10 percent per annum
22. Interest on operating capital	Based on Average Lending Rates from Bangko Sentral ng Pilipinas (BSP)
23. Rental value of owned land	Movement of farmgate price

# PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

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## TECHNICAL NOTES

### *Cost Classification*

**Cash Costs** – are direct cash outlays or cash payments for the use of different factors of production such as labor, fertilizers, and chemicals.

**Non-Cash Costs** – are expenditures that are paid in kind. Valuation of cost items makes use of the prevailing prices in the community. Generally, these non-cash costs represent the portions of the farmer's production that serve as payments for the use of particular factors of production.

**Imputed Costs** – are expenditures that do not involve actual outlays in cash or in kind; they represent the opportunity costs of using owned resources in a particular activity and are computed using the values of the best alternative uses foregone.

**Total Costs** – refer to the sum of cash costs, non-cash costs, and imputed costs.

### *Indicators of Profitability*

**Gross Returns** – refer to the gross value of production. It is derived by multiplying the total volume of production by the farmgate or producer price.

$$\text{Gross Returns} = \text{Production} \times \text{Farmgate Price}$$

**Returns Above Cash Costs** – returns after deducting the total cash outlays from the total value of production.

$$\text{Returns Above Cash Costs} = \text{Gross Returns} - \text{Cash Costs}$$

**Returns Above Cash and Non-Cash Costs** – returns after subtracting the cash and non-cash costs from the total value of production.

$$\begin{aligned} \text{Returns Above Cash and Non-Cash Costs} \\ = \text{Gross Return} - (\text{Cash Costs} + \text{Non-Cash Costs}) \end{aligned}$$

**Net Returns** – refers to the net profit after subtracting all expenses incurred from the total value of production.

$$\text{Net Returns} = \text{Gross Returns} - \text{Total Costs}$$

**Net Profit-Cost Ratio** – determines the rate of return to the farmers (the amount earned by the farmer for every peso spent in the production).

$$\text{Net Profit-Cost Ratio} = \text{Net Return} \div \text{Total Costs}$$

**Return on Investments** – measures the amount of return on an investment, relative to the investment costs. The result is expressed in percentage.

$$\text{Return on Investments} = \text{Net Profit-Cost Ratio} \times 100$$

## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

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### ***Specific Cost Items***

**Seeds/Planting materials** – are plant materials used for sowing purposes for the production of food, fodder, oil, industrial crops, vegetable, fruit flower, lawn and tree crops and include vegetative parts and/or organs used for propagating the crops/species.

**Fertilizers** – refer to any substance, solid or liquid, inorganic or organic, natural or synthetic, single or combination of materials that is applied to the soil or on the plant to provide one or more of the essential elements to improve plant nutrition, growth, yield or quality, or for promoting a chemical change that enhances plant nutrition and growth.

**Soil ameliorants** – are elements placed or mixed into the soil to replenish depleted soil nutrients for better plant growth.

**Pesticides** – refer to chemicals used to control/eradicate insects, pests and weeds.

**Mulching materials** – refer to the layer of material applied to the surface of an area of soil to conserve moisture, improve the fertility and health of the soil and reduce weed growth.

### ***Paid Labor***

**Hired labor** – is labor provided by a person who is paid by the farm operator. Payment of wages is either *in cash or in kind* (as agreed). Hired labor includes a man, eventually in combination with an animal or machine in the case of custom services (wages as well as in-kind payments have to be considered).

### ***Unpaid Labor***

**Operator labor** – is labor contributed by the farm operator.

**Family labor** – is labor provided by the farmer's family members who take part in any production activities.

**Exchange labor** – is work done by farm laborers in exchange (or as payment) for the work done by the farm operator and family members outside the operator's own farm.

*Mandays of unpaid labor are valued at prevailing wage rate in the locality.*

**Land tax** – is amount of tax paid by the owner-operator for the farm land.

**Rentals** – refer to payments for the use of land, machine, animal, tools and farm machineries.

## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

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**Fuel and Oil** – refer to the cost incurred for the use of gasoline, oil, and other related inputs.

**Transport costs of inputs** – are expenditures incurred in transporting farm inputs to the production sites.

**Transport costs of produce from farm to first point of sale** – refer to expenditures incurred in transporting farm produce to the first point of sale. In this case, the farmer receives a price upon delivery of his product from the farm to a specific location (first point of sale).

**Interest payment on crop loan** – refers to payment for the interest on borrowed capital used in the farm operations.

**Landlord's/Landowner's share** – is the portion of farmer's production that goes to the owner of farmland based on the agreed sharing arrangement. The valuation is based on the price at which the produce is sold or would be sold in the market.

**Financier's share** – is the portion of farmer's production that goes to the financier of the farm operations based on the agreed sharing arrangement.

**Repairs** – cover all repairs and improvements made on tools and equipment and other facilities used in the production process.

**Food expenses** – expenditures incurred in providing food to exchange and hired laborers.

**Harvesters' share** – refers to the portion of farmer's production that serves as payment to farm laborers who perform the harvesting.

**Water expense** – is the payment in cash reported by farmers for the water consumed in the production process during the reference period.

**Electricity cost** – is payment for electricity consumed in the production process.

**Storage fee** – refers to the payment in storing the produce in a suitable place for a period of time before disposition or distribution.

**Depreciation** – refers to the cost of wear and tear of farm tools and equipment, machinery and other farm facilities and structures. It is computed as cost of acquisition divided by the estimated lifespan of farm equipment.

**Interest on operating capital** – is the cost of capital foregone for the purchase of seeds, fertilizers, chemicals and payment of wages for hired labor. This is derived by multiplying the total cash outlays by the prevailing lending rates from the Bangko Sentral ng Pilipinas.

**PRODUCTION COSTS AND RETURNS  
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**Rental value of owned land/animal** – is the imputed cost for the use of own farmland or animal which is derived by asking the farmer how much would the annual value of the land or value of the animal per cropping be if it will be rented out.

**PRODUCTION COSTS AND RETURNS  
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**SUMMARY OF FINDINGS**

**FRUITS**

**CALAMANSI**

- Calamansi production entailed an average maintenance cost of PhP 81,094 per hectare in 2020. Meanwhile, the gross receipts amounted to PhP 151,312 from the average yield of 5,520 kilograms per hectare.
- Returns above cash costs averaged PhP 97,301 per hectare while returns above cash and non-cash costs amounted to PhP 95,674 per hectare.
- Less of all costs, the net profit was PhP 70,218 per hectare.
- The average cost of producing a kilogram of calamansi was PhP 14.69 with a farmgate price of PhP 27.41 per kilogram.
- For every peso of investment in calamansi production, farmers gained PhP 0.87. (Table 1)

**DURIAN**

- The maintenance cost of durian production in 2020 averaged PhP 112,247 per hectare. Gross earnings reached PhP 197,813 for an average yield of 4,753 kilograms per hectare.
- Returns amounted to PhP 172,651 per hectare after deducting cash costs. Less both cash and non-cash costs, returns settled at PhP 108,139 per hectare.
- Net all costs, returns averaged PhP 85,566 per hectare.
- On a per kilogram basis, production cost of durian was PhP 23.62. Farmgate price was at PhP 41.62 per kilogram.
- Net profit-cost ratio was 0.76. (Table 2)

**MANGO**

- In 2020, the maintenance cost for mango production was PhP 95,969 per hectare. From the average yield of 3,957 kilograms per hectare, gross returns generated at PhP 170,386.
- Subtracting cash costs, returns averaged PhP 121,394 per hectare. After deducting cash and non-cash costs, returns settled at PhP 114,072 per hectare.
- Net returns averaged PhP 74,417 per hectare.
- Mango production entailed an average cost of PhP 24.25 per kilogram. The price received by farmers was recorded at PhP 43.05 per kilogram.
- For every peso of investment, mango farmers netted PhP 0.78. (Table 3)

## **PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES**

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### **PAPAYA**

- Maintenance cost incurred in papaya production was PhP 188,517 per hectare in 2020. The average yield per hectare of 20,985 kilograms grossed PhP 303,902.
- Returns amounted to PhP 169,561 per hectare after deducting cash costs. Returns settled at PhP 169,183 per hectare after deducting cash and non-cash costs.
- After the reduction of all costs, returns averaged PhP 115,385 per hectare.
- The cost per kilogram of producing papaya was PhP 8.98 while farmgate price was at PhP 14.48 per kilogram.
- Net profit-cost ratio was computed at 0.61. (Table 4)

### **PINEAPPLE**

- An average of PhP 124,881 per hectare was estimated for the cost of pineapple production. Gross returns amounted to PhP 782,978 for an average yield of 40,422 kilograms per hectare.
- Deducting cash costs, returns averaged PhP 682,163 per hectare. Returns above cash and non-cash costs amounted to PhP 680,062 per hectare.
- When all costs were deducted, returns averaged PhP 658,097 per hectare.
- Per kilogram, cost of production of pineapple was estimated at PhP 3.09. Farmgate prices averaged PhP 19.37 per kilogram.
- The net profit-cost ratio was estimated at 5.27. (Table 5)

### **WATERMELON**

- Watermelon production entailed an average cost of PhP 79,912 per hectare in 2020. With an average yield of 17,141 kilograms per hectare, gross earnings amounted to PhP 256,262.
- After subtracting cash costs, returns settled at PhP 206,654 per hectare. Returns amounted to PhP 205,961 per hectare after deducting cash and non-cash costs.
- Net returns per hectare averaged PhP 176,350.
- The cost of production per kilogram averaged PhP 4.66. The price received by farmers was at PhP 14.95 per kilogram.
- For every peso invested in watermelon, farmers earned PhP 2.21. (Table 6)

## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

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### NUTS

#### CASHEW NUT

- In 2020, cashew nut production entailed an average maintenance cost of PhP 10,824 per hectare. Gross earnings figured to PhP 60,881 from an average yield of 863 kilograms per hectare.
- Returns above cash costs averaged PhP 59,663 per hectare. Meanwhile, returns above cash and non-cash costs amounted to PhP 58,854 per hectare.
- When all costs were deducted, returns amounted to PhP 50,057.
- On the average, production cost of cashew nut was PhP 12.55 per kilogram while farmgate price was recorded at PhP 70.58 per kilogram.
- Net profit-cost ratio was estimated at 4.62. (Table 7)

#### PILI NUT

- Pili nut production recorded an average maintenance cost of PhP 34,185 per hectare in 2020. An average yield of 3,156 kilograms per hectare generated gross earnings amounting to PhP 143,350.
- Deducting cash costs, returns amounted to PhP 133,255 per hectare. Returns above cash and non-cash costs reached PhP 121,141 per hectare.
- Net of all costs, returns figured to PhP 109,165 per hectare.
- Per kilogram, the cost of production was at PhP 10.83. Farmgate price was quoted at PhP 45.42 per kilogram.
- An average of PhP 3.19 was earned for every peso of investment in pili nut farming. (Table 8)

### ROOT CROPS

#### CASSAVA

- In 2020, the average cost of producing cassava was estimated at PhP 42,070 per hectare. For an average yield of 11,895 kilograms per hectare, gross receipts settled at PhP 107,274.
- Returns above cash costs figured to PhP 83,727 per hectare. Returns above cash and non-cash costs averaged PhP 82,604 per hectare.
- Returns amounted to PhP 65,204 per hectare after deducting all costs.
- Production cost was registered at PhP 3.54 per kilogram while farmgate price was PhP 9.02 per kilogram.
- For every peso spent, cassava farmers earned PhP 1.55. (Table 9)



## **PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES**

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### **SWEET POTATO**

- The average cost of producing sweet potato was PhP 40,960 per hectare in 2020. Gross receipts amounted to PhP 140,424 from an average yield of 6,534 kilograms per hectare.
- Subtracting cash costs, returns amounted to PhP 127,880 per hectare. Less cash and non-cash costs, returns averaged PhP 122,403 per hectare.
- Net of all costs, returns figured to PhP 99,464 per hectare.
- The average production cost per kilogram was PhP 6.27 while the price received by farmers was recorded at PhP 21.49 per kilogram.
- Net profit-cost ratio was at 2.43. (Table 10)

### **BULBS**

#### **ONION (RED)**

- Production cost of onion (red) in 2020 was estimated at PhP 175,833 per hectare. An average yield per hectare of 13,213 kilograms grossed PhP 716,152.
- Less cash costs, returns figured to PhP 582,956 per hectare. Returns above cash and non-cash costs settled at PhP 570,077 per hectare.
- Less all costs, net returns averaged PhP 540,319 per hectare.
- Per kilogram, production cost of onion (red) was PhP 13.31 while farmgate price was PhP 54.20.
- Net profit-cost ratio was computed at 3.07. (Table 11)

#### **ONION (MULTIPLIER)**

- In 2020, production cost of onion (multiplier) averaged PhP 151,516 per hectare. Gross returns amounted to PhP 566,424 with an average yield of 9,793 kilograms per hectare.
- Returns averaged PhP 495,217 per hectare after deducting cash costs. Further reduction of non-cash costs, returns figured to PhP 445,119 per hectare.
- Net of all costs, profit amounted to PhP 414,908 per hectare.
- On a per kilogram basis, the cost of production averaged PhP 15.47. Farmgate price was PhP 57.84 per kilogram.
- For every peso of investment to onion (multiplier) production, a net gain of PhP 2.74 was realized. (Table 12)

## **PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES**

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### **GARLIC**

- On the average, the cost of producing garlic in 2020 was PhP 138,931 per hectare. With a yield of 2,710 kilograms per hectare, gross earnings amounted to PhP 313,996.
- Returns above cash costs averaged PhP 255,154 per hectare. Returns above cash and non-cash costs figured to PhP 227,426 per hectare.
- Net returns settled at PhP 175,065 per hectare.
- Per kilogram, production cost of garlic was PhP 51.27 while farmgate price averaged PhP 115.88.
- Net profit-cost ratio was computed at 1.26. (Table 13)

## **VEGETABLES**

### **AMPALAYA**

- Production cost of ampalaya averaged PhP 202,698 per hectare in 2020. The gross receipts amounted to PhP 344,060 with an average yield of 8,215 kilograms per hectare.
- After deducting cash costs, returns averaged PhP 251,416 per hectare. With the reduction of cash and non-cash costs, returns amounted to PhP 247,272 per hectare.
- Deducting all costs, returns settled at PhP 141,363 per hectare.
- The computed average production cost per kilogram was PhP 24.67 with farmgate price of PhP 41.88 per kilogram.
- Net profit-cost ratio was estimated at 0.70. (Table 14)

### **CABBAGE**

- In 2020, production cost of cabbage per hectare on the average was estimated at PhP 154,035. From an average yield of 16,184 kilograms per hectare, gross receipts valued at PhP 390,528.
- Returns which were less cash costs amounted to PhP 304,062 per hectare. Further deduction of non-cash costs, the stipulated amount of returns settled at PhP 303,894 per hectare.
- Net profit of cabbage producers per hectare averaged PhP 236,493.
- Production cost of cabbage per kilogram valued at PhP 9.52. Farmgate price was PhP 24.13 per kilogram.
- For every peso spent, cabbage farmers earned PhP 1.54. (Table 15)

## **PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES**

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### **CARROT**

- In 2020, carrot production manifested an average cost of PhP 118,735 per hectare. Gross earnings amounted to PhP 495,268 from an average yield of 14,339 kilograms per hectare.
- After deducting cash costs, farmers earned an average of PhP 425,492 per hectare. Meanwhile, deducting cash and non-cash costs, estimated returns figured to PhP 425,459 per hectare.
- Net earnings of farmers amounted to PhP 376,533 per hectare.
- Production cost was registered at PhP 8.28 per kilogram while farmgate price was PhP 34.54 per kilogram.
- Farmers earned PhP 3.17 for every peso invested in carrot farming. (Table 16)

### **CAULIFLOWER**

- Cauliflower production recorded an average cost of PhP 142,865 per hectare in 2020. The generated gross earnings with an average yield of 10,993 kilograms were PhP 629,133.
- Returns above cash costs averaged PhP 535,569 per hectare while returns above cash and non-cash costs amounted to PhP 527,006 per hectare.
- Farmers' net earnings settled at PhP 486,268 per hectare.
- Per kilogram, production cost of cauliflower was PhP 13.00 while the price received by farmers was PhP 57.23.
- Farmers gained an amount of PhP 3.40 for every peso of investment in cauliflower production. (Table 17)

### **EGGPLANT**

- Farmers spent an average cost of PhP 165,554 per hectare in eggplant production. The average yield of 11,144 kilograms per hectare grossed PhP 337,343.
- After subtracting cash costs, returns amounted to PhP 234,062 per hectare. Deducting both cash and non-cash costs, returns reached PhP 228,837 per hectare.
- Net profit from eggplant production was computed at PhP 171,789 per hectare.
- The average cost of producing eggplant per kilogram was PhP 14.86 while farmgate price was quoted at PhP 30.27 per kilogram.
- Net profit of PhP 1.04 was realized for every peso of investment in eggplant production. (Table 18)

## **PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES**

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### **HABITCHUELAS**

- The average cost per hectare of producing habitchuelas was estimated at PhP 95,377 in 2020. At an average yield of 4,510 kilograms per hectare, growers grossed PhP 136,397.
- Returns settled at PhP 95,249 per hectare after deducting cash costs. Less cash and non-cash costs, returns amounted to PhP 93,051 per hectare.
- Net profit amounted to PhP 41,020 per hectare.
- The cost of producing habitchuelas averaged PhP 21.15 per kilogram and the price received by farmers was PhP 30.24 per kilogram.
- Net profit-cost ratio was computed at 0.43. (Table 19)

### **WHITE POTATO**

- The cost of producing white potato averaged PhP 222,038 per hectare in 2020. The average yield of 15,745 kilograms per hectare grossed PhP 624,446.
- Less cash costs, returns amounted to PhP 494,612 per hectare. Net of cash and non-cash costs, returns averaged PhP 480,740 per hectare.
- After all costs were subtracted, farmers netted PhP 402,408 per hectare.
- The cost of producing a kilogram of white potato was PhP 14.10 while price received by growers was PhP 39.66 per kilogram.
- Farmers generated a net gain of PhP 1.81 for a per peso investment. (Table 20)

### **STRINGBEANS**

- In 2020, stringbeans production entailed an average cost of PhP 181,322 per hectare. Gross earnings figured to PhP 419,190 from an average yield of 14,186 kilograms per hectare.
- Returns above cash costs averaged PhP 340,300 per hectare while returns above cash and non-cash costs amounted to PhP 336,130 per hectare.
- Net earnings from stringbeans production averaged PhP 237,868 per hectare.
- Production cost was registered at PhP 12.78 per kilogram while farmgate price was PhP 29.55 per kilogram.
- Net profit-cost ratio was computed at 1.31. (Table 21)

## **PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES**

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### **TOMATO**

- The production cost of tomato per hectare in 2020 was PhP 256,545. Gross receipts amounted to PhP 397,623 from the average yield of 13,497 kilograms per hectare.
- After subtracting cash costs, returns settled at PhP 204,921 per hectare. Returns amounted to PhP 204,435 per hectare after deducting cash and non-cash costs.
- Net earnings of farmers amounted to PhP 141,078 per hectare.
- Production cost was registered at PhP 19.01 per kilogram while farmgate price was PhP 29.46 per kilogram.
- The computed profit was PhP 0.55 per peso of investment in tomato farming. (Table 22)

### **LEGUMES**

#### **MONGO**

- The average production cost of mongo in 2020 posted at PhP 23,554 per hectare. The earnings grossed at PhP 52,369 for an average yield of 885 kilograms per hectare.
- Returns settled at PhP 43,682 per hectare after subtracting cash costs. Subtracting both cash and non-cash costs, returns figured to PhP 40,149 per hectare.
- Per hectare, farmers profited a net of PhP 28,815 after deduction of all costs.
- The average cost of producing a kilogram of mongo was PhP 26.62 with a farmgate price of PhP 59.18 per kilogram.
- Producers earned PhP 1.22 for every peso invested in mongo farming. (Table 23)

#### **PEANUT**

- In 2020, peanut production entailed an average cost of PhP 41,874 per hectare. Gross receipts totaled PhP 68,567 with an average yield of 1,651 kilograms per hectare.
- Returns settled at PhP 45,220 per hectare after deducting cash costs. After subtracting cash and non-cash costs, returns amounted to PhP 41,067 per hectare.
- Net returns per hectare averaged PhP 26,692.
- Peanut production cost per kilogram stood at PhP 25.36 while farmgate price was at PhP 41.52 per kilogram. (Table 24)
- A profit of PhP 0.64 for every peso of investment in peanut farming was realized.

## **PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES**

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### **COMMERCIAL CROP**

#### **COFFEE**

- On the average, the maintenance cost of producing a hectare of coffee was PhP 46,465 in 2020. The average yield per hectare of 535 kilograms grossed PhP 43,388.
- After deducting cash costs, returns amounted to PhP 9,910 per hectare. With further reduction of non-cash costs, earnings settled at PhP 8,792 per hectare.
- Coffee production entailed a deficit of PhP 3,077 per hectare when all costs were deducted.
- On a per kilogram basis, production cost averaged PhP 86.79 while producer's price stood at PhP 81.04. (Table 25)

### **FISHERIES**

#### **MILKFISH (BRACKISHWATER FISHPOND)**

- Milkfish growers recorded an average production cost of PhP 46,584 for every hectare of brackish water fishpond in 2020. Gross receipts amounted to PhP 110,244 from an average yield of 1,099 kilograms of milkfish per hectare.
- Per hectare, returns above cash costs amounted to PhP 75,155 while returns above cash and non-cash costs averaged PhP 74,311.
- After removal of all costs, farmers received a net gain of PhP 63,660 per hectare.
- Producing a kilogram of milkfish incurred an average cost of PhP 42.38 whereas the price received by farmers was PhP 100.29 per kilogram.
- Per peso investment in milkfish production, growers netted PhP 1.37. (Table 26)

#### **TILAPIA**

- A one-hectare tilapia farm incurred an average production cost of PhP 313,673 in 2020. With an average yield per hectare of 5,786 kilograms, gross receipts figured to PhP 500,700.
- Subsequently, after deducting cash costs, the estimated returns amounted to PhP 235,205 per hectare. Less cash and non-cash costs, returns settled at PhP 232,400 per hectare.
- Net profit in producing tilapia amounted to PhP 187,027 per hectare.
- Production cost per kilogram averaged PhP 54.21. Grower's selling price was PhP 86.54 per kilogram.

**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

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- Tilapia growers earned an estimated PhP 0.60 for every peso ventured in production. (Table 27)

**STATISTICAL TABLES  
AND  
FIGURES**



## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

Table A. Summary of Average Costs of Production, Selected Commodities, Philippines, 2020

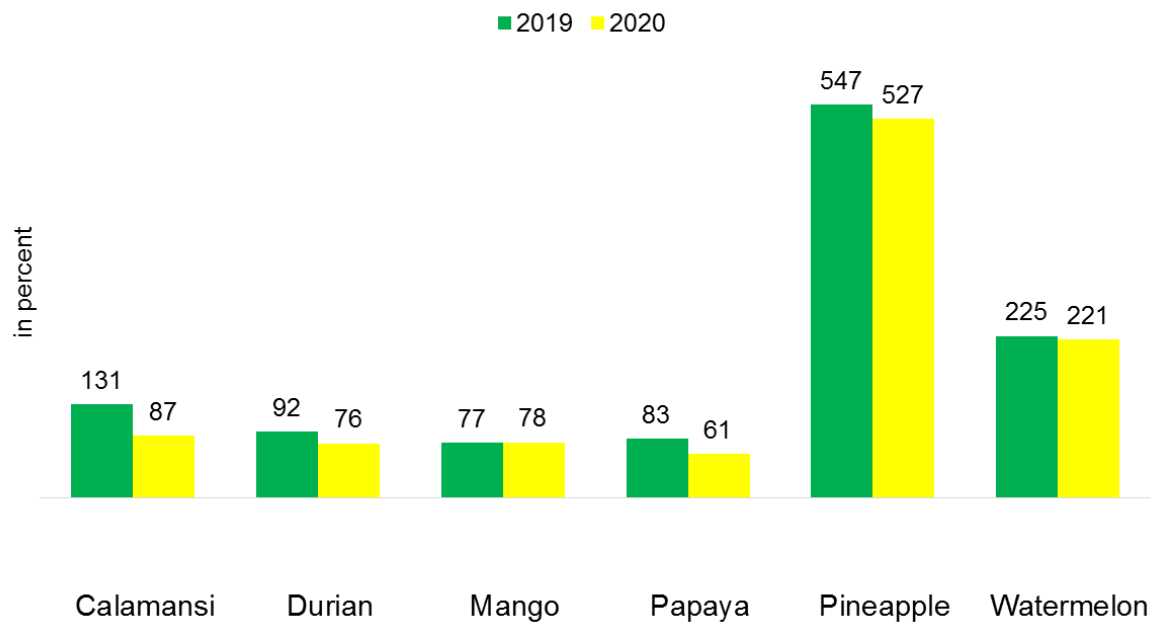
Commodity	Gross Returns (PhP/ha)	Total Costs (PhP/ha)	Net Returns (PhP/ha)	Net Profit-Cost Ratio	Cost per Kilogram (PhP)	Yield per Hectare (kg/ha)	Farmgate Price (PhP/kg)	Return on Investments (percent)
1. Calamansi	151,312	81,094	70,218	0.87	14.69	5,520	27.41	86.59
2. Durian	197,813	112,247	85,566	0.76	23.62	4,753	41.62	76.23
3. Mango	170,386	95,969	74,417	0.78	24.25	3,957	43.05	77.54
4. Papaya	303,902	188,517	115,385	0.61	8.98	20,985	14.48	61.21
5. Pineapple	782,978	124,881	658,097	5.27	3.09	40,422	19.37	526.98
6. Watermelon	256,262	79,912	176,350	2.21	4.66	17,141	14.95	220.68
7. Cashew Nut	60,881	10,824	50,057	4.62	12.55	863	70.58	462.48
8. Pili Nut	143,350	34,185	109,165	3.19	10.83	3,156	45.42	319.34
9. Cassava	107,274	42,070	65,204	1.55	3.54	11,895	9.02	154.99
10. Sweet Potato	140,424	40,960	99,464	2.43	6.27	6,534	21.49	242.83
11. Onion (Red)	716,152	175,833	540,319	3.07	13.31	13,213	54.20	307.29
12. Onion (Multiplier)	566,424	151,516	414,908	2.74	15.47	9,793	57.84	273.84
13. Garlic	313,996	138,931	175,065	1.26	51.27	2,710	115.88	126.01
14. Ampalaya	344,060	202,698	141,363	0.70	24.67	8,215	41.88	69.74
15. Cabbage	390,528	154,035	236,493	1.54	9.52	16,184	24.13	153.53
16. Carrot	495,268	118,735	376,533	3.17	8.28	14,339	34.54	317.12
17. Cauliflower	629,133	142,865	486,268	3.40	13.00	10,993	57.23	340.37
18. Eggplant	337,343	165,554	171,789	1.04	14.86	11,144	30.27	103.77
19. Habitchuelas	136,397	95,377	41,020	0.43	21.15	4,510	30.24	43.01
20. White Potato	624,446	222,038	402,408	1.81	14.10	15,745	39.66	181.23
21. Stringbeans	419,190	181,322	237,868	1.31	12.78	14,186	29.55	131.19
22. Tomato	397,623	256,545	141,078	0.55	19.01	13,497	29.46	54.99
23. Mongo	52,369	23,554	28,815	1.22	26.62	885	59.18	122.33
24. Peanut	68,567	41,874	26,692	0.64	25.36	1,651	41.52	63.74
25. Coffee	43,388	46,465	-3,077	-0.07	86.79	535	81.04	-6.623
26. Milkfish	110,244	46,584	63,660	1.37	42.38	1,099	100.29	136.66
27. Tilapia	500,700	313,673	187,027	0.60	54.21	5,786	86.54	59.62

# FRUITS

## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

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Figure 1. Return on Investments (ROI) of Selected Fruits,  
Philippines, 2019 - 2020



**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 1. Calamansi: Average Costs of Production, Philippines, 2018 - 2020\*

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	48,549	52,074	54,011
Fertilizer	5,286	5,547	5,222
Pesticides	864	998	930
Hired labor	36,564	39,527	41,720
Wages for overseer	779	842	888
Land tax	447	452	456
Rentals	156	160	161
Fuel and oil	627	632	613
Transport of inputs	639	646	667
Interest on crop loan	67	73	81
Food expense	1,480	1,507	1,548
Repairs	1,620	1,671	1,704
Irrigation fee	20	20	19
<b>NON-CASH COSTS</b>	1,607	1,693	1,627
Hired labor paid in kind	111	120	127
Wages for overseer (paid in kind)	413	446	471
Landlord's share	164	162	158
Harvester's share	439	487	407
Lease rental	481	478	465
<b>IMPUTED COSTS</b>	23,182	24,737	25,457
Operator and family labor	7,568	8,181	8,635
Exchange labor	15	17	17
Depreciation	3,555	3,911	4,302
Interest on operating capital	2,670	3,325	3,456
Rental value of owned land	9,373	9,304	9,046
<b>TOTAL COSTS</b>	73,337	78,505	81,094
<b>GROSS RETURNS</b>	163,057	181,023	151,312
<b>RETURNS ABOVE CASH COSTS</b>	114,508	128,949	97,301
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	112,901	127,256	95,674
<b>NET RETURNS</b>	89,720	102,518	70,218
<b>NET PROFIT - COST RATIO</b>	1.22	1.31	0.87
<i>Cost per kilogram (PhP)</i>	12.77	12.23	14.69
<i>Yield per hectare (kg/ha)</i>	5,741	6,422	5,520
<i>Farmgate price (PhP/kg)</i>	28.40	28.19	27.41

\*Refers to maintenance costs only

The input structures are based on the benchmark generated by the 1998 Costs and Returns Survey of Calamansi Production

**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 2. Durian: Average Costs of Production, Philippines, 2018 - 2020\*

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	24,485	25,848	25,163
Fertilizer	11,638	12,304	11,231
Pesticides	516	596	555
Other material inputs	14	14	13
Hired labor	6,809	7,360	7,769
Land tax	1,195	1,207	1,219
Land rental	879	860	779
Transportation cost of inputs	1,327	1,341	1,384
Fuel and oil	15	15	15
Food expense	726	739	759
Repairs	1,368	1,411	1,438
<b>NON-CASH COSTS</b>	61,588	65,115	64,512
Hired labor (paid in kind)	34,315	37,095	39,154
Landlord's share	571	558	506
Harvester's share	26,703	27,462	24,852
<b>IMPUTED COSTS</b>	21,733	22,726	22,573
Operator/family labor	6,717	7,261	7,664
Exchange labor	426	460	486
Depreciation	3,524	3,877	4,264
Interest on operating capital	1,165	1,437	1,387
Rental value of owned land	9,901	9,691	8,772
<b>TOTAL COSTS</b>	107,807	113,689	112,247
<b>GROSS RETURNS</b>	212,546	218,583	197,813
<b>RETURNS ABOVE CASH COSTS</b>	188,061	192,735	172,651
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	126,472	127,619	108,139
<b>NET RETURNS</b>	104,739	104,894	85,566
<b>NET PROFIT - COST RATIO</b>	0.97	0.92	0.76
<i>Cost per kilogram (PhP)</i>	23.83	23.92	23.62
<i>Yield per hectare (kg/ha)</i>	4,524	4,754	4,753
<i>Farmgate price (PhP/kg)</i>	46.98	45.98	41.62

\*Refers to maintenance costs only

The input structures are based on the benchmark generated by the 1997 Costs and Returns Survey of Durian Production

**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 3. Mango: Average Costs of Production, Philippines, 2018 - 2020\*

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	46,213	49,741	48,992
Fertilizer	14,011	14,842	13,384
Pesticides	6,815	7,876	7,340
Hired labor	14,469	15,641	16,509
Land tax	848	856	865
Rentals	2,613	2,755	2,870
Water/electric bills	303	305	296
Fuel and oil	1,894	1,909	1,854
Interest on crop loan	2,208	2,429	2,672
Food expense	1,507	1,534	1,577
Repairs	1,545	1,594	1,625
<b>NON-CASH COSTS</b>	6,848	7,107	7,322
Hired labor (paid in kind)	908	981	1,036
Rentals (machine and vehicle)	169	183	193
Landlord's share	4,863	4,982	5,108
Harvesters' share	908	960	985
<b>IMPUTED COSTS</b>	33,626	36,926	39,656
Operator and family labor	7,193	7,776	8,207
Depreciation	20,805	22,885	25,174
Interest on operating capital	2,167	2,719	2,639
Rental value of owned land	3,462	3,547	3,636
<b>TOTAL COSTS</b>	86,686	93,774	95,969
<b>GROSS RETURNS</b>	156,952	166,052	170,386
<b>RETURNS ABOVE CASH COSTS</b>	110,739	116,311	121,394
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	103,892	109,204	114,072
<b>NET RETURNS</b>	70,266	72,278	74,417
<b>NET PROFIT - COST RATIO</b>	0.81	0.77	0.78
<i>Cost per kilogram (PhP)</i>	22.64	23.71	24.25
<i>Yield per hectare (kg/ha)</i>	3,829	3,954	3,957
<i>Farmgate price (PhP/kg)</i>	40.99	41.99	43.05

\*Refers to maintenance costs only

The input structures are based on the benchmark generated by the 1996 Costs and Returns Survey of Mango Production

**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 4. Papaya: Average Costs of Production, Philippines, 2018 - 2020\*

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	124,397	132,392	134,341
Fertilizer	29,564	31,278	29,591
Pesticides	4,201	4,855	4,525
Other material inputs	10	10	10
Hired labor	45,602	49,297	52,033
Land tax	320	323	327
Rentals	7,297	7,502	7,155
Fuel and oil	10,740	10,823	10,511
Transport costs of inputs	6,296	6,362	6,566
Irrigation fee	132	134	124
Interest on crop loan	14,316	15,748	17,323
Food expenses	2,176	2,215	2,276
Repairs	1,499	1,546	1,576
Landlord's share	66	67	62
Wages for overseer	158	170	180
Electric bill	547	551	535
Others	1,473	1,509	1,548
<b>NON-CASH COSTS</b>	390	398	377
Hired labor (paid in kind)	72	77	82
Landlord's share	244	247	228
Harvester's share	74	74	67
<b>IMPUTED COSTS</b>	45,893	50,599	53,798
Operator/family labor	12,306	13,304	14,042
Depreciation	24,707	27,178	29,896
Interest on operating capital	4,873	6,055	6,106
Rental value of owned land	4,007	4,062	3,755
<b>TOTAL COSTS</b>	170,680	183,390	188,517
<b>GROSS RETURNS</b>	335,851	334,924	303,902
<b>RETURNS ABOVE CASH COSTS</b>	211,454	202,532	169,561
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	211,065	202,134	169,183
<b>NET RETURNS</b>	165,172	151,535	115,385
<b>NET PROFIT - COST RATIO</b>	0.97	0.83	0.61
<i>Cost per kilogram (PhP)</i>	7.85	8.58	8.98
<i>Yield per hectare(kg/ha)</i>	21,732	21,377	20,985
<i>Farmgate price (PhP/kg)</i>	15.45	15.67	14.48

\*Refers to maintenance costs only

The input structures are based on the benchmark generated by the 1999 Costs and Returns Survey of Papaya Production

**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 5. Pineapple: Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	94,295	99,870	100,815
Seeds/planting materials	45,839	48,211	48,867
Fertilizer	14,402	15,266	14,283
Pesticides	1,516	1,752	1,633
Other material inputs	950	1,007	942
Hired labor	15,813	17,095	18,043
Land tax	334	337	341
Rentals	7,416	7,803	7,915
Fuel and oil	101	101	98
Transport of inputs	1,975	1,996	2,060
Irrigation fee	587	617	626
Interest on crop loan	2,340	2,574	2,831
Food expenses	570	580	596
Repairs	2,453	2,530	2,580
<b>NON-CASH COSTS</b>	1,971	2,073	2,101
Hired labor (paid in kind)	6	6	7
Landlord's share	13	14	14
Harvesters' share	9	10	9
Lease rental	1,942	2,043	2,071
<b>IMPUTED COSTS</b>	18,808	21,035	21,965
Operator and family labor	9,903	10,706	11,300
Exchange labor	508	549	579
Depreciation	2,333	2,567	2,823
Interest on operating capital	4,820	5,906	5,937
Rental value of owned land	1,243	1,308	1,326
<b>TOTAL COSTS</b>	115,074	122,977	124,881
<b>GROSS RETURNS</b>	749,686	795,057	782,978
<b>RETURNS ABOVE CASH COSTS</b>	655,391	695,187	682,163
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	653,420	693,115	680,062
<b>NET RETURNS</b>	634,612	672,080	658,097
<b>NET PROFIT - COST RATIO</b>	5.51	5.47	5.27
<i>Cost per kilogram (PhP)</i>	2.79	2.96	3.09
<i>Yield per hectare (kg/ha)</i>	41,260	41,604	40,422
<i>Farmgate price (PhP/kg)</i>	18.17	19.11	19.37

The input structures are based on the benchmark generated by the 1999 Costs and Returns Survey of Pineapple Production



**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 6. Watermelon: Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	46,279	49,610	49,609
Seeds/planting materials	928	941	914
Fertilizer	12,533	13,283	12,052
Pesticides	3,156	3,647	3,399
Other material inputs	50	53	48
Hired labor	22,309	24,117	25,456
Land tax	300	303	306
Rentals	2,453	2,576	2,623
Fuel and oil	1,015	1,023	994
Transport cost of inputs	361	365	376
Irrigation fee	72	73	70
Interest on crop loan	740	814	895
Food expenses	1,548	1,576	1,619
Repairs	814	840	856
<b>NON-CASH COSTS</b>	692	704	693
Seeds	90	91	89
Hired labor (paid in kind)	88	95	100
Landlord's share	105	106	103
Harvester's share	31	29	29
Lease rental	378	383	372
<b>IMPUTED COSTS</b>	25,712	28,166	29,610
Operator and family labor	17,501	18,919	19,969
Exchange labor	1,020	1,103	1,164
Depreciation	3,488	3,836	4,220
Interest on operating capital	2,393	2,979	2,967
Rental value of owned land	1,311	1,329	1,291
<b>TOTAL COSTS</b>	72,684	78,480	79,912
<b>GROSS RETURNS</b>	273,247	255,409	256,262
<b>RETURNS ABOVE CASH COSTS</b>	226,968	205,800	206,654
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	226,276	205,095	205,961
<b>NET RETURNS</b>	200,564	176,929	176,350
<b>NET PROFIT - COST RATIO</b>	2.76	2.25	2.21
<i>Cost per kilogram (PhP)</i>	4.04	4.73	4.66
<i>Yield per hectare (kg/ha)</i>	17,989	16,596	17,141
<i>Farmgate price (PhP/kg)</i>	15.19	15.39	14.95

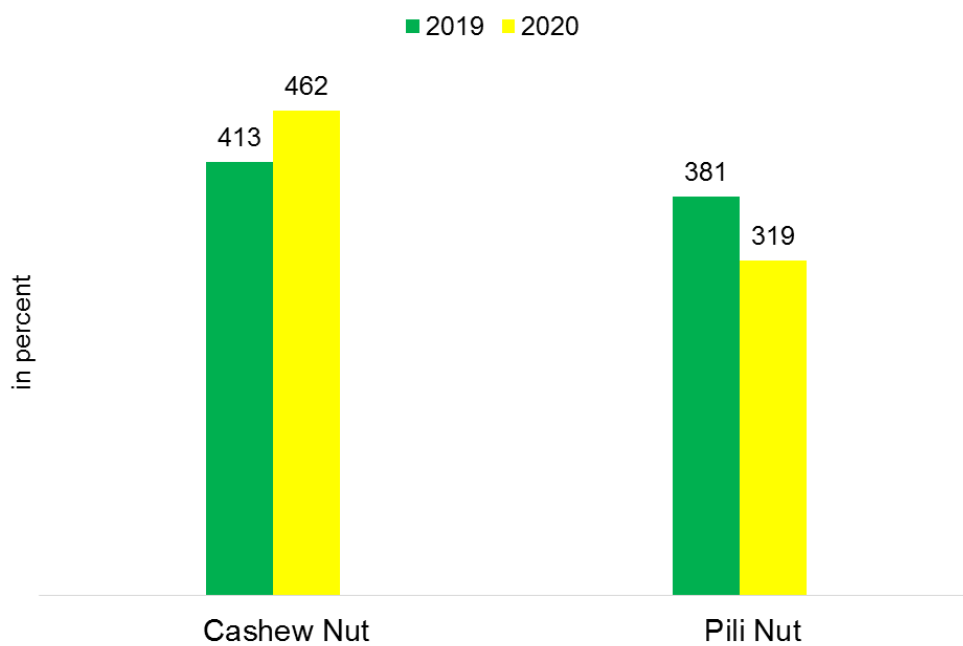
The input structures are based on the benchmark generated by the 1999 Costs and Returns Survey of Watermelon Production

**NUTS**

## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

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Figure 2. Return on Investments (ROI) of Selected Nuts,  
Philippines, 2019 - 2020



**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 7. Cashew Nut: Average Costs of Production, Philippines, 2018 - 2020\*

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	1,119	1,174	1,217
Fertilizer	2	2	2
Hired labor	554	599	633
Land tax	247	250	252
Food expense	125	127	130
Repairs	191	197	200
<b>NON-CASH COSTS</b>	711	723	809
Hired labor (paid in kind)	339	366	387
Landlord's share	112	103	121
Harvester's share	260	253	302
<b>IMPUTED COSTS</b>	7,839	8,035	8,797
Operator/family labor	4,582	4,953	5,228
Depreciation	409	450	495
Interest on operating capital	34	43	45
Rental value of owned land	2,814	2,590	3,029
<b>TOTAL COSTS</b>	9,668	9,932	10,824
<b>GROSS RETURNS</b>	52,300	50,978	60,881
<b>RETURNS ABOVE CASH COSTS</b>	51,181	49,803	59,663
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	50,471	49,081	58,854
<b>NET RETURNS</b>	42,631	41,045	50,057
<b>NET PROFIT - COST RATIO</b>	4.41	4.13	4.62
<i>Cost per kilogram (PhP)</i>	12.12	11.76	12.55
<i>Yield per hectare (kg/ha)</i>	797	845	863
<i>Farmgate price (PhP/kg)</i>	65.58	60.35	70.58

\*Refers to maintenance costs only

The input structures are based on the benchmark generated by the 1996 Costs and Returns Survey of Cashew Production

**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 8. Pili Nut: Average Costs of Production, Philippines, 2018 - 2020\*

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	9,083	9,688	10,095
Hired labor	6,989	7,556	7,975
Land tax	572	578	584
Lease rental	339	345	296
Transport of inputs	120	121	125
Food expense	553	562	578
Repairs	511	527	537
<b>NON-CASH COSTS</b>	14,551	14,574	12,114
Hired labor in kind	172	186	196
Landlord's share	3,198	3,255	2,796
Harvester's share	11,181	11,133	9,122
<b>IMPUTED COSTS</b>	11,385	12,124	11,976
Operator/family labor	5,461	5,904	6,231
Depreciation	1,121	1,233	1,357
Interest on operating capital	429	535	565
Rental value of owned land	4,373	4,452	3,823
<b>TOTAL COSTS</b>	35,019	36,387	34,185
<b>GROSS RETURNS</b>	175,705	174,944	143,350
<b>RETURNS ABOVE CASH COSTS</b>	166,621	165,255	133,255
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	152,070	150,681	121,141
<b>NET RETURNS</b>	140,685	138,557	109,165
<b>NET PROFIT - COST RATIO</b>	4.02	3.81	3.19
<i>Cost per kilogram (PhP)</i>	10.36	11.00	10.83
<i>Yield per hectare (kg/ha)</i>	3,382	3,308	3,156
<i>Farmgate price (PhP/kg)</i>	51.96	52.89	45.42

\*Refers to maintenance costs only

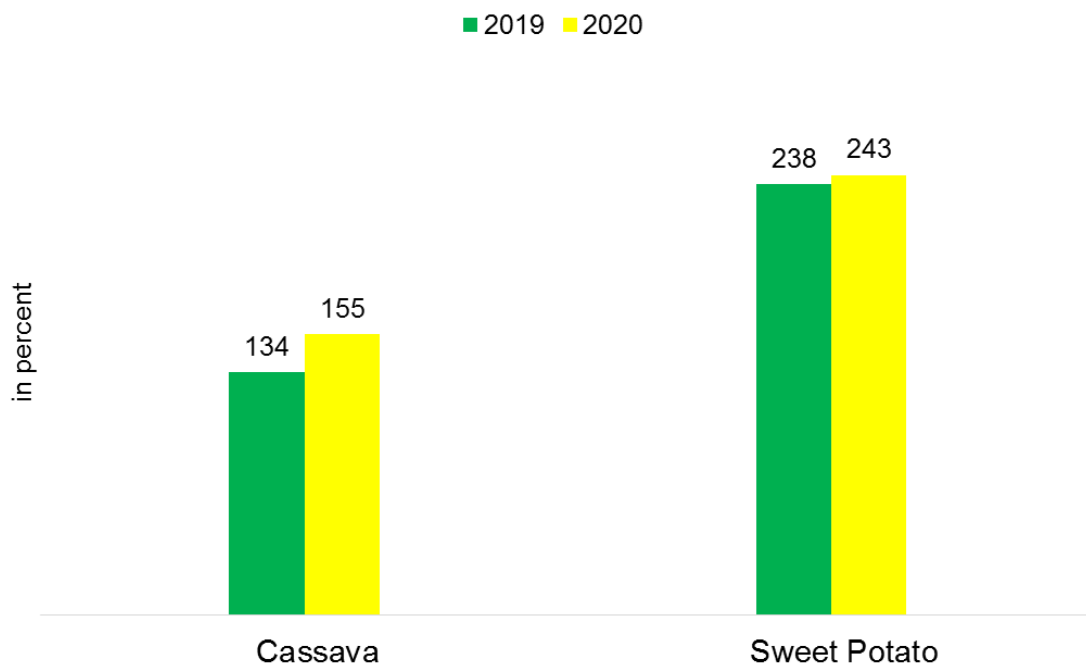
The input structures are based on the benchmark generated by the 1997 Costs and Returns Survey of Pili Production

# **ROOT CROPS**

## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

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Figure 3. Return on Investments (ROI) of Selected Root Crops, Philippines, 2019 - 2020



**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 9. Cassava: Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	20,889	22,295	23,547
Planting materials	261	300	340
Fertilizer	3,393	3,516	3,132
Pesticides	270	312	291
Hired labor	10,116	10,629	11,543
Land tax	103	104	105
Caretaker/overseer's wages	200	210	222
Rentals	1,367	1,494	1,629
Fuel	62	62	60
Transport cost of inputs	64	65	67
Interest payment on crop loan	190	209	230
Landowner's share	3,295	3,780	4,281
Repairs	1,272	1,312	1,338
Food expense	235	239	246
Other costs	61	63	65
<b>NON-CASH COSTS</b>	867	992	1,122
Planting materials	690	792	897
Hired labor	19	20	22
Harvesters' share	32	36	41
Rentals	6	7	8
Landowner's share	120	137	156
<b>IMPUTED COSTS</b>	12,397	17,000	17,400
Planting materials	578	663	751
Fertilizers	1,977	2,049	1,825
Pesticides	32	37	35
Operator labor	3,790	3,982	4,203
Family labor	5,518	5,797	6,119
Exchange labor	388	407	430
Depreciation	634	697	767
Interest on operating capital	887	1,068	1,108
Rental value of owned land	(1,507)	2,168	2,023
Land tax	94	124	133
Other costs	7	7	7
<b>TOTAL COSTS</b>	34,153	40,286	42,070
<b>GROSS RETURNS</b>	83,024	94,231	107,274
<b>RETURNS ABOVE CASH COSTS</b>	62,135	71,936	83,727
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	61,268	70,944	82,604
<b>NET RETURNS</b>	48,871	53,945	65,204
<b>NET PROFIT - COST RATIO</b>	1.43	1.34	1.55
<i>Cost per kilogram (PhP)</i>	2.86	3.40	3.54
<i>Yield per hectare (kg/ha)</i>	11,962	11,834	11,895
<i>Farmgate price (PhP/kg)</i>	6.94	7.96	9.02

The input structures are based on the benchmark generated by the 2014 Costs and Returns Survey of Cassava Production



## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

Table 10. Sweet Potato: Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	11,461	12,238	12,544
Planting materials	189	205	208
Fertilizers	1,263	1,340	1,221
Pesticides	238	275	257
Hired labor	5,813	6,284	6,633
Land tax	54	54	55
Caretaker / overseer's wages	33	35	37
Rentals	429	465	478
Fuel	15	15	15
Oil	4	4	4
Transport cost of inputs	82	83	86
Interest payment on crop loan	29	32	35
Storage costs	3	4	4
Electricity	20	20	20
Water	3	3	3
Landowner's share	797	864	878
Repairs	1,589	1,639	1,671
Food expense	634	645	663
Others costs	264	270	277
<b>NON-CASH COSTS</b>	4,965	5,381	5,477
Planting materials	3,302	3,578	3,635
Fertilizers	7	8	7
Hired Labor	34	37	39
Harvesters' share	210	229	241
Rentals	12	13	14
Landowner's share	1,400	1,516	1,541
<b>IMPUTED COSTS</b>	20,148	21,868	22,940
Planting materials	1,135	1,230	1,250
Fertilizers	14	15	14
Operator labor	7,176	7,758	8,188
Family labor	6,916	7,476	7,891
Exchange labor	150	162	171
Depreciation	425	468	514
Interest on operating capital	463	577	592
Rental value of owned land	1,457	1,579	1,604
Rentals	2,329	2,520	2,629
Fuel	5	5	5
Transport cost of inputs	49	50	51
Storage costs	1	1	1
Land Tax	21	21	21
Others costs	6	6	6
<b>TOTAL COSTS</b>	36,574	39,487	40,960
<b>GROSS RETURNS</b>	122,082	133,457	140,424
<b>RETURNS ABOVE CASH COSTS</b>	110,621	121,219	127,880
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	105,657	115,837	122,403
<b>NET RETURNS</b>	85,508	93,970	99,464
<b>NET PROFIT - COST RATIO</b>	2.34	2.38	2.43
<i>Cost per kilogram (PhP)</i>	5.85	6.26	6.27
<i>Yield per hectare (kg/ha)</i>	6,254	6,310	6,534
<i>Farmgate price (PhP/kg)</i>	19.52	21.15	21.49

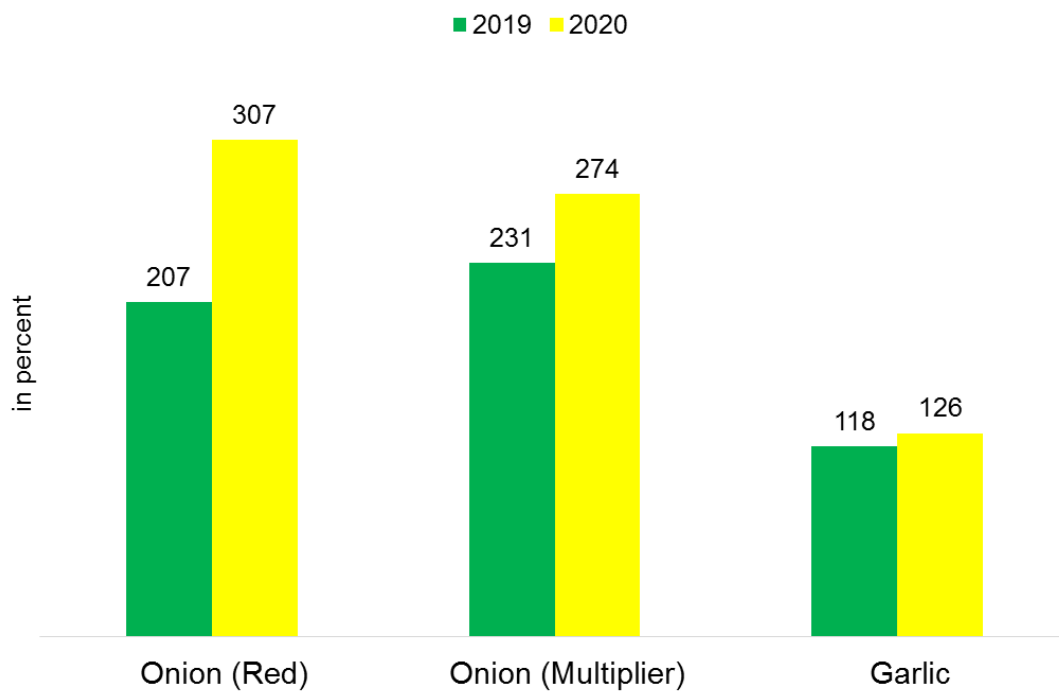
The input structures are based on the benchmark generated by the 2014 Costs and Returns Survey of Sweet Potato Production

**BULBS**

## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

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Figure 4. Return on Investments (ROI) of Selected Bulbs,  
Philippines, 2019 - 2020



## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

Table 11. Onion (Red): Average Costs of Production, Philippines, 2018- 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	123,036	125,631	133,196
Seeds	19,663	16,875	21,045
Fertilizers	16,904	17,967	16,496
Pesticides	9,003	10,404	9,697
Mulching materials	9	9	8
Hired labor	42,552	46,000	48,553
Caretaker/overseer's wages/employee's salary	2,133	2,306	2,434
Land tax	442	446	451
Rentals	1,491	1,466	1,656
Fuel and Oil	7,476	7,534	7,317
Transport cost of inputs	478	483	499
Interest payment on crop loan	4,886	5,375	5,912
Landowner's share	9,077	7,790	9,716
Irrigation fee	404	436	461
Storage cost	1,094	939	1,171
Electricity	70	71	69
Food expense	3,534	3,597	3,696
Repairs	2,735	2,821	2,876
Others	1,084	1,111	1,140
<b>NON-CASH COSTS</b>	9,653	9,515	12,879
Fertilizers	55	58	53
Mulching materials	375	399	366
Hired labor in kind	83	90	95
Harvesters' share	6,431	6,569	9,442
Caretaker/overseer's wages	336	363	384
Rentals	1,951	1,675	2,088
Landowner's share	393	337	421
Irrigation fee	27	24	29
<b>IMPUTED COSTS</b>	25,699	27,374	29,758
Seeds	266	228	285
Fertilizers	97	103	94
Mulching material	18	19	18
Pesticides (Liquid)	1	1	1
Operator labor	8,403	9,084	9,589
Family labor	3,927	4,246	4,481
Exchange labor	460	497	524
Depreciation	2,352	2,587	2,846
Interest on operating capital	5,541	6,631	6,962
Rental value of owned land	4,623	3,967	4,947
Transport cost of inputs	11	11	12
<b>TOTAL COSTS</b>	158,387	162,520	175,833
<b>GROSS RETURNS</b>	487,772	498,217	716,152
<b>RETURNS ABOVE CASH COSTS</b>	364,736	372,586	582,956
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	355,084	363,071	570,077
<b>NET RETURNS</b>	329,385	335,697	540,319
<b>NET PROFIT - COST RATIO</b>	2.08	2.07	3.07
<i>Cost per kilogram (PhP)</i>	16.44	14.18	13.31
<i>Yield per hectare (kg/ha)</i>	9,632	11,464	13,213
<i>Farmgate price (PhP/kg)</i>	50.64	43.46	54.20

The input structures are based on the benchmark generated by the 2013 Costs and Returns Survey of Onion Production

## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

Table 12. Onion (Multiplier): Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	64,523	68,906	71,207
Planting materials	3,043	3,122	3,834
Fertilizers	11,477	12,567	11,547
Pesticides	4,807	5,555	5,177
Mulching Materials	297	325	299
Hired labor	22,780	24,626	25,992
Other permanent employee's salary	353	382	403
Land tax	96	97	98
Rentals	712	738	879
Fuel and Oil	5,471	5,513	5,354
Transport cost of inputs	385	389	402
Interest payment on crop loan	1,792	1,971	2,168
Landowner's share	5,542	5,686	6,983
Irrigation fee	70	72	89
Electricity	1,307	1,317	1,279
Food expense	3,246	3,304	3,395
Repairs	2,404	2,480	2,529
Other costs	743	762	781
<b>NON-CASH COSTS</b>	40,429	41,724	50,097
Planting materials	25,028	25,682	31,538
Fertilizers (Organic-Solid)	13	14	13
Mulching materials	3,153	3,452	3,172
Rentals (Machine)	368	398	420
Landowner's share	11,867	12,177	14,954
<b>IMPUTED COSTS</b>	25,942	27,768	30,211
Planting materials	102	105	128
Fertilizers	13	14	13
Mulching materials	144	157	145
Operator labor	10,514	11,366	11,997
Family labor	5,622	6,077	6,415
Exchange labor	463	501	528
Depreciation	1,259	1,385	1,524
Interest on operating capital	2,999	3,211	3,439
Rental value of owned land	4,549	4,668	5,733
Transport cost of inputs	70	70	73
Other costs	207	212	218
<b>TOTAL COSTS</b>	130,893	138,397	151,516
<b>GROSS RETURNS</b>	444,574	458,140	566,424
<b>RETURNS ABOVE CASH COSTS</b>	380,051	389,234	495,217
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	339,622	347,510	445,119
<b>NET RETURNS</b>	313,681	319,743	414,908
<b>NET PROFIT - COST RATIO</b>	2.40	2.31	2.74
<i>Cost per kilogram (PhP)</i>	13.51	14.23	15.47
<i>Yield per hectare (kg/ha)</i>	9,686	9,727	9,793
<i>Farmgate price (PhP/kg)</i>	45.90	47.10	57.84

The input structures are based on the benchmark generated by the 2013 Costs and Returns Survey of Onion Production

## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

Table 13. Garlic: Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	54,388	57,470	58,842
Planting materials (cloves)	6,541	6,433	7,264
Fertilizers	8,531	9,094	8,399
Mulching materials	141	150	139
Pesticides	3,871	4,474	4,169
Hired labor	21,081	22,790	24,054
Caretaker/overseer's wages	139	150	159
Land tax	339	343	346
Rentals	348	364	393
Fuel and Oil	4,565	4,601	4,468
Transport cost of inputs	459	464	479
Interest payment on crop loan	1,227	1,350	1,485
Landowner's share	816	783	862
Irrigation fee	102	101	114
Electricity	260	262	254
Food expense	2,949	3,002	3,085
Repairs	2,911	3,003	3,062
Other costs	105	108	111
<b>NON-CASH COSTS</b>	25,293	25,144	27,728
Planting materials (cloves)	13,432	13,211	14,916
Fertilizers	83	88	81
Mulching materials	2,775	2,958	2,732
Pesticides (Liquid)	5	5	5
Hired labor in kind	293	317	335
Harvesters' share	224	215	237
Caretaker/overseer's wages	21	23	24
Rentals	642	637	715
Interest payment on crop loan	6	7	8
Landowner's share	7,573	7,448	8,410
Irrigation fee	239	235	265
<b>IMPUTED COSTS</b>	46,521	48,449	52,361
Planting materials (cloves)	11,480	11,291	12,748
Fertilizers	751	801	740
Mulching materials	288	307	284
Pesticides	7	8	7
Operator labor	13,199	14,268	15,060
Family labor	8,878	9,597	10,130
Exchange labor	435	470	496
Depreciation	1,842	2,027	2,229
Interest on operating capital	2,249	2,404	2,465
Rental value of owned land	7,245	7,126	8,046
Transport cost of inputs	100	101	105
Interest payment on crop loan	16	18	19
Other costs	30	31	32
<b>TOTAL COSTS</b>	126,202	131,062	138,931
<b>GROSS RETURNS</b>	297,213	285,097	313,996
<b>RETURNS ABOVE CASH COSTS</b>	242,825	227,627	255,154
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	217,532	202,484	227,426
<b>NET RETURNS</b>	171,011	154,035	175,065
<b>NET PROFIT - COST RATIO</b>	1.36	1.18	1.26
<i>Cost per kilogram (PhP)</i>	44.31	47.18	51.27
<i>Yield per hectare (kg/ha)</i>	2,848	2,778	2,710
<i>Farmgate price (PhP/kg)</i>	104.35	102.63	115.88

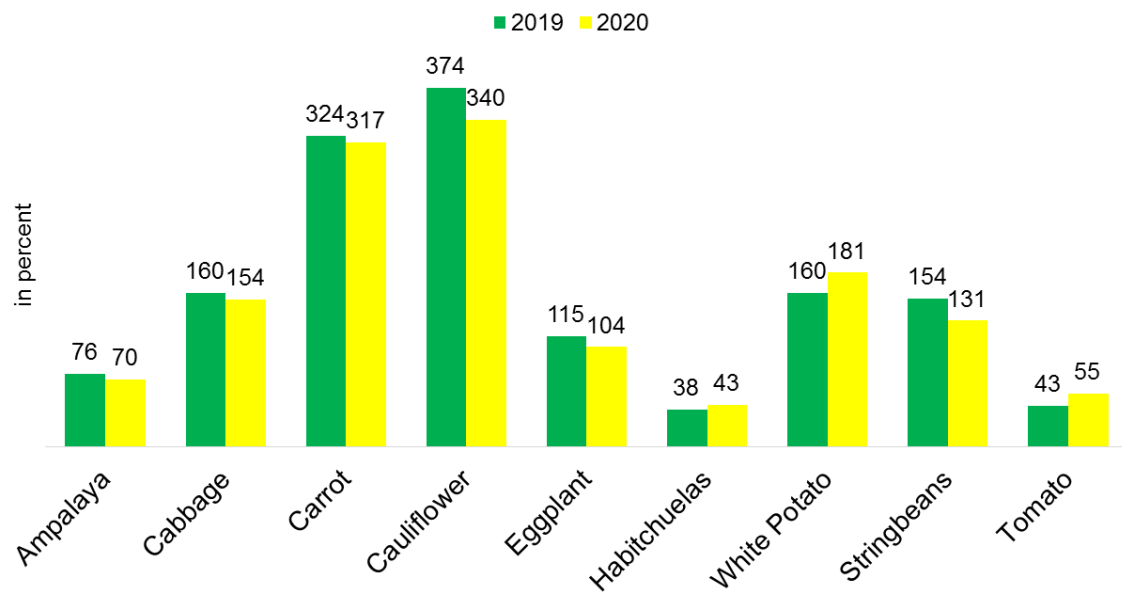
The input structures are based on the benchmark generated by the 2013 Costs and Returns Survey of Garlic Production

# **VEGETABLES**

## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

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Figure 5. Return on Investments (ROI) of Selected Vegetables,  
Philippines, 2019 - 2020





**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 14. Ampalaya: Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	86,879	92,648	92,644
Seeds/planting materials	10,781	10,760	10,927
Fertilizers:	16,004	17,110	15,680
Pesticides	12,056	13,933	12,986
Hired labor	26,067	28,180	29,744
Land tax	250	253	255
Rentals	4,388	4,504	4,639
Fuel and oil	3,619	3,647	3,542
Transport cost of inputs	2,048	2,070	2,136
Irrigation fee	17	17	18
Interest on crop loan	3,043	3,347	3,682
Food expense	2,030	2,066	2,123
Repairs	3,440	3,548	3,617
Others	3,135	3,213	3,296
<b>NON-CASH COSTS</b>	3,992	4,057	4,145
Seeds/planting materials	1,977	1,973	2,004
Hired labor (paid in kind)	598	646	682
Landlord's share	498	497	504
Harvester's share	353	360	359
Lease rental	17	17	18
Others	549	563	577
<b>IMPUTED COSTS</b>	91,536	99,697	105,909
Operator and family labor	55,942	60,475	63,831
Exchange labor	3,224	3,485	3,679
Depreciation	24,002	26,402	29,042
Interest on operating capital	3,985	4,960	4,914
Rental value of owned land	4,384	4,375	4,443
<b>TOTAL COSTS</b>	182,407	196,402	202,698
<b>GROSS RETURNS</b>	338,146	345,101	344,060
<b>RETURNS ABOVE CASH COST</b>	251,267	252,454	251,416
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	247,275	248,397	247,272
<b>NET RETURNS</b>	155,739	148,700	141,363
<b>NET PROFIT - COST RATIO</b>	0.85	0.76	0.70
<i>Cost per kilogram (PhP)</i>	22.29	23.47	24.67
<i>Yield per hectare (kg/ha)</i>	8,184	8,368	8,215
<i>Farmgate price (PhP/kg)</i>	41.32	41.24	41.88

The input structures are based on the benchmark generated by the 1999 Costs and Returns Survey of Ampalaya Production

**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 15. Cabbage: Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	84,035	87,459	86,466
Seeds/planting materials	10,229	8,985	8,878
Fertilizers	24,060	25,294	22,676
Pesticides	4,997	5,774	5,382
Hired labor	25,014	27,041	28,542
Land tax	243	246	248
Rentals	3,388	3,662	3,865
Transport cost of inputs	4,680	4,729	4,881
Food expense	3,524	3,586	3,686
Repairs	6,629	6,838	6,972
Others	1,272	1,303	1,337
<b>NON-CASH COSTS</b>	168	164	168
Seeds/planting materials	88	78	77
Hired labor (paid in kind)	80	87	91
<b>IMPUTED COSTS</b>	65,249	65,447	67,401
Operator/family labor	25,467	27,531	29,059
Depreciation	7,595	8,354	9,190
Interest on operating capital	3,947	4,755	4,640
Rental value of owned land	28,240	24,807	24,512
<b>TOTAL COSTS</b>	149,452	153,070	154,035
<b>GROSS RETURNS</b>	427,908	398,506	390,528
<b>RETURNS ABOVE CASH COST</b>	343,873	311,047	304,062
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	343,705	310,883	303,894
<b>NET RETURNS</b>	278,456	245,436	236,493
<b>NET PROFIT - COST RATIO</b>	1.86	1.60	1.54
<i>Cost per kilogram (PhP)</i>	9.71	9.38	9.52
<i>Yield per hectare (kg/ha)</i>	15,392	16,319	16,184
<i>Farmgate price (PhP/kg)</i>	27.80	24.42	24.13

The input structures are based on the benchmark generated by the 1996 Costs and Returns Survey of Potato and Upland Vegetables Production

**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 16. Carrot: Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	65,775	69,545	69,776
Seeds/planting materials	4,586	4,280	4,292
Fertilizers	16,673	17,465	15,572
Pesticides	2,765	3,195	2,978
Hired labor	21,476	23,217	24,505
Land tax	97	98	99
Rentals	5,269	5,696	6,012
Interest on crop loan	4,225	4,648	5,113
Transport cost of inputs	2,248	2,271	2,344
Food expense	1,978	2,013	2,069
Repairs	6,459	6,662	6,792
<b>NON-CASH COSTS</b>	35	33	33
Seeds/planting materials	35	33	33
<b>IMPUTED COSTS</b>	44,379	46,574	48,926
Operator/family labor	27,574	29,809	31,463
Depreciation	4,165	4,581	5,040
Interest on operating capital	2,808	3,007	3,221
Rental value of owned land	9,832	9,176	9,203
<b>TOTAL COSTS</b>	110,190	116,151	118,735
<b>GROSS RETURNS</b>	528,468	492,425	495,268
<b>RETURNS ABOVE CASH COST</b>	462,692	422,880	425,492
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	462,657	422,847	425,459
<b>NET RETURNS</b>	418,278	376,274	376,533
<b>NET PROFIT - COST RATIO</b>	3.80	3.24	3.17
<i>Cost per kilogram (PhP)</i>	7.69	8.12	8.28
<i>Yield per hectare (kg/ha)</i>	14,322	14,298	14,339
<i>Farmgate price (PhP/kg)</i>	36.90	34.44	34.54

The input structures are based on the benchmark generated by the 1996 Costs and Returns Survey of Potato and Upland Vegetables Production

**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 17. Cauliflower: Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	91,971	96,253	93,564
Seeds/planting materials	24,682	24,812	22,543
Fertilizers	20,417	21,121	19,020
Pesticides	5,555	6,419	5,983
Hired labor	16,410	17,740	18,725
Land tax	1,053	1,064	1,074
Rentals	13,514	14,609	15,420
Transport cost of inputs	7,920	8,003	8,259
Food expense	817	831	854
Repairs	1,603	1,653	1,685
<b>NON-CASH COSTS</b>	9,375	9,424	8,562
Landlord's share	9,375	9,424	8,562
<b>IMPUTED COSTS</b>	36,815	39,322	40,739
Operator/family labor	24,218	26,180	27,633
Depreciation	2,532	2,785	3,063
Interest on operating capital	3,639	3,896	4,173
Rental value of owned land	6,427	6,461	5,870
<b>TOTAL COSTS</b>	138,160	144,999	142,865
<b>GROSS RETURNS</b>	681,087	687,784	629,133
<b>RETURNS ABOVE CASH COST</b>	589,117	591,531	535,569
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	579,742	582,107	527,006
<b>NET RETURNS</b>	542,927	542,785	486,268
<b>NET PROFIT - COST RATIO</b>	3.93	3.74	3.40
<i>Cost per kilogram (PhP)</i>	12.71	13.28	13.00
<i>Yield per hectare (kg/ha)</i>	10,870	10,919	10,993
<i>Farmgate price (PhP/kg)</i>	62.66	62.99	57.23

The input structures are based on the benchmark generated by the 1996 Costs and Returns Survey of Potato and Upland Vegetables Production

**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 18. Eggplant: Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	96,642	103,225	103,282
Seeds/planting materials	2,600	2,640	2,618
Fertilizer	21,627	22,979	21,006
Pesticides	10,142	11,720	10,923
Other material inputs	57	61	56
Hired labor	23,762	25,688	27,113
Land tax	89	90	91
Rentals	6,339	6,493	6,501
Fuel and oil	3,908	3,938	3,824
Transport cost of inputs	990	1,000	1,032
Irrigation fee	215	218	216
Interest on crop loan	11,975	13,172	14,490
Food expenses	6,436	6,550	6,731
Repairs	2,628	2,710	2,763
Landlord's share	5,875	5,965	5,916
<b>NON-CASH COSTS</b>	5,207	5,312	5,225
Seeds/planting materials	1,124	1,141	1,132
Hired labor (paid in kind)	52	57	60
Landlord's share	2,095	2,127	2,110
Harvesters' share	1,729	1,778	1,716
Lease rental	206	210	208
<b>IMPUTED COSTS</b>	49,904	53,840	57,048
Operator and family labor	32,741	35,394	37,358
Exchange labor	2,652	2,867	3,026
Depreciation	7,577	8,335	9,168
Interest on operating capital	3,671	3,931	4,210
Rental value of owned land	3,264	3,314	3,286
<b>TOTAL COSTS</b>	151,752	162,377	165,554
<b>GROSS RETURNS</b>	339,927	349,549	337,343
<b>RETURNS ABOVE CASH COST</b>	243,285	246,324	234,062
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	238,079	241,012	228,837
<b>NET RETURNS</b>	188,175	187,172	171,789
<b>NET PROFIT - COST RATIO</b>	1.24	1.15	1.04
<i>Cost per kilogram (PhP)</i>	13.42	14.18	14.86
<i>Yield per hectare (kg/ha)</i>	11,308	11,453	11,144
<i>Farmgate price (PhP/kg)</i>	30.06	30.52	30.27

The input structures are based on the benchmark generated by the 1998 Costs and Returns Survey of Eggplant Production

**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 19. Habitchuelas: Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	39,370	41,867	41,147
Seeds/planting materials	3,456	3,414	3,630
Fertilizers	13,864	14,666	13,107
Pesticides	3,706	4,283	3,991
Hired labor	9,991	10,800	11,400
Land tax	213	216	218
Rentals	2,941	3,179	3,355
Transport cost of inputs	2,503	2,529	2,610
Repairs	2,697	2,782	2,836
<b>NON-CASH COSTS</b>	2,093	2,068	2,199
Seeds/planting materials	2,093	2,068	2,199
<b>IMPUTED COSTS</b>	45,786	49,275	52,031
Operator/family labor	34,037	36,795	38,837
Depreciation	3,607	3,968	4,365
Interest on operating capital	1,904	2,350	2,277
Rental value of owned land	6,238	6,162	6,552
<b>TOTAL COSTS</b>	87,249	93,211	95,377
<b>GROSS RETURNS</b>	129,415	128,999	136,397
<b>RETURNS ABOVE CASH COST</b>	90,045	87,131	95,249
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	87,951	85,064	93,051
<b>NET RETURNS</b>	42,165	35,788	41,020
<b>NET PROFIT - COST RATIO</b>	0.48	0.38	0.43
<i>Cost per kilogram (PhP)</i>	<i>19.41</i>	<i>20.55</i>	<i>21.15</i>
<i>Yield per hectare (kg/ha)</i>	<i>4,495</i>	<i>4,536</i>	<i>4,510</i>
<i>Farmgate price (PhP/kg)</i>	<i>28.79</i>	<i>28.44</i>	<i>30.24</i>

The input structures are based on the benchmark generated by the 1996 Costs and Returns Survey of Potato and Upland Vegetables Production

**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 20. White Potato: Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	126,420	131,803	129,834
Seeds/planting materials	23,831	23,176	24,950
Fertilizers	48,890	51,254	45,752
Pesticides	6,036	6,976	6,502
Hired labor	27,920	30,183	31,858
Land tax	643	649	656
Rentals	1,251	1,352	1,427
Transport of inputs	7,225	7,301	7,535
Food expense	3,437	3,497	3,594
Repairs	7,188	7,414	7,559
<b>NON-CASH COSTS</b>	13,250	12,886	13,873
Seeds/planting materials	13,250	12,886	13,873
<b>IMPUTED COSTS</b>	70,166	73,873	78,332
Operator/family labor	27,746	29,994	31,659
Depreciation	8,509	9,360	10,296
Interest on operating capital	6,549	7,908	7,729
Rental value of owned land	27,362	26,611	28,647
<b>TOTAL COSTS</b>	209,836	218,563	222,038
<b>GROSS RETURNS</b>	587,491	569,002	624,446
<b>RETURNS ABOVE CASH COST</b>	461,071	437,199	494,612
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	447,821	424,312	480,740
<b>NET RETURNS</b>	377,655	350,439	402,408
<b>NET PROFIT - COST RATIO</b>	1.80	1.60	1.81
<i>Cost per kilogram (PhP)</i>	13.53	14.15	14.10
<i>Yield per hectare (kg/ha)</i>	15,509	15,445	15,745
<i>Farmgate price (PhP/kg)</i>	37.88	36.84	39.66

The input structures are based on the benchmark generated by the 1996 Costs and Returns Survey of Potato and Upland Vegetables Production

**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 21. Stringbeans: Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	74,839	79,606	78,891
Seeds	5,667	5,545	5,541
Fertilizer	10,976	11,599	10,568
Pesticides	14,956	17,284	16,109
Other material inputs	341	361	329
Hired labor	15,572	16,834	17,768
Land tax	511	516	521
Rentals	5,444	5,454	5,526
Fuel and oil	5,914	5,960	5,787
Transport cost of inputs	1,995	2,016	2,081
Irrigation fee	233	228	228
Interest on crop loan	3,174	3,492	3,841
Food expenses	1,905	1,938	1,992
Repairs	1,102	1,137	1,159
Wages for overseer	346	374	395
Others	6,704	6,869	7,047
<b>NON-CASH COSTS</b>	4,248	4,168	4,169
Seeds	4,010	3,923	3,921
Hired labor paid in kind	112	121	128
Landlord's share	27	26	26
Harvester's share	40	38	35
Lease Rental	60	59	59
<b>IMPUTED COSTS</b>	86,080	93,102	98,262
Operator/family labor	61,659	66,656	70,355
Exchange labor	657	711	750
Depreciation	13,814	15,196	16,715
Interest on operating capital	2,917	3,658	3,566
Rental value of owned land	7,032	6,880	6,876
<b>TOTAL COSTS</b>	165,167	176,876	181,322
<b>GROSS RETURNS</b>	469,575	448,981	419,190
<b>RETURNS ABOVE CASH COSTS</b>	394,735	369,375	340,300
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	390,487	365,207	336,130
<b>NET RETURNS</b>	304,407	272,106	237,868
<b>NET PROFIT - COST RATIO</b>	1.84	1.54	1.31
<i>Cost per kilogram (PhP)</i>	10.63	11.65	12.78
<i>Yield per hectare (kg/ha)</i>	15,539	15,184	14,186
<i>Farmgate price (PhP/kg)</i>	30.22	29.57	29.55

The input structures are based on the benchmark generated by the 1999 Costs and Returns Survey of Stringbeans Production



## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

Table 22. Tomato: Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	175,524	184,832	192,703
Planting materials	8,536	8,492	9,796
Fertilizers	19,754	20,974	20,728
Soil ameliorants	435	462	456
Mulching materials	208	221	218
Pesticides	15,166	17,527	16,335
Hired labor	54,896	59,345	62,638
Land tax	122	124	125
Caretaker's/overseer's wage	2,267	2,451	2,587
Other permanent employees' salary	280	302	319
Rentals	5,338	5,378	6,121
Fuel	2,730	2,751	2,671
Oil	465	468	455
Transport cost of inputs	1,564	1,580	1,631
Transport cost of produce from farm to first point of sale	15,275	15,435	15,929
Interest payment on crop loan	653	718	790
Storage fee	2,747	2,733	3,152
Water expense	120	121	117
Electricity cost	253	255	248
Repairs	2,799	2,888	2,944
Food expense for hired and exchange labor	7,001	7,125	7,322
Landowner's share	7,717	7,678	8,857
Financier's share	6,356	6,446	7,353
Sack/Crate/Box/Kaing	17,834	18,275	18,746
Other costs	3,009	3,084	3,163
<b>NON-CASH COSTS</b>	423	422	486
Pesticides	3	3	3
Rentals	393	391	451
Landowner's share	27	27	31
Financier's share	1	1	1
<b>IMPUTED COSTS</b>	55,860	59,212	63,357
Planting Materials	4,323	4,301	4,961
Fertilizer	1,807	1,919	1,896
Mulching materials	83	88	87
Pesticides	1,086	1,255	1,170
Operator labor	15,565	16,827	17,761
Family labor	6,871	7,428	7,840
Exchange labor	98	106	112
Depreciation	6,574	7,232	7,955
Interest on operating capital	5,521	5,912	6,331
Land tax	112	113	114
Rentals	2,201	2,264	2,521
Rental value of owned land	4,098	4,077	4,703
Rental value of owned animals	1,165	1,259	1,329
Oil	27	27	26
Transport cost of inputs	803	811	837
Transport cost of produce from farm to first point of sale	3,847	3,887	4,012
Storage fee	18	19	19
Water expense	872	879	854
Sack/Crate/Box/Kaing	363	372	381
Other costs	425	436	447
<b>TOTAL COSTS</b>	231,807	244,465	256,545
<b>GROSS RETURNS</b>	343,672	348,585	397,623
<b>RETURNS ABOVE CASH COSTS</b>	168,148	163,754	204,921
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	167,725	163,332	204,435
<b>NET RETURNS</b>	111,865	104,120	141,078
<b>NET PROFIT - COST RATIO</b>	0.48	0.43	0.55
<i>Cost per kilogram (PhP)</i>	17.31	17.91	19.01
<i>Yield per hectare (kg/ha)</i>	13,388	13,649	13,497
<i>Farmgate price (PhP/kg)</i>	25.67	25.54	29.46

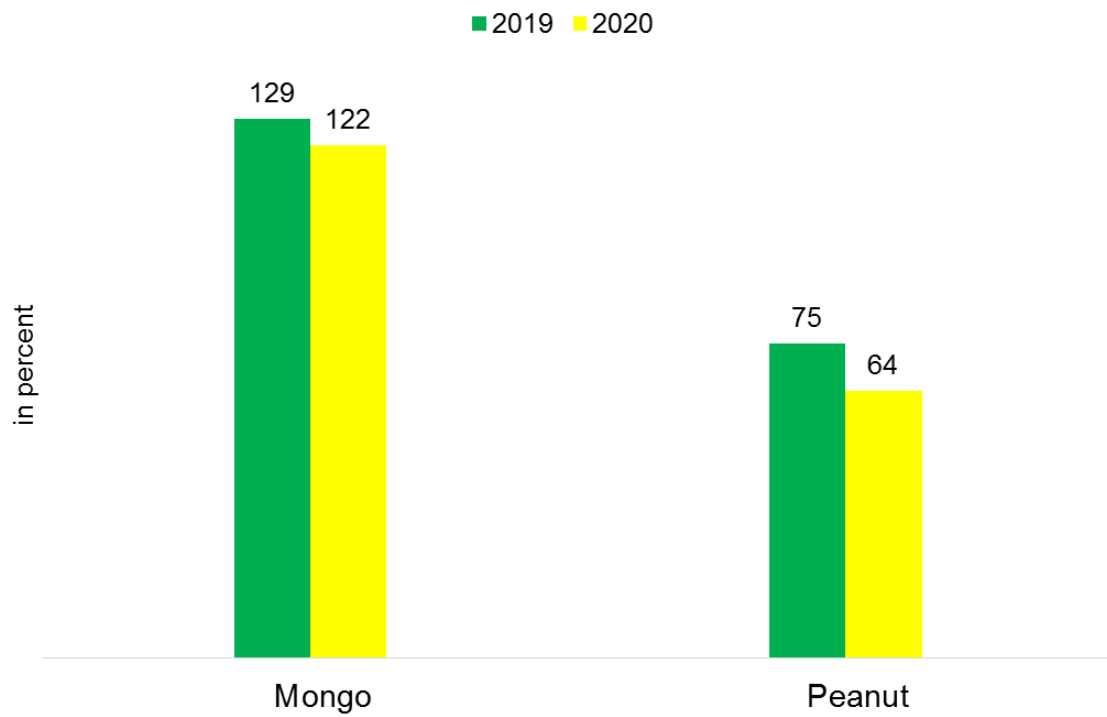
The input structures are based on the benchmark generated by the 2017 Costs and Returns Survey of Tomato Production

# **LEGUMES**

## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

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Figure 6. Return on Investments (ROI) of Selected Legumes,  
Philippines, 2019 - 2020



**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 23. Mongo: Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	7,934	8,427	8,687
Seeds/planting materials	1,035	1,027	1,024
Fertilizers	54	58	54
Pesticides	616	712	664
Hired labor	3,031	3,277	3,458
Land tax	148	150	151
Rentals	695	749	790
Fuel and oil	201	203	197
Irrigation fee	55	54	54
Interest on crop loan	562	618	680
Transport cost of inputs	61	61	63
Food expense	397	404	416
Repairs	1,080	1,114	1,136
<b>NON-CASH COSTS</b>	3,551	3,503	3,533
Seeds/planting materials	998	991	988
Hired labor paid in kind	77	83	87
Landlord's share	617	613	611
Harvester's share	1,851	1,810	1,839
Irrigation fee	7	7	7
<b>IMPUTED COSTS</b>	9,795	10,621	11,334
Operator/family labor	4,513	4,878	5,149
Exchange labor	79	85	90
Depreciation	3,922	4,315	4,746
Interest on operating capital	291	360	369
Rental value of owned land	991	983	981
<b>TOTAL COSTS</b>	21,280	22,552	23,554
<b>GROSS RETURNS</b>	52,719	51,547	52,369
<b>RETURNS ABOVE CASH COST</b>	44,785	43,120	43,682
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	41,235	39,616	40,149
<b>NET RETURNS</b>	31,439	28,995	28,815
<b>NET PROFIT - COST RATIO</b>	1.48	1.29	1.22
<i>Cost per kilogram (PhP)</i>	24.13	25.96	26.62
<i>Yield per hectare (kg/ha)</i>	882	869	885
<i>Farmgate price (PhP/kg)</i>	59.79	59.34	59.18

The input structures are based on the benchmark generated by the 1997 Costs and Returns Survey of Mongo Production

**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 24. Peanut: Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	21,069	22,476	23,346
Seeds/planting materials	2,100	2,180	2,146
Fertilizers	543	570	512
Pesticides	32	37	34
Hired labor	13,934	15,063	15,899
Land tax	236	238	241
Rentals	683	721	732
Fuel and oil	340	343	333
Irrigation fee	75	78	77
Interest on crop loan	598	657	723
Transport cost of inputs	189	191	197
Food expense	1,082	1,101	1,132
Repairs	1,257	1,297	1,322
<b>NON-CASH COSTS</b>	4,068	4,220	4,153
Seeds/planting materials	2,425	2,517	2,478
Hired labor paid in kind	87	94	99
Landlord's share	911	945	930
Harvester's share	645	664	645
<b>IMPUTED COSTS</b>	12,455	13,611	14,375
Operator/family labor	6,119	6,615	6,982
Exchange labor	230	248	262
Depreciation	3,274	3,602	3,962
Interest on operating capital	1,020	1,265	1,318
Rental value of owned land	1,813	1,881	1,852
<b>TOTAL COSTS</b>	37,592	40,306	41,874
<b>GROSS RETURNS</b>	68,555	70,576	68,567
<b>RETURNS ABOVE CASH COST</b>	47,487	48,100	45,220
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	43,419	43,880	41,067
<b>NET RETURNS</b>	30,963	30,270	26,692
<b>NET PROFIT - COST RATIO</b>	0.82	0.75	0.64
<i>Cost per kilogram (PhP)</i>	22.28	24.08	25.36
<i>Yield per hectare (kg/ha)</i>	1,687	1,674	1,651
<i>Farmgate price (PhP/kg)</i>	40.64	42.17	41.52

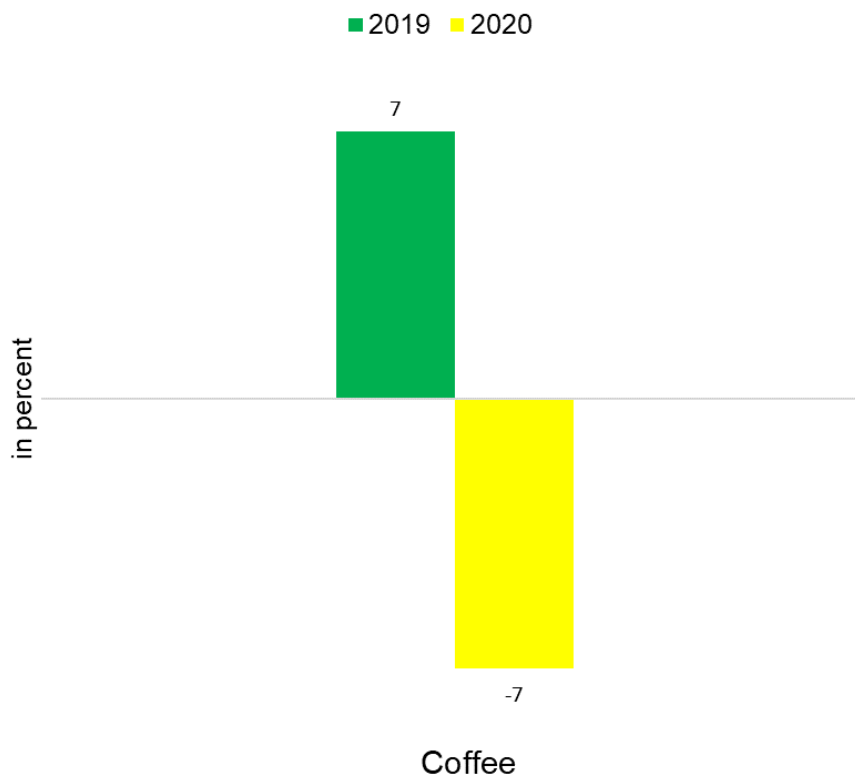
The input structures are based on the benchmark generated by the 1997 Costs and Returns Survey of Peanut Production

**COMMERCIAL CROP**

## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

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Figure 7. Return on Investments (ROI) of Coffee,  
Philippines, 2019 - 2020



**PRODUCTION COSTS AND RETURNS  
OF SELECTED AGRICULTURAL COMMODITIES**

Table 25. Coffee: Average Costs of Production, Philippines, 2018 - 2020\*

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	27,882	30,806	33,478
Fertilizer	7,834	9,269	10,819
Pesticides	152	176	164
Hired labor	16,003	17,300	18,260
Land tax	677	684	691
Rentals	60	62	62
Fuel and oil	270	272	264
Transport of inputs	195	197	204
Interest on crop loan	1,203	1,324	1,456
Food expenses	821	836	859
Repairs	666	687	700
<b>NON-CASH COSTS</b>	1,140	1,153	1,118
Hired labor (paid in kind)	274	297	313
Landlord's share	29	29	27
Harvesters' share	562	558	524
Lease rental	274	270	254
<b>IMPUTED COSTS</b>	10,439	11,387	11,869
Operator and family labor	6,026	6,515	6,876
Exchange labor	150	162	171
Depreciation	580	638	702
Interest on operating capital	1,473	1,895	2,072
Rental value of owned land	2,210	2,177	2,047
<b>TOTAL COSTS</b>	39,462	43,347	46,465
<b>GROSS RETURNS</b>	46,543	46,186	43,388
<b>RETURNS ABOVE CASH COSTS</b>	18,661	15,380	9,910
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	17,521	14,227	8,792
<b>NET RETURNS</b>	7,081	2,839	-3,077
<b>NET PROFIT - COST RATIO</b>	0.18	0.07	-0.07
<i>Cost per kilogram (PhP)</i>	74.16	80.87	86.79
<i>Yield per hectare (kg/ha)</i>	532	536	535
<i>Farmgate price (PhP/kg)</i>	87.47	86.17	81.04

\*Refers to maintenance costs only

The input structures are based on the benchmark generated by the 1998 Costs and Returns Survey of Coffee Production

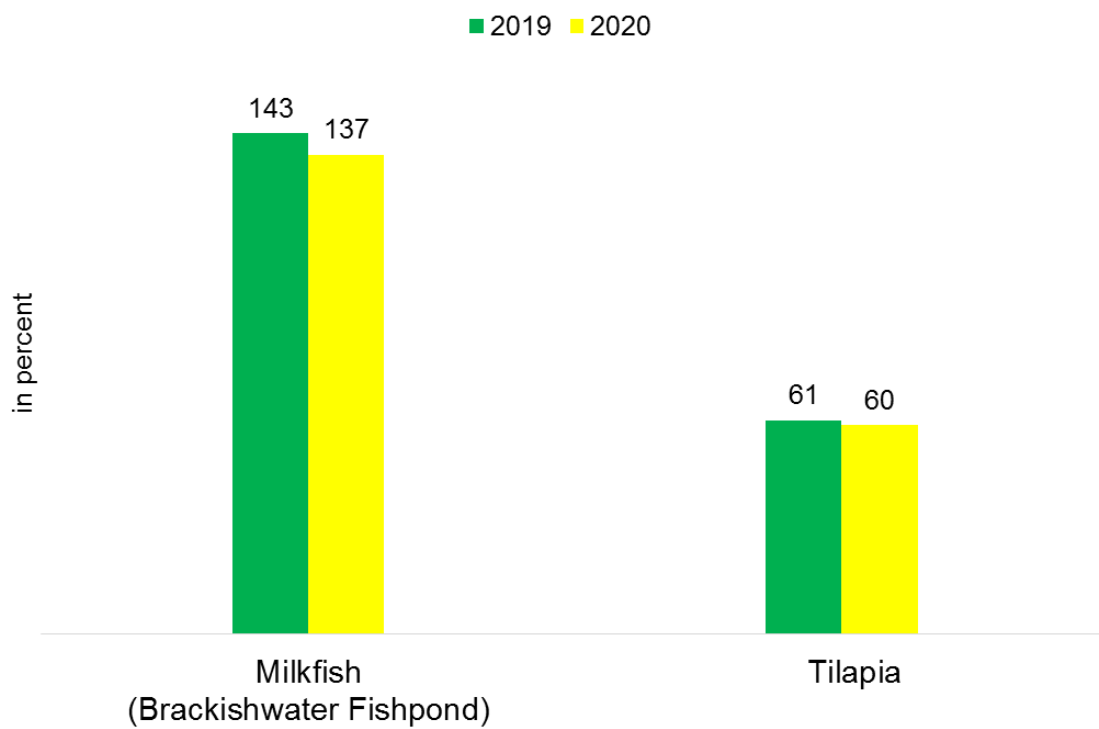


# **FISHERIES**

## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

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Figure 8. Return on Investments (ROI) of Selected Fisheries, Philippines, 2019 - 2020



## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

Table 26. Milkfish (Brackishwater Fishpond): Average Costs of Production,  
Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	33,766	34,738	35,089
Stocking materials	13,576	13,475	13,435
Feeds	4,673	4,789	4,912
Fertilizers	2,427	2,646	2,456
Pesticides and other chemicals	419	484	451
Hired Labor	4,371	4,725	4,987
Salaries of permanent employees	3,174	3,431	3,621
Land tax	417	421	426
Rentals	3,326	3,355	3,377
Fuel and oil	372	375	364
Transport cost of inputs	172	174	180
License/permit	6	6	6
Electricity	182	183	178
Interest payment on loan	81	89	98
Food expense	239	244	250
Repairs	277	285	291
Others	54	55	56
<b>NON-CASH COSTS</b>	813	847	844
Harvesters' share	305	320	316
Caretakers' share	179	188	185
Other laborers' share	83	87	86
Administrator's share	58	60	60
Lease rental	7	7	7
Rice allowance of overseer	182	186	191
<b>IMPUTED COSTS</b>	9,860	10,392	10,650
Operator labor	214	232	245
Family labor	150	162	171
Exchange labor	6	7	7
Depreciation	2,119	2,331	2,564
Interest on operating capital	1,726	2,058	2,078
Rental value of owned fishpond	5,644	5,602	5,585
<b>TOTAL COSTS</b>	44,440	45,977	46,584
<b>GROSS RETURNS</b>	106,397	111,640	110,244
<b>RETURNS ABOVE CASH COSTS</b>	72,631	76,901	75,155
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	71,818	76,054	74,311
<b>NET RETURNS</b>	61,958	65,662	63,660
<b>NET PROFIT - COST RATIO</b>	1.39	1.43	1.37
<i>Cost per kilogram (PhP)</i>	42.33	41.43	42.38
<i>Yield per hectare (kg/ha)</i>	1,050	1,110	1,099
<i>Farmgate price (PhP/kg)</i>	101.35	100.59	100.29

The input structures are based on the benchmark generated by the 2006 Costs and Returns Survey of Milkfish Production

## PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

Table 27. Tilapia: Average Costs of Production, Philippines, 2018 - 2020

ITEM	2018	2019	2020
	<i>(in PhP per hectare)</i>		
<b>CASH COSTS</b>	249,200	256,948	265,495
Stocking materials	42,087	43,572	46,833
Feeds	167,883	172,033	176,470
Fertilizers	1,756	1,869	1,793
Pesticides	1,966	2,273	2,118
Hired Labor	8,901	9,623	10,156
Salaries of permanent employees	1,261	1,363	1,439
Wage of stay-in laborers	7,371	7,968	8,410
Land tax	183	185	187
Rentals	4,573	4,583	4,591
Fuel and oil	6,596	6,647	6,455
Transport cost of inputs	865	874	902
License/permit	7	7	7
Electricity	139	140	136
Interest payment on loan	662	728	800
Food expense	1,695	1,725	1,773
Repairs	3,214	3,315	3,380
Other costs	42	43	44
<b>NON-CASH COSTS</b>	2,573	2,700	2,805
Stocking materials	368	381	409
Feeds	102	104	107
Fertilizers	15	16	16
Hired Labor paid in kind	295	319	337
Harvesters' share	619	650	668
Caretaker's share	41	44	45
Wage of stay-in laborer	545	572	588
Other laborers' share	485	510	524
Lease rental	75	78	84
Other costs	26	27	28
<b>IMPUTED COSTS</b>	38,504	42,739	45,373
Stocking materials	390	403	434
Feeds	161	165	169
Fertilizers	1	1	1
Operator labor	3,185	3,443	3,634
Family labor	1,159	1,253	1,323
Exchange labor	3	3	3
Depreciation	7,092	7,801	8,581
Interest on operating capital	14,195	16,917	17,520
Rental value of owned aquafarm	12,318	12,753	13,707
<b>TOTAL COSTS</b>	290,277	302,388	313,673
<b>GROSS RETURNS</b>	463,845	486,890	500,700
<b>RETURNS ABOVE CASH COSTS</b>	214,644	229,941	235,205
<b>RETURNS ABOVE CASH AND NON-CASH COSTS</b>	212,071	227,241	232,400
<b>NET RETURNS</b>	173,568	184,502	187,027
<b>NET PROFIT-COST RATIO</b>	0.60	0.61	0.60
<i>Cost per kilogram (PhP)</i>	48.67	50.00	54.21
<i>Yield per hectare (kg/ha)</i>	5,965	6,048	5,786
<i>Farmgate price (PhP/kg)</i>	77.77	80.51	86.54

The input structures are based on the benchmark generated by the 2011 Costs and Returns Survey of Tilapia Production

**PRODUCTION COSTS AND RETURNS  
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