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Production Costs and Returns of Selected Agricultural Commodities

2019 to 2021



The Production Costs and Returns of Selected Agricultural Commodities

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PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

FOREWORD

The Production Costs and Returns of Selected Agricultural Commodities is the 19th 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, 2019 to 2021. It includes a summary of findings for the 2021 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 (BSP). The input structures are based on benchmarks generated by the Surveys on Costs and Returns (SCR) 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

30 September 2022

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



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

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**PRODUCTION COSTS AND RETURNS
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**ASSUMPTIONS AND PROCEDURES USED IN UPDATING 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 UPDATING
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

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

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

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 (BSP).

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

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 the annual value of the land or value of the animal would be if it will be rented out.

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

SUMMARY OF FINDINGS

FRUITS

CALAMANSI

- The average maintenance cost of calamansi production was PhP 87,947 per hectare in 2021. For an average yield of 5,687 kilograms per hectare, the gross returns amounted to PhP 179,038.
- Returns above cash costs amounted to PhP120,929 per hectare. Meanwhile, the average returns above cash and non-cash costs was PhP 119,100 per hectare.
- After the reduction of all costs, net profit averaged PhP 91,091 per hectare.
- On the average, production cost of calamansi was PhP 15.46 per kilogram while farmgate price was recorded at PhP 31.48 per kilogram.
- Net profit-cost ratio was estimated at 1.04. (Table 1)

DURIAN

- On the average, the maintenance cost of durian production in 2021 was PhP 122,692 per hectare. Gross returns amounted to PhP 212,059 with an average yield of 4,457 kilograms per hectare.
- After deducting cash costs, returns averaged PhP 183,015 per hectare. With the reduction of cash and non-cash costs, returns settled at PhP 114,351 per hectare.
- After reduction of all costs, returns amounted to PhP 89,368 per hectare.
- Per kilogram, the production cost of durian was PhP 27.53 while the price received by farmers was PhP 47.58.
- Net profit of PhP 0.73 was realized for every peso of investment in durian production. (Table 2)

MANGO

- In 2021, mango production incurred an average maintenance cost of PhP 106,324 per hectare. Gross returns amounted to PhP 183,879 for an average yield of 3,990 kilograms per hectare.
- Per hectare, returns above cash costs amounted to PhP 128,686 while returns above cash and non-cash costs averaged PhP 120,855.
- Less of all costs, farmers netted PhP 77,555 per hectare.
- The computed average production cost per kilogram was PhP 26.65 with a with a farmgate price of PhP 46.09.
- An average of PhP 0.73 was earned for every peso of investment in mango farming. (Table 3)

PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

PAPAYA

- Papaya production had an average maintenance cost of PhP 207,253 per hectare in 2021. Gross receipts were recorded at PhP 334,140 with an average yield of 21,415 kilograms per hectare.
- Returns above cash costs amounted to PhP 185,913 per hectare while returns above cash and non-cash costs was registered at PhP 185,507.
- After the deduction of all costs, the returns averaged PhP 126,887 per hectare.
- The cost of producing papaya was valued at PhP 9.68 per kilogram and the price received by farmers was PhP 15.60 per kilogram.
- Per peso invested in papaya production, farmers gained PhP 0.61. (Table 4)

PINEAPPLE

- Pineapple production recorded an average cost of PhP 132,509 per hectare in 2021. An average yield of 42,615 kilograms per hectare generated gross returns amounting to PhP 831,844.
- Returns above cash costs figured to PhP 724,801 per hectare. Meanwhile, returns above cash and non-cash costs amounted to PhP 722,683 per hectare.
- When all costs were deducted, net returns amounted to PhP 699,335 per hectare.
- Pineapple production entailed an average cost of PhP 3.11 per kilogram while the farmgate price was recorded at PhP 19.52 per kilogram.
- For every peso of investment, pineapple farmers recorded a net profit of PhP 5.28. (Table 5)

WATERMELON

- In 2021, the cost of producing watermelon was registered at PhP 87,603 per hectare. The average yield of 15,896 kilograms per hectare had gross returns amounting to PhP 259,264.
- Returns amounted to PhP 204,153 per hectare after deducting cash costs. Less both cash and non-cash costs, returns settled at PhP 203,402 per hectare.
- Less of all costs, net returns amounted to PhP 171,661 per hectare.
- The average cost of producing a kilogram of watermelon was PhP 5.51 with a farmgate price of PhP 16.31 per kilogram.
- Net profit-cost ratio was computed at 1.96. (Table 6)

PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

NUTS

CASHEW NUT

- The average maintenance cost of cashew nut production was PhP 12,669 per hectare. Gross returns reached PhP 85,868 for an average yield of 863 kilograms per hectare.
- Subsequently, after deducting cash costs, the estimated returns amounted to PhP 84,599 per hectare. Less of cash and non-cash costs, returns settled at PhP 83,594 per hectare.
- After the reduction of all costs, net returns averaged PhP 73,199 per hectare.
- On a per kilogram basis, production cost of cashew nut was PhP 14.68. Farmgate price was at PhP 99.48 per kilogram.
- An average of PhP 5.78 was earned for every peso of investment in cashew nut farming. (Table 7)

PILI NUT

- In 2021, pili nut growers spent an average maintenance cost of PhP 32,014 for every hectare. Gross receipts amounted to PhP 110,721 for an average yield of 2,932 kilograms of pili nut per hectare.
- Returns less cash costs was valued at PhP 100,150 per hectare. After further deduction of non-cash costs, the amount of returns settled at PhP 90,572 per hectare.
- Net profit of pili nut producers per hectare averaged PhP 78,707.
- The cost of production per kilogram of pili nut averaged PhP 10.92. The price received by farmers was PhP 37.76 per kilogram.
- For every peso invested in pili nut, famers earned PhP 2.46. (Table 8)

ROOT CROPS

CASSAVA

- In 2021, the average cost of producing cassava was PhP 44,901 per hectare. Gross receipts amounted to PhP 102,193 for an average yield of 11,845 kilograms per hectare.
- Returns reached PhP 77,300 per hectare after subtracting cash costs. Excluding both cash and non-cash costs, returns figured to PhP 76,224 per hectare.
- After deducting all costs, net returns averaged PhP 57,292 per hectare.
- The average production cost per kilogram was PhP 3.79 while the farmgate price was recorded at PhP 8.63 per kilogram.
- For every peso spent, cassava farmers earned PhP 1.28. (Table 9)

PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

SWEET POTATO

- In 2021, sweet potato production entailed an average cost of PhP 42,765 per hectare. Gross returns were valued at PhP 138,172 for an average yield of 6,548 kilograms per hectare.
- Returns above cash costs averaged PhP 124,833 per hectare while returns above cash and non-cash costs amounted to PhP 119,450 per hectare.
- Net returns of farmers averaged PhP 95,406 per hectare.
- Sweet potato production cost per kilogram stood at PhP 6.53 while farmgate price was recorded at PhP 21.10 per kilogram.
- Net profit-cost ratio was estimated at 2.23. (Table 10)

BULBS

ONION (RED)

- Onion (red) was produced at an average cost of PhP 186,300 per hectare in 2021. For an average yield of 11,693 kilograms per hectare, gross receipts amounted to PhP 638,201.
- Returns above cash costs amounted to PhP 495,432 per hectare. Returns above cash and non-cash costs averaged PhP 483,434 per hectare.
- Deducting all costs, net returns amounted to PhP 451,901 per hectare.
- The per kilogram cost of production of onion (red) was estimated at PhP 15.93. Farmgate price averaged PhP 54.58 per kilogram.
- For every peso of investment in onion (red) production, a net gain of PhP 2.43 was realized. (Table 11)

ONION (MULTIPLIER)

- Production of onion (multiplier) recorded an average cost of PhP 156,553 per hectare in 2021. The generated gross returns for an average yield of 9,749 kilograms amounted to PhP 531,733.
- After subtracting cash costs, returns settled at PhP 454,972 per hectare. Returns amounted to PhP 406,621 per hectare after deducting cash and non-cash costs.
- Net returns per hectare averaged PhP 375,180.
- On the average, production cost of onion (multiplier) was PhP 16.06 per kilogram while farmgate price was recorded at PhP 54.54 per kilogram.
- Producers earned PhP 2.40 for every peso invested in onion (multiplier) farming. (Table 12)

PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

GARLIC

- In 2021, garlic production came up with an average cost of PhP 142,770 per hectare. Gross returns reached PhP 264,028 for an average yield of 2,429 kilograms per hectare.
- Returns amounted to PhP 201,331 per hectare after deducting cash costs. Meanwhile, returns settled at PhP 174,483 per hectare after deducting cash and non-cash costs.
- Net returns of farmers amounted to PhP 121,258 per hectare.
- Per kilogram, production cost of garlic was PhP 58.77 while farmgate price averaged PhP 108.68.
- For every peso of investment in garlic production, a net gain of PhP 0.85 was realized. (Table 13)

VEGETABLES

AMPALAYA

- Ampalaya production entailed an average cost of PhP 219,584 per hectare in 2021. With an average yield of 8,279 kilograms per hectare, gross returns amounted to PhP 364,447.
- Less cash costs, returns amounted to PhP 262,758 per hectare. Returns above cash and non-cash costs settled at PhP 258,397 per hectare.
- Net profit of ampalaya producers per hectare averaged PhP 144,863.
- The cost per kilogram of producing ampalaya was PhP 26.52 while farmgate price was PhP 44.02 per kilogram.
- For every peso spent, ampalaya farmers earned PhP 0.66. (Table 14)

CABBAGE

- The average cost of producing cabbage in 2021 was estimated at PhP 175,461 per hectare. A yield of 16,013 kilograms per hectare grossed PhP 489,047.
- Returns above cash costs amounted to PhP 391,049 per hectare. Returns above cash and non-cash costs averaged PhP 390,856 per hectare.
- Net profit amounted to PhP 313,586 per hectare.
- The cost of producing cabbage averaged PhP 10.96 per kilogram while the price received by farmers was PhP 30.54 per kilogram.
- Producers netted PhP 1.79 for every peso invested during the reference year. (Table 15)

PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

CARROT

- Carrot growers recorded an average production cost of PhP 130,884 per hectare in 2021. An average yield of 14,577 kilograms per hectare generated gross receipts of PhP 593,994.
- After deducting cash costs, returns amounted to PhP 516,301 per hectare. Less of the combined cash and non-cash costs, returns reached PhP 516,263 per hectare.
- Net returns of carrot producers per hectare averaged PhP 463,109.
- Estimated production cost stood at PhP 8.98 per kilogram while farmer's price averaged PhP 40.75 per kilogram.
- For every peso spent by carrot farmers in production, they earned PhP 3.54. (Table 16)

CAULIFLOWER

- In 2021, the cost of producing a hectare of cauliflower averaged PhP 160,451. From an average yield per hectare of 11,050 kilograms, gross returns amounted to PhP 759,218.
- Returns amounted to PhP 653,181 per hectare after subtracting cash costs. After further reduction of cash non-cash costs, returns equaled to PhP 642,901 per hectare.
- Deducting all costs, returns amounted to PhP 598,767 per hectare.
- Per kilogram, production cost averaged PhP 14.52 while farmgate price was PhP 68.71.
- For every peso investment in cauliflower farming, PhP 3.73 was earned. (Table 17)

EGGPLANT

- On the average, the cost of producing a hectare of eggplant was PhP 183,641 in 2021. The average yield per hectare of 11,180 kilograms grossed PhP 394,861.
- Net of cash costs, returns reached PhP 278,490 per hectare. After deducting cash and non-cash costs, returns amounted to PhP 272,394 per hectare.
- Farmers realized net returns of PhP 211,220 per hectare after all costs were subtracted.
- The cost of producing a kilogram of eggplant averaged PhP 16.43 while farmgate price stood at PhP 35.32 per kilogram.
- Net profit-cost ratio was estimated at 1.15. (Table 18)

PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

HABITCHUELAS

- Habitchuelas farmers incurred an average production cost of PhP 103,743 per hectare. From an average yield of 4,636 kilograms per hectare, gross returns figured to PhP 140,461.
- Less of cash costs, returns registered at PhP 94,013, while deducting both cash and non-cash costs, returns amounted to PhP 91,810.
- Net returns averaged PhP 36,719 per hectare.
- The average cost of producing a kilogram of habitchuelas was PhP 22.38. Farmgate price was registered at PhP 30.30 per kilogram.
- Per peso invested in habitchuelas production, PhP 0.35 was earned. (Table 19)

WHITE POTATO

- In 2021, white potato production entailed an average cost of PhP 236,782 per hectare. Gross receipts totaled to PhP 580,799 with an average yield of 15,731 kilograms per hectare.
- Returns above cash costs averaged PhP 437,067 per hectare while the returns above cash and non-cash costs figured to PhP 424,153 per hectare.
- Net returns averaged PhP 344,017 per hectare.
- Production cost per hectare averaged PhP 15.05 with a farmgate price of PhP 36.92 per kilogram.
- Net profit-cost ratio stood at 1.45. (Table 20)

STRINGBEANS

- Stringbeans production recorded an average cost of PhP 195,380 per hectare. The generated gross returns with an average yield of 13,708 kilograms totaled PhP 425,370.
- Returns after deducting cash costs amounted to PhP 339,202 per hectare. Net of cash and non-cash costs, returns averaged PhP 334,825 per hectare.
- Net returns amounted to PhP 229,990 per hectare.
- On a per kilogram basis, production cost averaged PhP 14.25 while farmgate price was estimated at PhP 31.03.
- Farmers gained an amount of PhP 1.18 for every peso ventured in stringbeans production. (Table 21)

PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

TOMATO

- Tomato production recorded an average cost of PhP 267,785 per hectare in 2021. With an average yield of 13,744 kilograms, gross returns reached PhP 387,433.
- Returns above cash costs amounted to PhP 186,596 per hectare. Returns above cash and non-cash costs averaged PhP 186,131 per hectare.
- After all costs were subtracted, farmers netted PhP 119,648 per hectare.
- A kilogram of tomato production incurred an average cost of PhP 19.48. The price received by farmers was PhP 28.19 per kilogram.
- Farmers generated a net gain of PhP 0.45 for every peso of investment. (Table 22)

LEGUMES

MONGO

- The cost of mongo production averaged PhP 25,134 per hectare in 2021. Average yield per hectare of 851 kilograms generated gross receipts of PhP 53,851.
- After cash expenses were deducted, returns averaged PhP 44,626. Returns after subtracting cash and non-cash expenses amounted to PhP 40,925 per hectare.
- Less all costs, returns amounted to PhP 28,717 per hectare.
- The average production cost per kilogram was PhP 29.54 while the price received by farmers was recorded at PhP 63.28 per kilogram.
- Per peso invested in mongo production, farmers gained PhP 1.14. (Table 23)

PEANUT

- On the average, the cost of peanut production totaled PhP 44,124 per hectare in 2021. Yield per hectare of 1,684 kilograms on average amounted to PhP 70,257.
- Returns above cash costs figured to PhP 45,606 per hectare. Returns above cash and non-cash costs averaged PhP 41,414 per hectare.
- When all costs were removed, farmers received a net gain of PhP 26,133 per hectare.
- The cost of producing a kilogram of peanut was PhP 26.21 while farmgate price was PhP 41.73 per kilogram.
- The net profit-cost ratio was estimated at 0.59. (Table 24)

PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

COMMERCIAL CROP

COFFEE

- In 2021, a one-hectare coffee farm incurred an average production cost of PhP 50,976. With an average yield per hectare of 538 kilograms, gross receipts figured to PhP 43,836.
- Returns settled at PhP 6,612 per hectare after deducting cash costs. After deducting cash and non-cash costs, returns amounted to PhP 5,469 per hectare.
- A deficit of PhP 7,140 per hectare was recorded after deducting all costs.
- Per kilogram, the average production cost was PhP 94.67 while farmgate price was at PhP 81.41.
- Farmers suffered a net loss of PhP 0.14 for every peso invested in coffee production. (Table 25)

FISHERIES

MILKFISH (BRACKISHWATER FISHPOND)

- The cost per hectare of milkfish brackish water fishpond averaged PhP 50,108. With an average yield of 1,250 kilograms, gross returns settled at PhP 134,553.
- Returns generated after deducting cash costs amounted to PhP 96,953 per hectare. Further reduction of cash and non-cash costs, returns settled at PhP 95,955 per hectare.
- Net returns averaged PhP 84,444 per hectare.
- A kilogram of milkfish entailed an average production cost of PhP 40.09. Meanwhile, the price received by farmers was PhP 107.65 per kilogram.
- Growers earned an estimated PhP 1.69 for every peso invested in milkfish production. (Table 26)

TILAPIA

- Tilapia production incurred an average cost of PhP 325,784 per hectare. From an average yield of 6,325 kilograms, gross returns reached PhP 545,815.
- Returns above cash costs amounted to PhP 270,188 per hectare. Less of cash and non-cash costs, returns settled at PhP 267,191 per hectare.
- Net returns per hectare averaged PhP 220,032.
- On the average, production cost per kilogram was PhP 51.51, while farmgate price was quoted at PhP 86.30.
- Net profit-cost ratio was computed at 0.68. (Table 27)

**STATISTICAL TABLES
AND
FIGURES**

PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

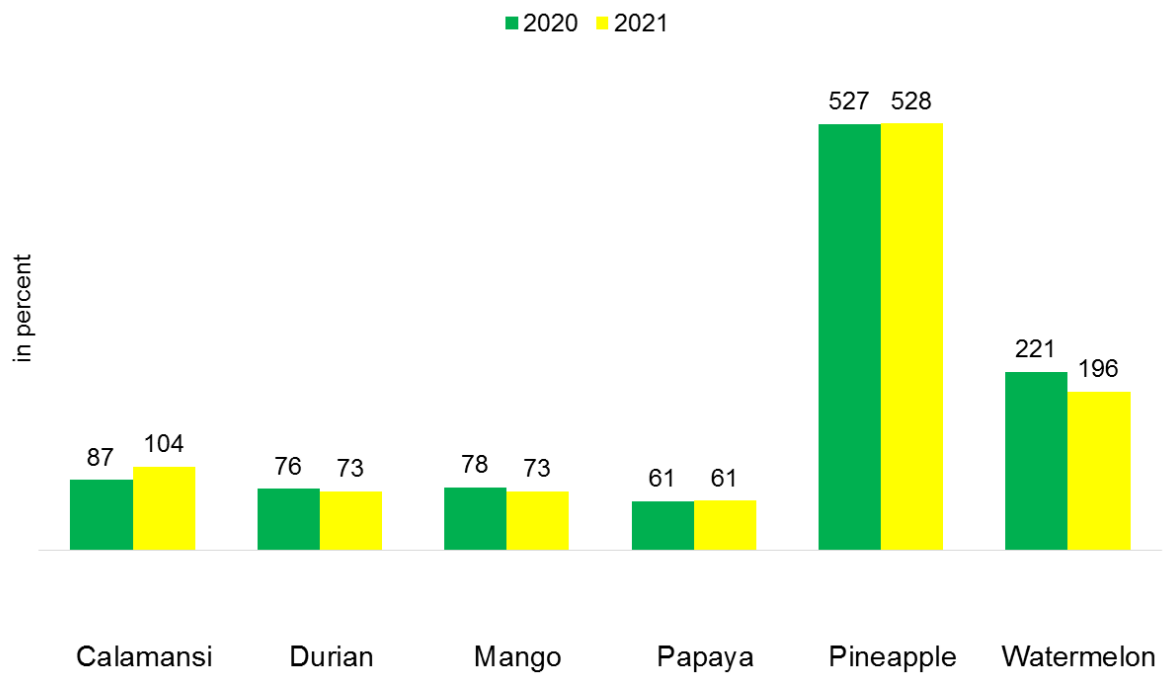
Table A. Summary of Average Costs of Production, Selected Commodities, Philippines, 2021

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	179,038	87,947	91,091	1.04	15.46	5,687	31.48	103.57
2. Durian	212,059	122,692	89,368	0.73	27.53	4,457	47.58	72.84
3. Mango	183,879	106,324	77,555	0.73	26.65	3,990	46.09	72.94
4. Papaya	334,140	207,253	126,887	0.61	9.68	21,415	15.60	61.22
5. Pineapple	831,844	132,509	699,335	5.28	3.11	42,615	19.52	527.77
6. Watermelon	259,264	87,603	171,661	1.96	5.51	15,896	16.31	195.95
7. Cashew Nut	85,868	12,669	73,199	5.78	14.68	863	99.48	577.78
8. Pili Nut	110,721	32,014	78,707	2.46	10.92	2,932	37.76	245.85
9. Cassava	102,193	44,901	57,292	1.28	3.79	11,845	8.63	127.60
10. Sweet Potato	138,172	42,765	95,406	2.23	6.53	6,548	21.10	223.09
11. Onion (Red)	638,201	186,300	451,901	2.43	15.93	11,693	54.58	242.57
12. Onion (Multiplier)	531,733	156,553	375,180	2.40	16.06	9,749	54.54	239.65
13. Garlic	264,028	142,770	121,258	0.85	58.77	2,429	108.68	84.93
14. Ampalaya	364,447	219,584	144,863	0.66	26.52	8,279	44.02	65.97
15. Cabbage	489,047	175,461	313,586	1.79	10.96	16,013	30.54	178.72
16. Carrot	593,994	130,884	463,109	3.54	8.98	14,577	40.75	353.83
17. Cauliflower	759,218	160,451	598,767	3.73	14.52	11,050	68.71	373.18
18. Eggplant	394,861	183,641	211,220	1.15	16.43	11,180	35.32	115.02
19. Habitchuelas	140,461	103,743	36,719	0.35	22.38	4,636	30.30	35.39
20. White Potato	580,799	236,782	344,017	1.45	15.05	15,731	36.92	145.29
21. Stringbeans	425,370	195,380	229,990	1.18	14.25	13,708	31.03	117.71
22. Tomato	387,433	267,785	119,648	0.45	19.48	13,744	28.19	44.68
23. Mongo	53,851	25,134	28,717	1.14	29.54	851	63.28	114.25
24. Peanut	70,257	44,124	26,133	0.59	26.21	1,684	41.73	59.22
25. Coffee	43,836	50,976	-7,140	-0.14	94.67	538	81.41	-14.01
26. Milkfish	134,553	50,108	84,444	1.69	40.09	1,250	107.65	168.52
27. Tilapia	545,815	325,784	220,032	0.68	51.51	6,325	86.30	67.54

FRUITS

PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

Figure 1. Return on Investments (ROI) of Selected Fruits, Philippines, 2020 - 2021



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

Table 1. Calamansi: Average Costs of Production, Philippines, 2019 - 2021*

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	52,074	54,011	58,109
Fertilizer	5,547	5,222	6,488
Pesticides	998	930	1,020
Hired labor	39,527	41,720	44,161
Wages for overseer	842	888	940
Land tax	452	456	461
Rentals	160	161	179
Fuel and oil	632	613	646
Transport of inputs	646	667	731
Interest on crop loan	73	81	89
Food expense	1,507	1,548	1,633
Repairs	1,671	1,704	1,739
Irrigation fee	20	19	22
NON-CASH COSTS	1,693	1,627	1,829
Hired labor paid in kind	120	127	134
Wages for overseer (paid in kind)	446	471	498
Landlord's share	162	158	181
Harvester's share	487	407	482
Lease rental	478	465	534
IMPUTED COSTS	24,737	25,457	28,009
Operator and family labor	8,181	8,635	9,141
Exchange labor	17	17	18
Depreciation	3,911	4,302	4,732
Interest on operating capital	3,325	3,456	3,728
Rental value of owned land	9,304	9,046	10,390
TOTAL COSTS	78,505	81,094	87,947
GROSS RETURNS	181,023	151,312	179,038
RETURNS ABOVE CASH COSTS	128,949	97,301	120,929
RETURNS ABOVE CASH AND NON-CASH COSTS	127,256	95,674	119,100
NET RETURNS	102,518	70,218	91,091
NET PROFIT - COST RATIO	1.31	0.87	1.04
<i>Cost per kilogram (PhP)</i>	12.23	14.69	15.46
<i>Yield per hectare (kg/ha)</i>	6,422	5,520	5,687
<i>Farmgate price (PhP/kg)</i>	28.19	27.41	31.48

* - Refers to maintenance costs only

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021*

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	25,848	25,163	29,044
Fertilizer	12,304	11,231	14,271
Pesticides	596	555	609
Other material inputs	14	13	17
Hired labor	7,360	7,769	8,223
Land tax	1,207	1,219	1,231
Land rental	860	779	890
Transportation cost of inputs	1,341	1,384	1,518
Fuel and oil	15	15	16
Food expense	739	759	801
Repairs	1,411	1,438	1,468
NON-CASH COSTS	65,115	64,512	68,664
Hired labor (paid in kind)	37,095	39,154	41,444
Landlord's share	558	506	578
Harvester's share	27,462	24,852	26,642
IMPUTED COSTS	22,726	22,573	24,984
Operator/family labor	7,261	7,664	8,112
Exchange labor	460	486	514
Depreciation	3,877	4,264	4,691
Interest on operating capital	1,437	1,387	1,638
Rental value of owned land	9,691	8,772	10,028
TOTAL COSTS	113,689	112,247	122,692
GROSS RETURNS	218,583	197,813	212,059
RETURNS ABOVE CASH COSTS	192,735	172,651	183,015
RETURNS ABOVE CASH AND NON-CASH COSTS	127,619	108,139	114,351
NET RETURNS	104,894	85,566	89,368
NET PROFIT - COST RATIO	0.92	0.76	0.73
<i>Cost per kilogram (PhP)</i>	23.92	23.62	27.53
<i>Yield per hectare (kg/ha)</i>	4,754	4,753	4,457
<i>Farmgate price (PhP/kg)</i>	45.98	41.62	47.58

* - Refers to maintenance costs only

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021*

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	49,741	48,992	55,193
Fertilizer	14,842	13,384	17,219
Pesticides	7,876	7,340	8,046
Hired labor	15,641	16,509	17,475
Land tax	856	865	874
Rentals	2,755	2,870	3,053
Water/electric bills	305	296	312
Fuel and oil	1,909	1,854	1,953
Interest on crop loan	2,429	2,672	2,939
Food expense	1,534	1,577	1,663
Repairs	1,594	1,625	1,659
NON-CASH COSTS	7,107	7,322	7,832
Hired labor (paid in kind)	981	1,036	1,096
Rentals (machine and vehicle)	183	193	204
Landlord's share	4,982	5,108	5,468
Harvesters' share	960	985	1,064
IMPUTED COSTS	36,926	39,656	43,300
Operator and family labor	7,776	8,207	8,687
Depreciation	22,885	25,174	27,691
Interest on operating capital	2,719	2,639	3,029
Rental value of owned land	3,547	3,636	3,892
TOTAL COSTS	93,774	95,969	106,324
GROSS RETURNS	166,052	170,386	183,879
RETURNS ABOVE CASH COSTS	116,311	121,394	128,686
RETURNS ABOVE CASH AND NON-CASH COSTS	109,204	114,072	120,855
NET RETURNS	72,278	74,417	77,555
NET PROFIT - COST RATIO	0.77	0.78	0.73
<i>Cost per kilogram (PhP)</i>	23.71	24.25	26.65
<i>Yield per hectare (kg/ha)</i>	3,954	3,957	3,990
<i>Farmgate price (PhP/kg)</i>	41.99	43.05	46.09

*- Refers to maintenance costs only

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021*

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	132,392	134,341	148,227
Fertilizer	31,278	29,591	36,261
Pesticides	4,855	4,525	4,960
Other material inputs	10	10	12
Hired labor	49,297	52,033	55,077
Land tax	323	327	330
Rentals	7,502	7,155	7,675
Fuel and oil	10,823	10,511	11,073
Transport costs of inputs	6,362	6,566	7,202
Irrigation fee	134	124	134
Interest on crop loan	15,748	17,323	19,055
Food expenses	2,215	2,276	2,401
Repairs	1,546	1,576	1,609
Landlord's share	67	62	67
Wages for overseer	170	180	190
Electric bill	551	535	564
Others	1,509	1,548	1,617
NON-CASH COSTS	398	377	406
Hired labor (paid in kind)	77	82	87
Landlord's share	247	228	246
Harvester's share	74	67	74
IMPUTED COSTS	50,599	53,798	58,620
Operator/family labor	13,304	14,042	14,863
Depreciation	27,178	29,896	32,885
Interest on operating capital	6,055	6,106	6,826
Rental value of owned land	4,062	3,755	4,046
TOTAL COSTS	183,390	188,517	207,253
GROSS RETURNS	334,924	303,900	334,140
RETURNS ABOVE CASH COSTS	202,532	169,559	185,913
RETURNS ABOVE CASH AND NON-CASH COSTS	202,134	169,181	185,507
NET RETURNS	151,535	115,383	126,887
NET PROFIT - COST RATIO	0.83	0.61	0.61
<i>Cost per kilogram (PhP)</i>	8.58	8.98	9.68
<i>Yield per hectare(kg/ha)</i>	21,377	20,985	21,415
<i>Farmgate price (PhP/kg)</i>	15.67	14.48	15.60

* - Refers to maintenance costs only

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	99,870	100,815	107,043
Seeds/planting materials	48,211	48,867	49,245
Fertilizer	15,266	14,283	18,023
Pesticides	1,752	1,633	1,790
Other material inputs	1,007	942	1,189
Hired labor	17,095	18,043	19,099
Land tax	337	341	344
Rentals	7,803	7,915	7,983
Fuel and oil	101	98	104
Transport of inputs	1,996	2,060	2,259
Irrigation fee	617	626	631
Interest on crop loan	2,574	2,831	3,114
Food expenses	580	596	628
Repairs	2,530	2,580	2,633
NON-CASH COSTS	2,073	2,101	2,118
Hired labor (paid in kind)	6	7	7
Landlord's share	14	14	14
Harvesters' share	10	9	10
Lease rental	2,043	2,071	2,087
IMPUTED COSTS	21,035	21,965	23,348
Operator and family labor	10,706	11,300	11,961
Exchange labor	549	579	613
Depreciation	2,567	2,823	3,106
Interest on operating capital	5,906	5,937	6,332
Rental value of owned land	1,308	1,326	1,336
TOTAL COSTS	122,977	124,881	132,509
GROSS RETURNS	795,057	782,978	831,844
RETURNS ABOVE CASH COSTS	695,187	682,163	724,801
RETURNS ABOVE CASH AND NON-CASH COSTS	693,115	680,062	722,683
NET RETURNS	672,080	658,097	699,335
NET PROFIT - COST RATIO	5.47	5.27	5.28
<i>Cost per kilogram (PhP)</i>	2.96	3.09	3.11
<i>Yield per hectare (kg/ha)</i>	41,604	40,422	42,615
<i>Farmgate price (PhP/kg)</i>	19.11	19.37	19.52

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	49,610	49,609	55,111
Seeds/planting materials	941	914	997
Fertilizer	13,283	12,052	15,158
Pesticides	3,647	3,399	3,726
Other material inputs	53	48	60
Hired labor	24,117	25,456	26,945
Land tax	303	306	309
Rentals	2,576	2,623	2,813
Fuel and oil	1,023	994	1,047
Transport cost of inputs	365	376	413
Irrigation fee	73	70	77
Interest on crop loan	814	895	985
Food expenses	1,576	1,619	1,708
Repairs	840	856	874
NON-CASH COSTS	704	693	751
Seeds	91	89	97
Hired labor (paid in kind)	95	100	106
Landlord's share	106	103	113
Harvester's share	29	29	29
Lease rental	383	372	406
IMPUTED COSTS	28,166	29,610	31,742
Operator and family labor	18,919	19,969	21,137
Exchange labor	1,103	1,164	1,232
Depreciation	3,836	4,220	4,642
Interest on operating capital	2,979	2,967	3,323
Rental value of owned land	1,329	1,291	1,408
TOTAL COSTS	78,480	79,912	87,603
GROSS RETURNS	255,409	256,191	259,264
RETURNS ABOVE CASH COSTS	205,800	206,583	204,153
RETURNS ABOVE CASH AND NON-CASH COSTS	205,095	205,890	203,402
NET RETURNS	176,929	176,279	171,661
NET PROFIT - COST RATIO	2.25	2.21	1.96
<i>Cost per kilogram (PhP)</i>	<i>4.73</i>	<i>4.66</i>	<i>5.51</i>
<i>Yield per hectare (kg/ha)</i>	<i>16,596</i>	<i>17,137</i>	<i>15,896</i>
<i>Farmgate price (PhP/kg)</i>	<i>15.39</i>	<i>14.95</i>	<i>16.31</i>

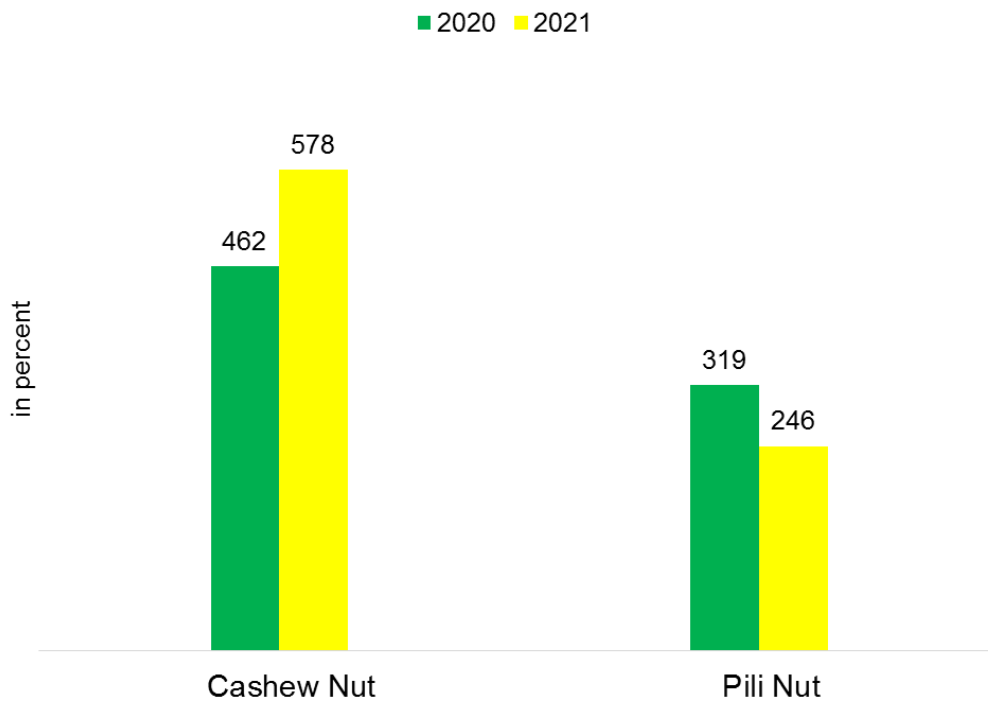
Note: Details may not add up to totals due to rounding off

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

Figure 2. Return on Investments (ROI) of Selected Nuts,
Philippines, 2020 - 2021



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

Table 7. Cashew Nut: Average Costs of Production, Philippines, 2019 - 2021*

ITEM	2019	2020	2021
	(in PhP per hectare)		
CASH COSTS	1,174	1,217	1,269
Fertilizer	2	2	2
Hired labor	599	633	670
Land tax	250	252	255
Food expense	127	130	137
Repairs	197	200	205
NON-CASH COSTS	723	809	1,005
Hired labor (paid in kind)	366	387	409
Landlord's share	103	121	170
Harvester's share	253	302	426
IMPUTED COSTS	8,035	8,797	10,395
Operator/family labor	4,953	5,228	5,534
Depreciation	450	495	544
Interest on operating capital	43	45	48
Rental value of owned land	2,590	3,029	4,269
TOTAL COSTS	9,932	10,824	12,669
GROSS RETURNS	50,978	60,881	85,868
RETURNS ABOVE CASH COSTS	49,803	59,663	84,599
RETURNS ABOVE CASH AND NON-CASH COSTS	49,081	58,854	83,594
NET RETURNS	41,045	50,057	73,199
NET PROFIT - COST RATIO	4.13	4.62	5.78
<i>Cost per kilogram (PhP)</i>	11.76	12.55	14.68
<i>Yield per hectare (kg/ha)</i>	845	863	863
<i>Farmgate price (PhP/kg)</i>	60.35	70.58	99.48

* - Refers to maintenance costs only

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021*

ITEM	2019	2020	2021
	(in PhP per hectare)		
CASH COSTS	9,688	10,095	10,572
Hired labor	7,556	7,975	8,442
Land tax	578	584	590
Lease rental	345	296	246
Transport of inputs	121	125	137
Food expense	562	578	610
Repairs	527	537	548
NON-CASH COSTS	14,574	12,114	9,578
Hired labor in kind	186	196	208
Landlord's share	3,255	2,796	2,324
Harvester's share	11,133	9,122	7,046
IMPUTED COSTS	12,124	11,976	11,864
Operator/family labor	5,904	6,231	6,596
Depreciation	1,233	1,357	1,492
Interest on operating capital	535	565	598
Rental value of owned land	4,452	3,823	3,178
TOTAL COSTS	36,387	34,185	32,014
GROSS RETURNS	174,944	143,350	110,721
RETURNS ABOVE CASH COSTS	165,255	133,255	100,150
RETURNS ABOVE CASH AND NON-CASH COSTS	150,681	121,141	90,572
NET RETURNS	138,557	109,165	78,707
NET PROFIT - COST RATIO	3.81	3.19	2.46
<i>Cost per kilogram (PhP)</i>	11	10.83	10.92
<i>Yield per hectare (kg/ha)</i>	3,308	3,156	2,932
<i>Farmgate price (PhP/kg)</i>	52.89	45.42	37.76

* - Refers to maintenance cost only

Note: Details may not add up to totals due to rounding off

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

Figure 3. Return on Investments (ROI) of Selected Root Crops, Philippines, 2020 - 2021



PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

Table 9. Cassava: Average Costs of Production, Philippines, 2019 - 2021

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	22,295	23,547	24,893
Planting materials	300	340	325
Fertilizer	3,516	3,132	3,867
Pesticides	312	291	319
Hired labor	10,629	11,543	12,218
Land tax	104	105	106
Caretaker/overseer's wages	210	222	235
Rentals	1,494	1,629	1,646
Fuel	62	60	64
Transport cost of inputs	65	67	73
Interest payment on crop loan	209	230	253
Landowner's share	3,780	4,281	4,095
Repairs	1,312	1,338	1,365
Food expense	239	246	259
Other costs	63	65	67
NON-CASH COSTS	992	1,122	1,076
Planting materials	792	897	858
Hired labor	20	22	23
Harvesters' share	36	41	39
Rentals	7	8	7
Landowner's share	137	156	149
IMPUTED COSTS	17,003	17,831	18,932
Planting materials	663	751	719
Fertilizers	2,049	1,825	2,253
Pesticides	37	35	38
Operator labor	3,982	4,203	4,449
Family labor	5,797	6,119	6,477
Exchange labor	407	430	455
Depreciation	697	767	843
Interest on operating capital	1,068	1,108	1,210
Rental value of owned land	2,200	2,492	2,384
Land tax	95	96	97
Other costs	7	7	7
TOTAL COSTS	40,289	42,501	44,901
GROSS RETURNS	94,231	107,274	102,193
RETURNS ABOVE CASH COSTS	71,936	83,727	77,300
RETURNS ABOVE CASH AND NON-CASH COSTS	70,944	82,604	76,224
NET RETURNS	53,942	64,773	57,292
NET PROFIT - COST RATIO	1.34	1.52	1.28
<i>Cost per kilogram (PhP)</i>	3.40	3.57	3.79
<i>Yield per hectare (kg/ha)</i>	11,834	11,895	11,845
<i>Farmgate price (PhP/kg)</i>	7.96	9.02	8.63

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021

ITEM	2019	2020	2021
	(in PhP per hectare)		
CASH COSTS	12,238	12,544	13,339
Planting materials	205	208	204
Fertilizers	1,340	1,221	1,520
Pesticides	275	257	281
Hired labor	6,284	6,633	7,021
Land tax	54	55	55
Caretaker / overseer's wages	35	37	40
Rentals	465	478	480
Fuel	15	15	16
Oil	4	4	4
Transport cost of inputs	83	86	94
Interest payment on crop loan	32	35	39
Storage costs	4	4	4
Electricity	20	20	21
Water	3	3	3
Landowner's share	864	878	862
Repairs	1,639	1,671	1,706
Food expense	645	663	700
Others costs	270	277	290
NON-CASH COSTS	5,381	5,477	5,383
Planting materials	3,578	3,635	3,569
Fertilizers	8	7	9
Hired Labor	37	39	41
Harvesters' share	229	241	238
Rentals	13	14	14
Landowner's share	1,516	1,541	1,513
IMPUTED COSTS	21,868	22,940	24,044
Planting materials	1,230	1,250	1,227
Fertilizers	15	14	17
Operator labor	7,758	8,188	8,667
Family labor	7,476	7,891	8,353
Exchange labor	162	171	181
Depreciation	468	514	566
Interest on operating capital	577	592	643
Rental value of owned land	1,579	1,604	1,575
Rentals	2,520	2,629	2,724
Fuel	5	5	5
Transport cost of inputs	50	51	56
Storage costs	1	1	1
Land Tax	21	21	22
Others costs	6	6	6
TOTAL COSTS	39,487	40,960	42,765
GROSS RETURNS	133,457	140,424	138,172
RETURNS ABOVE CASH COSTS	121,219	127,880	124,833
RETURNS ABOVE CASH AND NON-CASH COSTS	115,837	122,403	119,450
NET RETURNS	93,970	99,464	95,406
NET PROFIT - COST RATIO	2.38	2.43	2.23
<i>Cost per kilogram (PhP)</i>	6.26	6.27	6.53
<i>Yield per hectare (kg/ha)</i>	6,310	6,534	6,548
<i>Farmgate price (PhP/kg)</i>	21.15	21.49	21.10

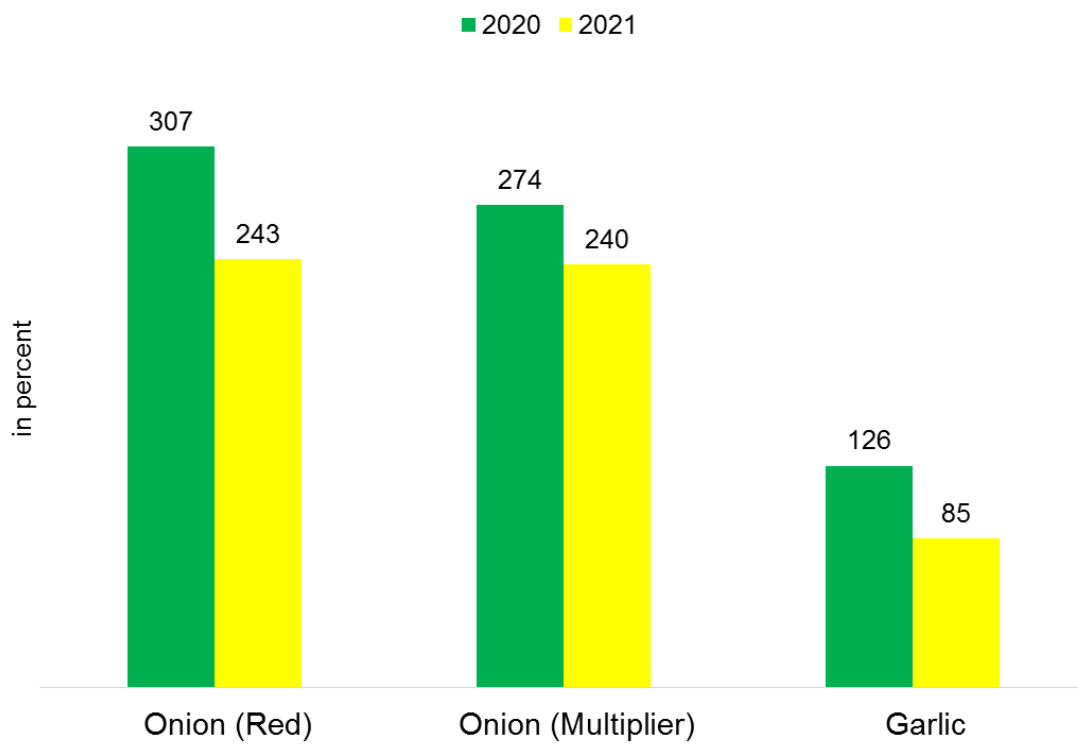
Note: Details may not add up to totals due to rounding off

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

Figure 4. Return on Investments (ROI) of Selected Bulbs,
Philippines, 2020 - 2021



PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

Table 11. Onion (Red): Average Costs of Production, Philippines, 2019-2021

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	125,631	133,196	142,769
Seeds	16,875	21,045	21,193
Fertilizers	17,967	16,496	20,488
Pesticides	10,404	9,697	10,630
Mulching materials	9	8	10
Hired labor	46,000	48,553	51,393
Caretaker/overseer's wages/employee's salary	2,306	2,434	2,577
Land tax	446	451	455
Rentals	1,466	1,656	1,716
Fuel and Oil	7,534	7,317	7,708
Transport cost of inputs	483	499	547
Interest payment on crop loan	5,375	5,912	6,503
Landowner's share	7,790	9,716	9,784
Irrigation fee	436	461	487
Storage cost	939	1,171	1,179
Electricity	71	69	72
Food expense	3,597	3,696	3,898
Repairs	2,821	2,876	2,936
Others	1,111	1,140	1,190
NON-CASH COSTS	9,515	12,879	11,999
Fertilizers	58	53	66
Mulching materials	399	366	455
Hired labor in kind	90	95	101
Harvesters' share	6,569	9,442	8,415
Caretaker/overseer's wages	363	384	406
Rentals	1,675	2,088	2,103
Landowner's share	337	421	424
Irrigation fee	24	29	30
IMPUTED COSTS	27,374	29,758	31,533
Seeds	228	285	287
Fertilizers	103	94	117
Mulching material	19	18	22
Pesticides (Liquid)	1	1	1
Operator labor	9,084	9,589	10,149
Family labor	4,246	4,481	4,743
Exchange labor	497	524	555
Depreciation	2,587	2,846	3,130
Interest on operating capital	6,631	6,962	7,533
Rental value of owned land	3,967	4,947	4,982
Transport cost of inputs	11	12	13
TOTAL COSTS	162,520	175,833	186,300
GROSS RETURNS	498,217	716,152	638,201
RETURNS ABOVE CASH COSTS	372,586	582,956	495,432
RETURNS ABOVE CASH AND NON-CASH COSTS	363,071	570,077	483,434
NET RETURNS	335,697	540,319	451,901
NET PROFIT - COST RATIO	2.07	3.07	2.43
<i>Cost per kilogram (PhP)</i>	14.18	13.31	15.93
<i>Yield per hectare (kg/ha)</i>	11,464	13,213	11,693
<i>Farmgate price (PhP/kg)</i>	43.46	54.20	54.58

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	68,906	71,207	76,761
Planting materials	3,122	3,834	3,615
Fertilizers	12,567	11,547	14,743
Pesticides	5,555	5,177	5,675
Mulching Materials	325	299	381
Hired labor	24,626	25,992	27,513
Other permanent employee's salary	382	403	427
Land tax	97	98	99
Rentals	738	879	849
Fuel and Oil	5,513	5,354	5,640
Transport cost of inputs	389	402	441
Interest payment on crop loan	1,971	2,168	2,385
Landowner's share	5,686	6,983	6,585
Irrigation fee	72	89	83
Electricity	1,317	1,279	1,347
Food expense	3,304	3,395	3,581
Repairs	2,480	2,529	2,581
Other costs	762	781	816
NON-CASH COSTS	41,724	50,097	48,351
Planting materials	25,682	31,538	29,739
Fertilizers (Organic-Solid)	14	13	17
Mulching materials	3,452	3,172	4,050
Rentals (Machine)	398	420	445
Landowner's share	12,177	14,954	14,101
IMPUTED COSTS	27,768	30,211	31,442
Planting materials	105	128	121
Fertilizers	14	13	17
Mulching materials	157	145	185
Operator labor	11,366	11,997	12,699
Family labor	6,077	6,415	6,790
Exchange labor	501	528	559
Depreciation	1,385	1,524	1,676
Interest on operating capital	3,211	3,439	3,683
Rental value of owned land	4,668	5,733	5,406
Transport cost of inputs	70	73	80
Other costs	212	218	228
TOTAL COSTS	138,397	151,516	156,553
GROSS RETURNS	458,140	566,424	531,733
RETURNS ABOVE CASH COSTS	389,234	495,217	454,972
RETURNS ABOVE CASH AND NON-CASH COSTS	347,510	445,119	406,621
NET RETURNS	319,743	414,908	375,180
NET PROFIT - COST RATIO	2.31	2.74	2.40
<i>Cost per kilogram (PhP)</i>	14.23	15.47	16.06
<i>Yield per hectare (kg/ha)</i>	9,727	9,793	9,749
<i>Farmgate price (PhP/kg)</i>	47.10	57.84	54.54

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	57,470	58,842	62,697
Planting materials (cloves)	6,433	7,264	6,813
Fertilizers	9,094	8,399	10,306
Mulching materials	150	139	170
Pesticides	4,474	4,169	4,570
Hired labor	22,790	24,054	25,461
Caretaker/overseer's wages	150	159	168
Land tax	343	346	350
Rentals	364	393	399
Fuel and Oil	4,601	4,468	4,707
Transport cost of inputs	464	479	525
Interest payment on crop loan	1,350	1,485	1,633
Landowner's share	783	862	725
Irrigation fee	101	114	107
Electricity	262	254	268
Food expense	3,002	3,085	3,254
Repairs	3,003	3,062	3,126
Other costs	108	111	116
NON-CASH COSTS	25,144	27,728	26,847
Planting materials (cloves)	13,211	14,916	13,989
Fertilizers	88	81	100
Mulching materials	2,958	2,732	3,353
Pesticides (Liquid)	5	5	6
Hired labor in kind	317	335	354
Harvesters' share	215	237	199
Caretaker/overseer's wages	23	24	25
Rentals	637	715	677
Interest payment on crop loan	7	8	9
Landowner's share	7,448	8,410	7,887
Irrigation fee	235	265	249
IMPUTED COSTS	48,449	52,361	53,226
Planting materials (cloves)	11,291	12,748	11,956
Fertilizers	801	740	908
Mulching materials	307	284	348
Pesticides	8	7	8
Operator labor	14,268	15,060	15,941
Family labor	9,597	10,130	10,722
Exchange labor	470	496	525
Depreciation	2,027	2,229	2,452
Interest on operating capital	2,404	2,465	2,650
Rental value of owned land	7,126	8,046	7,546
Transport cost of inputs	101	105	115
Interest payment on crop loan	18	19	21
Other costs	31	32	33
TOTAL COSTS	131,062	138,931	142,770
GROSS RETURNS	285,097	313,996	264,028
RETURNS ABOVE CASH COSTS	227,627	255,154	201,331
RETURNS ABOVE CASH AND NON-CASH COSTS	202,484	227,426	174,483
NET RETURNS	154,035	175,065	121,258
NET PROFIT - COST RATIO	1.18	1.26	0.85
<i>Cost per kilogram (PhP)</i>	47.18	51.27	58.77
<i>Yield per hectare (kg/ha)</i>	2,778	2,710	2,429
<i>Farmgate price (PhP/kg)</i>	102.63	115.88	108.68

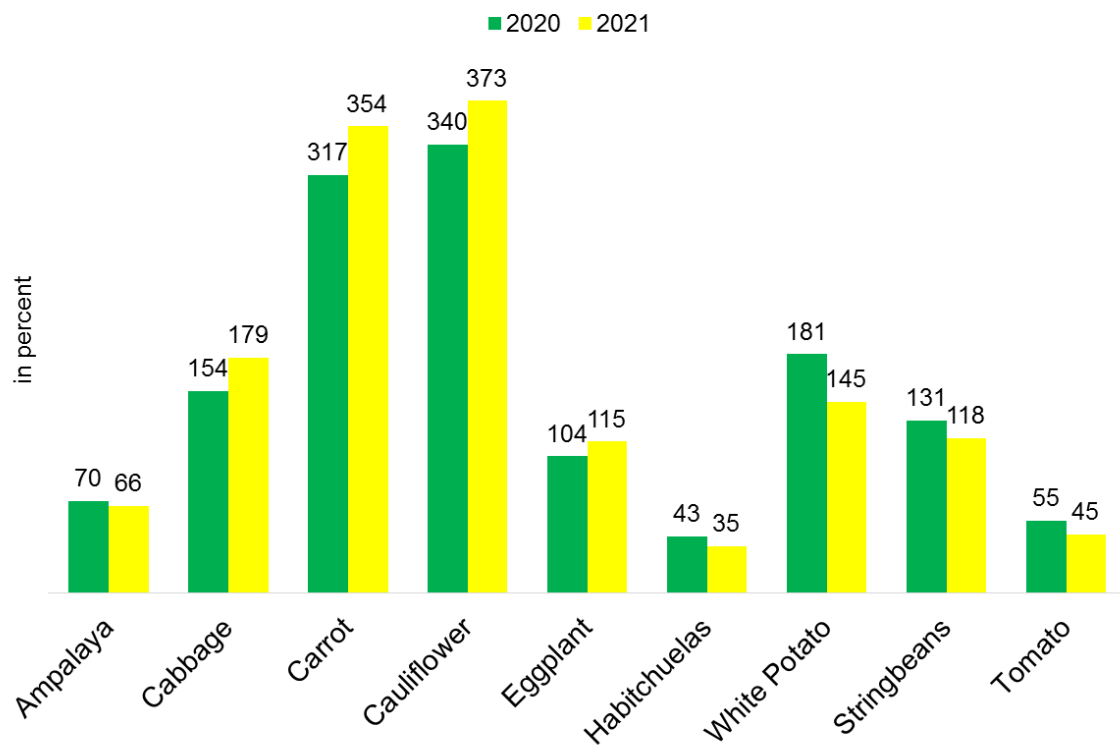
Note: Details may not add up to totals due to rounding off

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

Figure 5. Return on Investments (ROI) of Selected Vegetables,
Philippines, 2020 - 2021



PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

Table 14. Ampalaya: Average Costs of Production, Philippines, 2019 - 2021

ITEM	2019	2020	2021
		(in PhP per hectare)	
CASH COSTS	92,648	92,644	101,690
Seeds/planting materials	10,760	10,927	11,485
Fertilizers:	17,110	15,680	19,822
Pesticides	13,933	12,986	14,235
Hired labor	28,180	29,744	31,484
Land tax	253	255	258
Rentals	4,504	4,639	4,889
Fuel and oil	3,647	3,542	3,732
Transport cost of inputs	2,070	2,136	2,343
Irrigation fee	17	18	19
Interest on crop loan	3,347	3,682	4,050
Food expense	2,066	2,123	2,239
Repairs	3,548	3,617	3,693
Others	3,213	3,296	3,443
NON-CASH COSTS	4,057	4,145	4,361
Seeds/planting materials	1,973	2,004	2,106
Hired labor (paid in kind)	646	682	722
Landlord's share	497	504	530
Harvester's share	360	359	380
Lease rental	17	18	19
Others	563	577	603
IMPUTED COSTS	99,697	105,909	113,534
Operator and family labor	60,475	63,831	67,565
Exchange labor	3,485	3,679	3,894
Depreciation	26,402	29,042	31,947
Interest on operating capital	4,960	4,914	5,459
Rental value of owned land	4,375	4,443	4,670
TOTAL COSTS	196,402	202,698	219,584
GROSS RETURNS	345,101	344,060	364,447
RETURNS ABOVE CASH COST	252,454	251,416	262,758
RETURNS ABOVE CASH AND NON-CASH COSTS	248,397	247,272	258,397
NET RETURNS	148,700	141,363	144,863
NET PROFIT - COST RATIO	0.76	0.70	0.66
<i>Cost per kilogram (PhP)</i>	<i>23.47</i>	<i>24.67</i>	<i>26.52</i>
<i>Yield per hectare (kg/ha)</i>	<i>8,368</i>	<i>8,215</i>	<i>8,279</i>
<i>Farmgate price (PhP/kg)</i>	<i>41.24</i>	<i>41.88</i>	<i>44.02</i>

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021

ITEM	2019	2020	2021
		(in PhP per hectare)	
CASH COSTS	87,459	86,469	97,998
Seeds/planting materials	8,985	8,878	11,237
Fertilizers	25,294	22,678	28,554
Pesticides	5,774	5,382	5,899
Hired labor	27,041	28,542	30,211
Land tax	246	248	251
Rentals	3,662	3,865	4,092
Transport cost of inputs	4,729	4,881	5,353
Food expense	3,586	3,686	3,887
Repairs	6,838	6,972	7,117
Others	1,303	1,337	1,396
NON-CASH COSTS	164	168	194
Seeds/planting materials	78	77	97
Hired labor (paid in kind)	87	91	97
IMPUTED COSTS	65,447	67,401	77,270
Operator/family labor	27,531	29,059	30,759
Depreciation	8,354	9,190	10,109
Interest on operating capital	4,755	4,641	5,379
Rental value of owned land	24,807	24,512	31,023
TOTAL COSTS	153,070	154,037	175,461
GROSS RETURNS	398,506	390,528	489,047
RETURNS ABOVE CASH COST	311,047	304,060	391,049
RETURNS ABOVE CASH AND NON-CASH COSTS	310,883	303,892	390,856
NET RETURNS	245,436	236,491	313,586
NET PROFIT - COST RATIO	1.60	1.54	1.79
<i>Cost per kilogram (PhP)</i>	9.38	9.52	10.96
<i>Yield per hectare (kg/ha)</i>	16,319	16,184	16,013
<i>Farmgate price (PhP/kg)</i>	24.42	24.13	30.54

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021

ITEM	2019	2020	2021
	(in PhP per hectare)		
CASH COSTS	69,545	69,774	77,692
Seeds/planting materials	4,280	4,292	5,064
Fertilizers	17,465	15,571	19,652
Pesticides	3,195	2,978	3,264
Hired labor	23,217	24,505	25,939
Land tax	98	99	100
Rentals	5,696	6,012	6,363
Interest on crop loan	4,648	5,113	5,624
Transport cost of inputs	2,271	2,344	2,571
Food expense	2,013	2,069	2,182
Repairs	6,662	6,792	6,934
NON-CASH COSTS	33	33	39
Seeds/planting materials	33	33	39
IMPUTED COSTS	46,574	48,926	53,153
Operator/family labor	29,809	31,463	33,304
Depreciation	4,581	5,040	5,543
Interest on operating capital	3,007	3,221	3,449
Rental value of owned land	9,176	9,203	10,857
TOTAL COSTS	116,151	118,733	130,884
GROSS RETURNS	492,425	495,268	593,994
RETURNS ABOVE CASH COST	422,880	425,493	516,301
RETURNS ABOVE CASH AND NON-CASH COSTS	422,847	425,460	516,263
NET RETURNS	376,274	376,534	463,109
NET PROFIT - COST RATIO	3.24	3.17	3.54
<i>Cost per kilogram (PhP)</i>	8.12	8.28	8.98
<i>Yield per hectare (kg/ha)</i>	14,298	14,339	14,577
<i>Farmgate price (PhP/kg)</i>	34.44	34.54	40.75

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	96,253	93,564	106,037
Seeds/planting materials	24,812	22,543	27,065
Fertilizers	21,121	19,020	23,506
Pesticides	6,419	5,983	6,558
Hired labor	17,740	18,725	19,820
Land tax	1,064	1,074	1,085
Rentals	14,609	15,420	16,322
Transport cost of inputs	8,003	8,259	9,059
Food expense	831	854	901
Repairs	1,653	1,685	1,721
NON-CASH COSTS	9,424	8,562	10,280
Landlord's share	9,424	8,562	10,280
IMPUTED COSTS	39,322	40,739	44,135
Operator/family labor	26,180	27,633	29,249
Depreciation	2,785	3,063	3,370
Interest on operating capital	3,896	4,173	4,468
Rental value of owned land	6,461	5,870	7,047
TOTAL COSTS	144,999	142,865	160,451
GROSS RETURNS	687,784	629,133	759,218
RETURNS ABOVE CASH COST	591,531	535,569	653,181
RETURNS ABOVE CASH AND NON-CASH COSTS	582,107	527,006	642,901
NET RETURNS	542,785	486,268	598,767
NET PROFIT - COST RATIO	3.74	3.40	3.73
<i>Cost per kilogram (PhP)</i>	<i>13.28</i>	<i>13.00</i>	<i>14.52</i>
<i>Yield per hectare (kg/ha)</i>	<i>10,919</i>	<i>10,993</i>	<i>11,050</i>
<i>Farmgate price (PhP/kg)</i>	<i>62.99</i>	<i>57.23</i>	<i>68.71</i>

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	103,225	103,282	116,371
Seeds/planting materials	2,640	2,618	3,055
Fertilizer	22,979	21,006	26,828
Pesticides	11,720	10,923	11,974
Other material inputs	61	56	71
Hired labor	25,688	27,113	28,700
Land tax	90	91	92
Rentals	6,493	6,501	7,477
Fuel and oil	3,938	3,824	4,029
Transport cost of inputs	1,000	1,032	1,132
Irrigation fee	218	216	252
Interest on crop loan	13,172	14,490	15,939
Food expenses	6,550	6,731	7,099
Repairs	2,710	2,763	2,821
Landlord's share	5,965	5,916	6,903
NON-CASH COSTS	5,312	5,225	6,096
Seeds/planting materials	1,141	1,132	1,321
Hired labor (paid in kind)	57	60	63
Landlord's share	2,127	2,110	2,461
Harvesters' share	1,778	1,716	2,008
Lease rental	210	208	243
IMPUTED COSTS	53,840	57,048	61,174
Operator and family labor	35,394	37,358	39,543
Exchange labor	2,867	3,026	3,203
Depreciation	8,335	9,168	10,085
Interest on operating capital	3,931	4,210	4,508
Rental value of owned land	3,314	3,286	3,835
TOTAL COSTS	162,377	165,554	183,641
GROSS RETURNS	349,549	337,343	394,861
RETURNS ABOVE CASH COST	246,324	234,062	278,490
RETURNS ABOVE CASH AND NON-CASH COSTS	241,012	228,837	272,394
NET RETURNS	187,172	171,789	211,220
NET PROFIT - COST RATIO	1.15	1.04	1.15
<i>Cost per kilogram (PhP)</i>	<i>14.18</i>	<i>14.86</i>	<i>16.43</i>
<i>Yield per hectare (kg/ha)</i>	<i>11,453</i>	<i>11,144</i>	<i>11,180</i>
<i>Farmgate price (PhP/kg)</i>	<i>30.52</i>	<i>30.27</i>	<i>35.32</i>

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	41,867	41,147	46,448
Seeds/planting materials	3,414	3,630	3,637
Fertilizers	14,666	13,107	16,840
Pesticides	4,283	3,991	4,375
Hired labor	10,800	11,400	12,067
Land tax	216	218	220
Rentals	3,179	3,355	3,552
Transport cost of inputs	2,529	2,610	2,862
Repairs	2,782	2,836	2,895
NON-CASH COSTS	2,068	2,199	2,203
Seeds/planting materials	2,068	2,199	2,203
IMPUTED COSTS	49,275	52,031	55,092
Operator/family labor	36,795	38,837	41,109
Depreciation	3,968	4,365	4,801
Interest on operating capital	2,350	2,277	2,616
Rental value of owned land	6,162	6,552	6,565
TOTAL COSTS	93,211	95,377	103,743
GROSS RETURNS	128,999	136,445	140,461
RETURNS ABOVE CASH COST	87,131	95,297	94,013
RETURNS ABOVE CASH AND NON-CASH COSTS	85,064	93,099	91,810
NET RETURNS	35,788	41,068	36,719
NET PROFIT - COST RATIO	0.38	0.43	0.35
<i>Cost per kilogram (PhP)</i>	<i>20.55</i>	<i>21.14</i>	<i>22.38</i>
<i>Yield per hectare (kg/ha)</i>	<i>4,536</i>	<i>4,512</i>	<i>4,636</i>
<i>Farmgate price (PhP/kg)</i>	<i>28.44</i>	<i>30.24</i>	<i>30.30</i>

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	131,803	129,834	143,732
Seeds/planting materials	23,176	24,950	23,227
Fertilizers	51,254	45,752	57,712
Pesticides	6,976	6,502	7,127
Hired labor	30,183	31,858	33,722
Land tax	649	656	662
Rentals	1,352	1,427	1,511
Transport of inputs	7,301	7,535	8,264
Food expense	3,497	3,594	3,791
Repairs	7,414	7,559	7,716
NON-CASH COSTS	12,886	13,873	12,914
Seeds/planting materials	12,886	13,873	12,914
IMPUTED COSTS	73,873	78,332	80,136
Operator/family labor	29,994	31,659	33,511
Depreciation	9,360	10,296	11,326
Interest on operating capital	7,908	7,729	8,631
Rental value of owned land	26,611	28,647	26,668
TOTAL COSTS	218,563	222,038	236,782
GROSS RETURNS	569,002	624,446	580,799
RETURNS ABOVE CASH COST	437,199	494,612	437,067
RETURNS ABOVE CASH AND NON-CASH COSTS	424,312	480,740	424,153
NET RETURNS	350,439	402,408	344,017
NET PROFIT - COST RATIO	1.60	1.81	1.45
<i>Cost per kilogram (PhP)</i>	14.15	14.10	15.05
<i>Yield per hectare (kg/ha)</i>	15,445	15,745	15,731
<i>Farmgate price (PhP/kg)</i>	36.84	39.66	36.92

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	79,606	78,891	86,168
Seeds	5,545	5,541	5,818
Fertilizer	11,599	10,568	13,225
Pesticides	17,284	16,109	17,658
Other material Inputs	361	329	411
Hired labor	16,834	17,768	18,808
Land tax	516	521	527
Rentals	5,454	5,526	5,815
Fuel and oil	5,960	5,787	6,097
Transport cost of inputs	2,016	2,081	2,282
Irrigation fee	228	228	239
Interest on crop loan	3,492	3,841	4,225
Food expenses	1,938	1,992	2,101
Repairs	1,137	1,159	1,183
Wages for overseer	374	395	418
Others	6,869	7,047	7,361
NON-CASH COSTS	4,168	4,169	4,378
Seeds	3,923	3,921	4,117
Hired labor paid in kind	121	128	135
Landlord's share	26	26	28
Harvester's share	38	35	36
Lease Rental	59	59	62
IMPUTED COSTS	93,102	98,262	104,835
Operator/family labor	66,656	70,355	74,471
Exchange labor	711	750	794
Depreciation	15,196	16,715	18,387
Interest on operating capital	3,658	3,566	3,963
Rental value of owned land	6,880	6,876	7,220
TOTAL COSTS	176,876	181,322	195,380
GROSS RETURNS	448,981	419,190	425,370
RETURNS ABOVE CASH COSTS	369,375	340,300	339,202
RETURNS ABOVE CASH AND NON-CASH COSTS	365,207	336,130	334,825
NET RETURNS	272,106	237,868	229,990
NET PROFIT - COST RATIO	1.54	1.31	1.18
<i>Cost per kilogram (PhP)</i>	<i>11.65</i>	<i>12.78</i>	<i>14.25</i>
<i>Yield per hectare (kg/ha)</i>	<i>15,184</i>	<i>14,186</i>	<i>13,708</i>
<i>Farmgate price (PhP/kg)</i>	<i>29.57</i>	<i>29.55</i>	<i>31.03</i>

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021

ITEM	2019	2020	2021
		<i>(in PhP per hectare)</i>	
CASH COSTS	184,832	192,625	200,837
Planting materials	8,492	9,796	9,374
Fertilizers	20,974	20,653	21,334
Soil ameliorants	462	455	470
Mulching materials	221	218	225
Pesticides	17,527	16,335	17,906
Hired labor	59,345	62,638	66,302
Land tax	124	125	126
Caretaker's/overseer's wage	2,451	2,587	2,738
Other permanent employees' salary	302	319	338
Rentals	5,378	6,121	5,947
Fuel	2,751	2,671	2,814
Oil	468	455	479
Transport cost of inputs	1,580	1,631	1,788
Transport cost of produce from farm to first point of sale	15,435	15,929	17,471
Interest payment on crop loan	718	790	869
Storage fee	2,733	3,152	3,016
Water expense	121	117	124
Electricity cost	255	248	261
Repairs	2,888	2,944	3,005
Food expense for hired and exchange labor	7,125	7,322	7,723
Landowner's share	7,678	8,857	8,475
Financier's share	6,446	7,353	7,165
Sack/Crate/Box/Kaing	18,275	18,746	19,583
Other costs	3,084	3,163	3,304
NON-CASH COSTS	422	486	465
Pesticides	3	3	3
Rentals	391	451	431
Landowner's share	27	31	30
Financier's share	1	1	1
IMPUTED COSTS	59,212	63,349	66,483
Planting Materials	4,301	4,961	4,748
Fertilizer	1,919	1,889	1,952
Mulching materials	88	87	89
Pesticides	1,255	1,170	1,282
Operator labor	16,827	17,761	18,800
Family labor	7,428	7,840	8,299
Exchange labor	106	112	119
Depreciation	7,232	7,955	8,751
Interest on operating capital	5,912	6,331	6,780
Land tax	113	114	115
Rentals	2,264	2,521	2,511
Rental value of owned land	4,077	4,703	4,500
Rental value of owned animals	1,259	1,329	1,407
Oil	27	26	28
Transport cost of inputs	811	837	918
Transport cost of produce from farm to first point of sale	3,887	4,012	4,400
Storage fee	19	19	20
Water expense	879	854	900
Sack/Crate/Box/Kaing	372	381	398
Other costs	436	447	467
TOTAL COSTS	244,465	256,460	267,785
GROSS RETURNS	348,585	397,623	387,433
RETURNS ABOVE CASH COSTS	163,754	204,999	186,596
RETURNS ABOVE CASH AND NON-CASH COSTS	163,332	204,513	186,131
NET RETURNS	104,120	141,164	119,648
NET PROFIT - COST RATIO	0.43	0.55	0.45
<i>Cost per kilogram (PhP)</i>	17.91	19.00	19.48
<i>Yield per hectare (kg/ha)</i>	13,649	13,497	13,744
<i>Farmgate price (PhP/kg)</i>	25.54	29.46	28.19

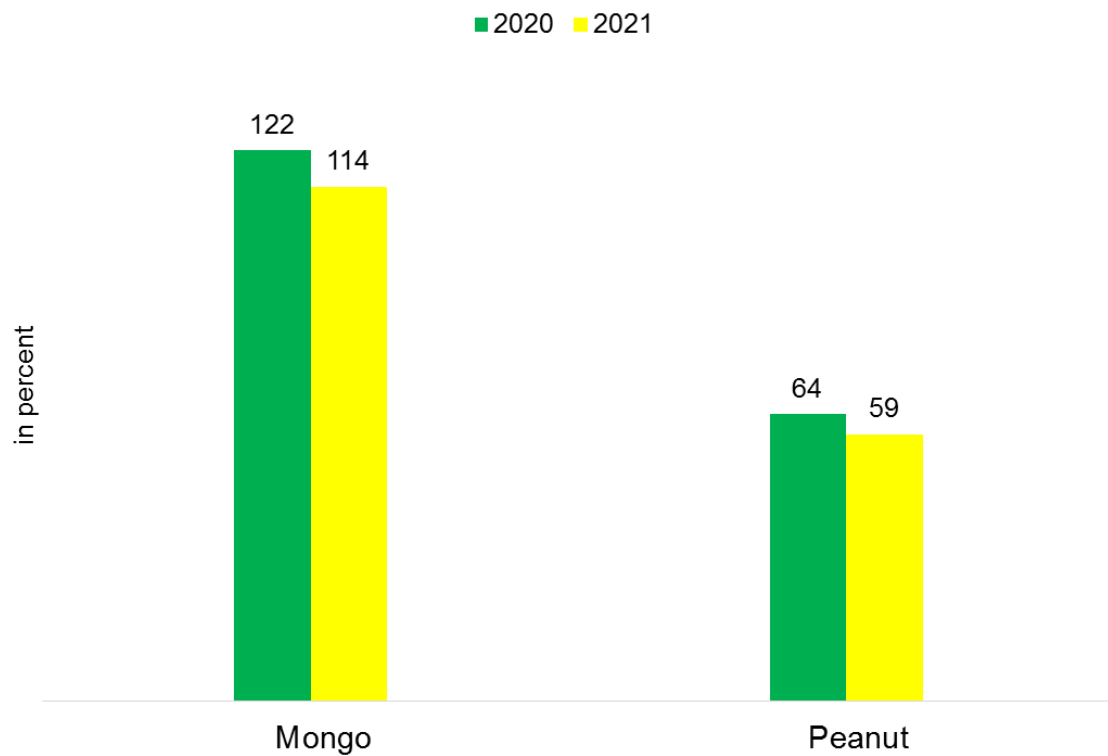
Note: Details may not add up to totals due to rounding off

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

Figure 6. Return on Investments (ROI) of Selected Legumes,
Philippines, 2020 - 2021



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

Table 23. Mongo: Average Costs of Production, Philippines, 2019 - 2021

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	8,427	8,687	9,224
Seeds/planting materials	1,027	1,024	1,095
Fertilizers	58	54	72
Pesticides	712	664	728
Hired labor	3,277	3,458	3,661
Land tax	150	151	153
Rentals	749	790	836
Fuel and oil	203	197	207
Irrigation fee	54	54	58
Interest on crop loan	618	680	748
Transport cost of inputs	61	63	69
Food expense	404	416	438
Repairs	1,114	1,136	1,159
NON-CASH COSTS	3,503	3,533	3,701
Seeds/planting materials	991	988	1,056
Hired labor paid in kind	83	87	93
Landlord's share	613	611	653
Harvester's share	1,810	1,839	1,891
Irrigation fee	7	7	8
IMPUTED COSTS	10,621	11,334	12,209
Operator/family labor	4,878	5,149	5,450
Exchange labor	85	90	95
Depreciation	4,315	4,746	5,221
Interest on operating capital	360	369	394
Rental value of owned land	983	981	1,049
TOTAL COSTS	22,552	23,554	25,134
GROSS RETURNS	51,547	52,369	53,851
RETURNS ABOVE CASH COST	43,120	43,682	44,626
RETURNS ABOVE CASH AND NON-CASH COSTS	39,616	40,149	40,925
NET RETURNS	28,995	28,815	28,717
NET PROFIT - COST RATIO	1.29	1.22	1.14
<i>Cost per kilogram (PhP)</i>	25.96	26.62	29.54
<i>Yield per hectare (kg/ha)</i>	869	885	851
<i>Farmgate price (PhP/kg)</i>	59.34	59.18	63.28

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	22,476	23,346	24,651
Seeds/planting materials	2,180	2,146	2,157
Fertilizers	570	512	650
Pesticides	37	34	37
Hired labor	15,063	15,899	16,829
Land tax	238	241	243
Rentals	721	732	753
Fuel and oil	343	333	351
Irrigation fee	78	77	77
Interest on crop loan	657	723	795
Transport cost of inputs	191	197	216
Food expense	1,101	1,132	1,194
Repairs	1,297	1,322	1,350
NON-CASH COSTS	4,220	4,153	4,192
Seeds/planting materials	2,517	2,478	2,490
Hired labor paid in kind	94	99	105
Landlord's share	945	930	935
Harvester's share	664	645	661
IMPUTED COSTS	13,611	14,375	15,281
Operator/family labor	6,615	6,982	7,390
Exchange labor	248	262	278
Depreciation	3,602	3,962	4,358
Interest on operating capital	1,265	1,318	1,394
Rental value of owned land	1,881	1,852	1,861
TOTAL COSTS	40,306	41,874	44,124
GROSS RETURNS	70,576	68,567	70,257
RETURNS ABOVE CASH COST	48,100	45,220	45,606
RETURNS ABOVE CASH AND NON-CASH COSTS	43,880	41,067	41,414
NET RETURNS	30,270	26,692	26,133
NET PROFIT - COST RATIO	0.75	0.64	0.59
<i>Cost per kilogram (PhP)</i>	<i>24.08</i>	<i>25.36</i>	<i>26.21</i>
<i>Yield per hectare (kg/ha)</i>	<i>1,674</i>	<i>1,651</i>	<i>1,684</i>
<i>Farmgate price (PhP/kg)</i>	<i>42.17</i>	<i>41.52</i>	<i>41.73</i>

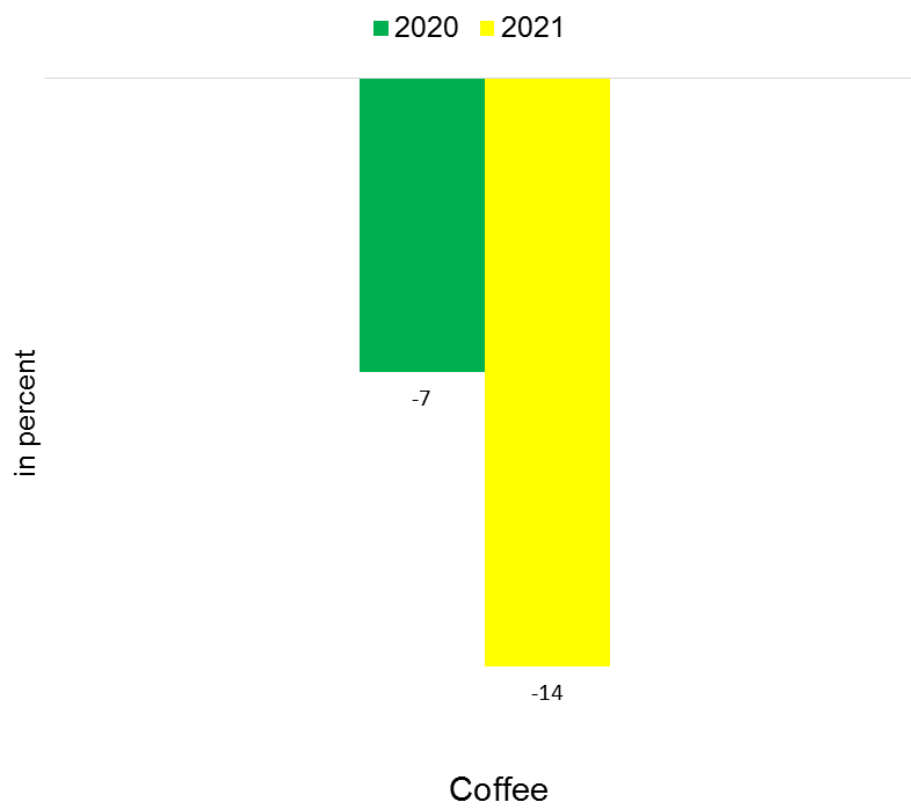
Note: Details may not add up to totals due to rounding off

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

Figure 7. Return on Investments (ROI) of Coffee,
Philippines, 2020 - 2021



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

Table 25. Coffee: Average Costs of Production, Philippines, 2019 - 2021*

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	30,806	33,478	37,224
Fertilizer	9,269	10,819	13,231
Pesticides	176	164	179
Hired labor	17,300	18,260	19,328
Land tax	684	691	697
Rentals	62	62	64
Fuel and oil	272	264	279
Transport of inputs	197	204	224
Interest on crop loan	1,324	1,456	1,601
Food expenses	836	859	906
Repairs	687	700	715
NON-CASH COSTS	1,153	1,118	1,143
Hired labor (paid in kind)	297	313	331
Landlord's share	29	27	27
Harvesters' share	558	524	529
Lease rental	270	254	255
IMPUTED COSTS	11,387	11,869	12,609
Operator and family labor	6,515	6,876	7,279
Exchange labor	162	171	181
Depreciation	638	702	772
Interest on operating capital	1,895	2,072	2,320
Rental value of owned land	2,177	2,047	2,057
TOTAL COSTS	43,347	46,465	50,976
GROSS RETURNS	46,361	43,388	43,836
RETURNS ABOVE CASH COSTS	15,555	9,910	6,612
RETURNS ABOVE CASH AND NON-CASH COSTS	14,402	8,792	5,469
NET RETURNS	3,014	(3,077)	(7,140)
NET PROFIT - COST RATIO	0.07	(0.07)	(0.14)
<i>Cost per kilogram (PhP)</i>	<i>80.87</i>	<i>86.79</i>	<i>94.67</i>
<i>Yield per hectare (kg/ha)</i>	<i>536</i>	<i>535</i>	<i>538</i>
<i>Farmgate price (PhP/kg)</i>	<i>86.50</i>	<i>81.04</i>	<i>81.41</i>

* - Refers to maintenance costs only

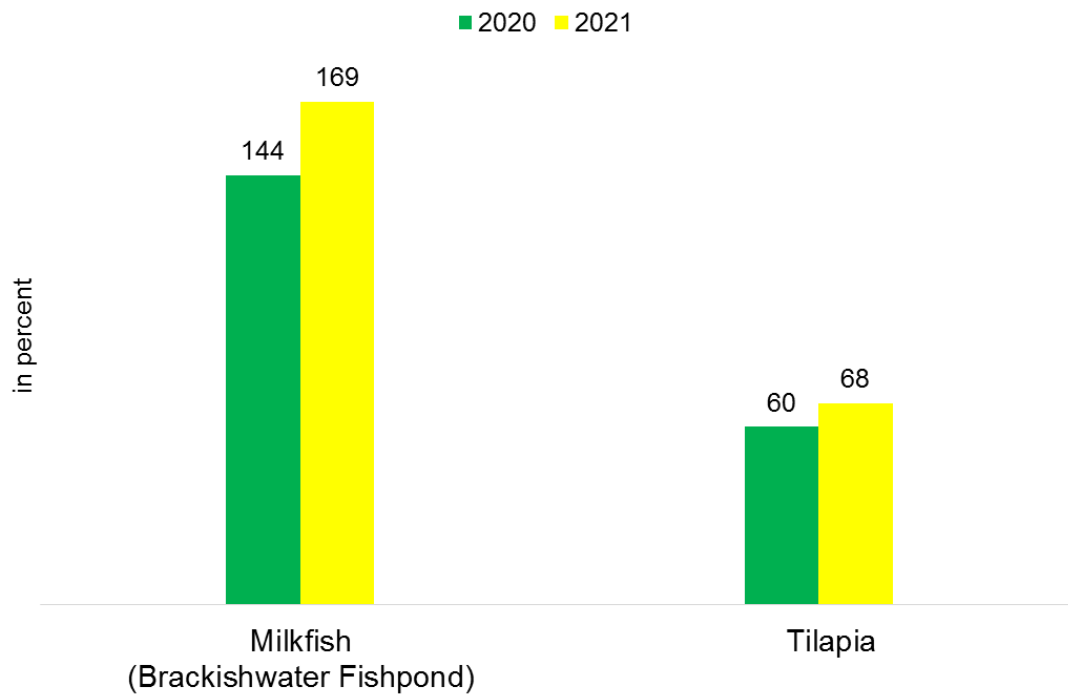
Note: Details may not add up to totals due to rounding off

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

Figure 8. Return on Investments (ROI) of Selected Fisheries, Philippines, 2020 - 2021



PRODUCTION COSTS AND RETURNS OF SELECTED AGRICULTURAL COMMODITIES

Table 26. Milkfish (Brackishwater Fishpond): Average Costs of Production, Philippines, 2019 - 2021

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	34,738	35,089	37,600
Stocking materials	13,475	13,435	14,421
Feeds	4,789	4,912	5,132
Fertilizers	2,646	2,456	3,107
Pesticides and other chemicals	484	451	495
Hired Labor	4,725	4,987	5,279
Salaries of permanent employees	3,431	3,621	3,833
Land tax	421	426	430
Rentals	3,355	3,377	3,401
Fuel and oil	375	364	383
Transport cost of inputs	174	180	197
License/permit	6	6	6
Electricity	183	178	187
Interest payment on loan	89	98	108
Food expense	244	250	264
Repairs	285	291	297
Others	55	56	59
NON-CASH COSTS	847	865	998
Harvesters' share	320	326	386
Caretakers' share	188	191	226
Other laborers' share	87	88	104
Administrator's share	60	62	73
Lease rental	7	7	7
Rice allowance of overseer	186	191	201
IMPUTED COSTS	10,392	10,650	11,511
Operator labor	232	245	259
Family labor	162	171	181
Exchange labor	7	7	7
Depreciation	2,331	2,564	2,820
Interest on operating capital	2,058	2,078	2,247
Rental value of owned fishpond	5,602	5,585	5,996
TOTAL COSTS	45,977	46,604	50,108
GROSS RETURNS	111,640	113,730	134,553
RETURNS ABOVE CASH COSTS	76,901	78,641	96,953
RETURNS ABOVE CASH AND NON-CASH COSTS	76,054	77,776	95,955
NET RETURNS	65,662	67,126	84,444
NET PROFIT - COST RATIO	1.43	1.44	1.69
<i>Cost per kilogram (PhP)</i>	41.43	41.10	40.09
<i>Yield per hectare (kg/ha)</i>	1,110	1,134	1,250
<i>Farmgate price (PhP/kg)</i>	100.59	100.29	107.65

Note: Details may not add up to totals due to rounding off

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, 2019 - 2021

ITEM	2019	2020	2021
	<i>(in PhP per hectare)</i>		
CASH COSTS	256,948	265,495	275,628
Stocking materials	43,572	46,833	46,706
Feeds	172,033	176,470	184,342
Fertilizers	1,869	1,793	2,106
Pesticides	2,273	2,118	2,322
Hired Labor	9,623	10,156	10,751
Salaries of permanent employees	1,363	1,439	1,523
Wage of stay-in laborers	7,968	8,410	8,902
Land tax	185	187	189
Rentals	4,583	4,591	4,600
Fuel and oil	6,647	6,455	6,800
Transport cost of inputs	874	902	989
License/permit	7	7	7
Electricity	140	136	144
Interest payment on loan	728	800	880
Food expense	1,725	1,773	1,870
Repairs	3,315	3,380	3,450
Other costs	43	44	46
NON-CASH COSTS	2,700	2,806	2,997
Stocking materials	381	409	408
Feeds	104	107	112
Fertilizers	16	16	19
Hired Labor paid in kind	319	337	356
Harvesters' share	650	668	728
Caretaker's share	44	45	49
Wage of stay-in laborer	572	588	641
Other laborers' share	510	524	571
Lease rental	78	84	84
Other costs	27	28	29
IMPUTED COSTS	42,739	45,373	47,159
Stocking materials	403	434	432
Feeds	165	169	177
Fertilizers	1	1	1
Operator labor	3,443	3,634	3,847
Family labor	1,253	1,323	1,400
Exchange labor	3	3	4
Depreciation	7,801	8,581	9,439
Interest on operating capital	16,917	17,520	18,189
Rental value of owned aquafarm	12,753	13,707	13,670
TOTAL COSTS	302,388	313,673	325,784
GROSS RETURNS	486,890	500,719	545,815
RETURNS ABOVE CASH COSTS	229,941	235,224	270,188
RETURNS ABOVE CASH AND NON-CASH COSTS	227,241	232,419	267,191
NET RETURNS	184,502	187,046	220,032
NET PROFIT-COST RATIO	0.61	0.60	0.68
<i>Cost per kilogram (PhP)</i>	50.00	54.21	51.51
<i>Yield per hectare (kg/ha)</i>	6,048	5,786	6,325
<i>Farmgate price (PhP/kg)</i>	80.51	86.54	86.30

Note: Details may not add up to totals due to rounding off

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

**PRODUCTION COSTS AND RETURNS
OF SELECTED AGRICULTURAL COMMODITIES
PHILIPPINE STATISTICS AUTHORITY**

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