

A cluster of sweet potatoes, including several purple-skinned ones at the top and several orange-skinned ones at the bottom. One purple sweet potato is cut in half, revealing its pale yellow interior.

2014 Costs & Returns of SWEET POTATO (CAMOTE) PRODUCTION



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FOREWORD

The Philippine Statistics Authority (PSA) conducted Costs and Returns Survey (CRS) of Sweet Potato (Camote) Production in May 2014. The CRS was designed to generate data on the cost structure of sweet potato production, average use of materials and labor inputs and measures of profitability of sweet potato farming. The study covers the six (6) major sweet potato producing provinces, namely: Quezon, Camarines Sur, Negros Occidental, Bohol, Agusan del Norte and Agusan del Sur.

The costs and returns data contained in this report are presented by province. This report includes other socio-economic variables related to sweet potato production. The reference period of the survey is the last completed harvest within May 2013 to April 2014.

The PSA gratefully acknowledges the financial support provided by the National Rice Program of the Department of Agriculture (DA) for this activity. Further, the PSA deeply appreciates the respondents who were interviewed by the Contractual Data Collectors (CDCs) during the survey.

We welcome comments and suggestions from our various users for the improvement of our data system on cost of production.



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EXPLANATORY NOTES

1. Average costs and returns of sweet potato production are computed and presented as follows:

$$\text{Per hectare} = \frac{\text{Total value of input or (output)}}{\text{Total harvest area in hectares}}$$

$$\text{Per farm} = \frac{\text{Total value of input or (output)}}{\text{Total number of farms}}$$

$$\text{Per kilogram} = \frac{\text{Total value of input or (output)}}{\text{Total production}}$$

2. Blank cells in the statistical tables indicate that there was no report for a particular data item.
3. Data may not add up to respective totals due to rounding off of figures.
4. Percentage is used for multiple responses and may not equal to 100 percent while percentage distribution is used for single response and should equal to 100 percent.
5. Concepts and definitions used in the report:

Cash Costs – refer to direct cash outlays or cash payments for the use of different factors of production such as hired labor, fertilizers, chemical, etc.

Non-Cash Costs – expenditures which are paid in kind. The prevailing price in the community is used in the valuation. 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 – expenditures that do not involve actual outlays in cash or in kind; they represent the costs using owned resources in a particular activity. Valuation is attributed through the value of the best alternative uses given up for the purpose.

The cost items are as follows:

Planting materials – all types of seeds and/or seedlings used in the production.

Fertilizers – any substance, solid or liquid, inorganic or organic, natural or synthetic, single or combination of materials 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 – elements placed or mixed into the soil to replenish depleted soil nutrients for better plant growth.

Pesticides – all types of yield-protecting form of chemicals.

Hired labor – labor rendered by a person who is paid by the farm operator on the agreed basis of payment. Hired labor includes man or animal or machine or any combination with man-labor.

Mandays – conceptually, one manday is equivalent to eight (8) hours of work. To compute for mandays, the number of days multiplied by number of hours worked per day and the result is divided by eight (8).

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

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

Fuel and Oil – costs incurred for the use of gasoline, oil, and other related inputs.

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

Interest payment on crop loan – payment for the interest on borrowed capital used in the farm production.

Landowner's share – portion of farmer's production that goes to the owner of farm land based on the agreed sharing system.

Repairs – costs incurred for all minor repairs and improvements made on the farm investments.

Food expenses – cash expenditures incurred in providing food to farm laborers.

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

Operator labor – imputed wages as payment to labor contributed by the operator. Mandays of labor are valued at prevailing wage rate in the locality.

Family labor – labor rendered by the farmer’s family members who take part in any production activities. Mandays of labor are valued at prevailing wage rate in the locality.

Exchange labor – work done by farm laborers in exchange (or as payment) to the work done by the farm operator/household members outside his/her own farm.

Depreciation – cost of wear and tear of farm tools and equipment, machinery and other farm facilities and structures. The straight-line method is used in computing for depreciation where the cost of acquisition is divided by the estimated life span of above cited items.

Interest on operating capital – 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.

Rental value of owned land – imputed cost which is derived by asking the farmer how much would be the annual value of the land if it will be rented.

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

Fixed Costs – costs that do not change when the quantity of output changes.

Variable Costs – costs that change as output changes.

Gross Returns – the value of production (derived by multiplying the total volume of produce by the price received by the farmer per kilogram).

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

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

Net Returns – net profit after subtracting all expenses incurred in sweet potato production (gross returns – total costs).

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

Focus parcel – the particular farm parcel where the last harvest is completed within the reference period. All information collected for this survey refers to the focus parcel.

COSTS AND RETURNS OF SWEET POTATO (Camote) PRODUCTION

I. INTRODUCTION

A. Rationale

Sweet potato (*Ipomoea batatas*) or “yam” is locally known as “camote” in the Philippines. The tuberous root is long and tapered, with a smooth skin whose color ranges between yellow, orange, red, brown, purple, and beige. Its flesh ranges from beige through white, red, pink, violet, yellow, orange, and purple. Sweet potato varieties with white or pale yellow flesh are less sweet and moist than those with red, pink or orange flesh. Sweet potato is used as food, feeds, and raw materials for processing. It is rich in carbohydrates, protein, potassium, dietary fiber and vitamins.

Sweet potato production in the Philippines posted an average annual growth rate of -0.37 percent over the past fourteen (14) years from 2000 to 2013. The country produced 527,730 metric tons of sweet potato in 2013.

Food security and raising farmers’ income are the goals of the agriculture sector. To achieve these goals, the Department of Agriculture (DA) launched the Food Staples Sufficiency Program (FSSP) 2011-2016. This is in pursuit of the country’s goal of food staple sufficiency. One of the farmer-centered innovations initiated by the FSSP is to diversify food staples consumption by intensifying the production of commodities other than rice and corn. Sweet potato is one of the non-rice staples under FSSP and considered as one of the traditional staples in some areas of the country.

There is a growing demand for data on costs and returns of production. However, the conduct of Costs and Returns Survey has not yet been made a regular undertaking of the Philippine Statistics Authority (PSA) given its limited regular budget. With the funding support from the National Rice Program of the Department of Agriculture (DA), the PSA conducted the 2014 Costs and Returns Survey of Sweet Potato (Camote) Production.

B. Objectives

The general objective of the survey is to generate data on costs and returns of sweet potato production. Likewise, the result will be used as basis for updating the annual data series on costs and returns. Specifically, the survey aims to:

- establish an up-to-date production costs structure;

- determine indicators of profitability such as gross and net returns, returns above cash cost, returns above cash and non-cash costs, etc.;
- come up with an updated data sets on average use of material and labor inputs; and,
- generate other related socio-economic variables.

II. SURVEY METHODOLOGY

A. Coverage

The 2014 Costs and Returns Survey of Sweet Potato (Camote) Production covered sweet potato farmers in the six (6) identified major producing provinces, namely, Quezon, Camarines Sur, Negros Occidental, Bohol, Agusan del Norte and Agusan del Sur.

Particularly, those farmers who harvested sweet potato within the reference period and knowledgeable on the costs of producing sweet potato such as farm investments, material inputs, labor expenses incurred and the disposition of produce served as samples of the survey.

B. Reference Period

The reference period of the 2014 Costs and Returns Survey of Sweet Potato (Camote) Production was the last completed harvest within May 2013 to April 2014.

C. Sampling Frame

The lists of sweet potato producing barangays with cumulative share of 80 percent based on the total area planted in 2013 served as the sampling frame. The ranking of barangays was updated through interview of key informants such as Municipal Agricultural Officers (MAOs), Agricultural Technicians (ATs) and Barangay Officials.

D. Sampling Design, Sample Size and Sample Selection Procedure

The domain of the survey was the province. A two-stage sampling design was employed with the barangay as the primary sampling unit and the sample farmer as the secondary sampling unit. The top producing barangays were selected from an ordered list of barangays. The sample farmers were identified in each sample barangay using snowball approach during data collection.

The total number of sample barangays per province was fifteen or less. If the number of major producing barangays that contributed to 80 percent based on area planted were more than 15, 15 barangays were selected. Those provinces with less than 15 barangays that produced sweet potato were completely enumerated. This approach ensured representation of the barangays in the province in terms of area planted to sweet potato. The total number of sample farmers per province was set at 75 and equally allocated to the sample barangays. The list of sample barangays per province and corresponding number of samples were provided to the Provincial Operations Center (POC) prior to the survey.

During data collection, the names and addresses of sweet potato farmers residing in the barangay were obtained from the office of the barangay chairman or any other key informants in the barangay. It served as the data collector's starting point in searching for potential sample farmers. The target numbers of sweet potato farmers in the sample barangays were obtained using snowball sampling. A set of screening questions was applied to confirm if those listed actually harvested sweet potato during the reference period and satisfied the other criteria to qualify for enumeration.

Whether the interviewed farmer was qualified for the survey or not, he/she was asked to identify other sweet potato farmers in the barangay to be added in the initial list. The search continued, and the farmer who met the criteria specified in the screening questions was qualified as sample for the survey and was interviewed using the questionnaire for the 2014 Survey on Costs and Returns of Sweet Potato (Camote) Production. If the interview was successfully carried out (meaning, all the needed information had been supplied), the household number, full name and residential address of the sample farmer were written in the List of Sample Farmers. The enumerator selected again any farmer in the initial list as the next potential sample for the survey. The process continued until the required number of samples in the barangay was obtained.

III. SURVEY OPERATIONS

A. Pre-survey Training

Three (3) levels of training were conducted. This activity aimed to have uniform understanding of the survey concepts and procedures that were used during the survey operations.

The first level was the training of selected Central Office (C.O.) staff who served as trainers in the next level of training. The second level training was for the Provincial Agricultural Statistics Officers and selected staff of the six (6) provinces. They served as trainers for the third level training which was

intended for Contractual Data Collectors (CDCs). They were trained on the survey concepts, survey procedures and on filling up the questionnaire.

B. Data Collection

The data collection was carried out by Contractual Data Collectors (CDCs) through personal (face-to-face) interview of the sample farmer in sample barangays using structured questionnaire.

C. Supervision of Survey Operations

The POC staff was responsible for the supervision of the survey operations. Among the tasks carried out by field supervisors were the conduct of spot checking during data collection to monitor the data collectors' work, back-checking the work of CDCs after data collection and the preparation of field supervision report.

IV. DATA PROCESSING, DATA REVIEW AND ANALYSIS

Editing and coding of survey returns were done at the Provincial Operations Centers (POCs) upon submission of the accomplished questionnaires by the CDCs. These activities were undertaken to ensure the quality of data that were collected.

A five (5) day training/workshop on data processing was conducted to facilitate the generation of survey results. It was attended by the Provincial Processing Officers (PPOs) or staff in-charge on Other Crops and selected staff of the Agricultural Accounts and Statistical Indicators Division (AASID).

The training/workshop covered data encoding, data review, cleaning and updating of flat files using MS Excel program developed by AASID. During the training/workshop, completeness check, consistency checks and accuracy checks were done to ensure quality of data. The output of the data review and cleaning was the final set of raw data file which was used for the generation of data tables. These data tables were validated and compared with the results of the 1998 Costs and Returns of Sweet Potato Production and results of other relevant surveys.

V. HIGHLIGHTS OF THE FINDINGS

A. Characteristics of Sweet Potato Farmers (Tables 1-5)

Sex, Age, Educational Attainment and Farming Experience

- Across the provinces surveyed, 82 percent of sweet potato farmers were males and the remaining 18 percent were females. In Quezon, all sweet potato farmers were males. Bohol had 90.67 percent who were males. Female sweet potato farmers comprised bigger proportion in Negros Occidental at 32 percent.
- On the average, the age of sweet potato farmers was 52 years. Bohol had the oldest group of sweet potato farmers with average age of 55 years. The youngest groups were recorded in Quezon and Agusan del Norte at 50 years each. By age group, farmers in the age bracket 51-60 years comprised the biggest group at 32.67 percent. Those below 31 years of age were 3.33 percent.
- About 42.44 percent of the sweet potato farmers reached elementary level while 24.89 percent were elementary graduates. There were 13.11 percent who attained high school or secondary level of education. Those who completed high school education were 9.78 percent. Some 3.11 percent had college education and 2.89 percent were college graduates. Less than one (1) percent took up vocational courses and 2.89 percent had no schooling. By province, Agusan del Sur reported the biggest proportion of sweet potato farmers who had elementary level at 61.33 percent. Graduates of elementary and high school education were higher in Camarines Sur at 37.33 percent and in Quezon at 18.67 percent, respectively. In Bohol, 6.67 percent were college degree holders.
- Sweet potato farmers had an average farming experience of 17 years. This ranged from 15 years in Camarines Sur and Negros Occidental to 20 years in Bohol. Across the provinces covered, about 46 percent of the sweet potato farmers had less than 11 years of farming experience. Those with 21 to 30 years and more than 30 years comprised 15.56 percent each. Provincewise, Camarines Sur had the biggest proportion of sweet potato farmers at 56 percent with less than 11 years. There were 28 percent in Bohol who reported more than 30 years of experience in sweet potato farming.

Main Occupation

- The main occupation of 78.89 percent of the sweet potato farmers was field crop farming. There were 10.22 percent whose main occupation was

orchard farming. Laborers and unskilled workers were 5.56 percent. Two (2) percent worked as officials of the government and special interest organizations, corporate executives, managers managing proprietors and supervisors. Less than one (1) percent of the sweet potato farmers belonged to the other occupation groups.

- Among the sweet potato farmers whose main occupation was field crop farming, Quezon reported the biggest percentage at 93.33 percent. Agusan del Sur cited the highest percentage in orchard farming at 21.33 percent.

B. Farm Characteristics (Tables 6-8)

Farm Size and Area Cultivated to Sweet Potato

- The average size of farms operated by sweet potato farmers was 0.58 hectare. The biggest farm size was noted in Quezon at 0.91 hectare. The smallest farm size was recorded in Camarines Sur at 0.48 hectare.
- For the focus farm parcel devoted to sweet potato production, the average area planted and harvested were the same at 0.44 hectare. The biggest area planted and harvested to sweet potato was noted in Quezon at 0.68 hectare while the smallest was in Bohol at 0.22 hectare.

Tenurial Status

- A bigger percentage of the farm parcels planted to sweet potato at 29.33 percent were rent free. Tenanted farm parcels comprised 22.89 percent. Some 20.67 percent were under owner-like possession and 13.33 percent were fully owned. The remaining 10.23 percent of farm parcels were leased/rented and held under CLT/CLOA.
- Across provinces, the proportions of rent free farm parcels were higher in Agusan del Sur at 40 percent and Negros Occidental at 36 percent. Tenanted farm parcels accounted for 34.67 percent each in Quezon and Camarines Sur. Likewise, Camarines Sur had bigger percentage of fully owned farm parcels at 25.33 percent. Those held under owner-like possession were also common in Agusan del Sur as reported by 36 percent.

Farm Investments

- Among the work animals owned and used in the focus sweet potato parcel, carabao was reported by 50.89 percent of farmers. About 6 percent had horses and 1.56 percent had cattle as working animals. In particular, ownerships of carabao were notably reported by 68 percent in Camarines

Sur, 65.33 percent in Bohol and 57.33 percent in Negros Occidental. There were 36 percent in Quezon who owned and used horses in sweet potato farming.

- As to farm buildings and other structures, about 27.11 percent of sweet potato farmers owned farm house. Agusan del Sur recorded the biggest percentage of sweet potato farmers with farm house at 38.67 percent. This was followed by Quezon and Agusan del Norte with 34.67 percent each.
- There were two (2) percent who owned trailer/cart used in sweet potato farming. Ownership of trailer/cart was highest in Agusan del Sur at 4 percent.
- The major farm tools and implements were bolo, plow and yoke as reported by 94 percent, 54.22 percent and 45.11 percent, respectively. Some 29.33 percent had harrow and 27.33 percent had hoe. By province, all sweet potato farmers in Camarines Sur had bolos. Bolo was also reported by 98.67 percent each in Agusan del Norte and Agusan del Sur. Plow and yoke were common in Bohol with 70.67 percent of farmers reporting. Those who had harrow were biggest in Quezon at 58.67 percent.

C. Farm Practices (Tables 9-16)

Uses of Sweet Potato Variety Planted

- Across provinces, majority of the sweet potato farmers at 99.78 percent planted sweet potato solely for food use. Only 0.22 percent produced sweet potato purposely for feeds.
- All sweet potato farmers in Quezon, Camarines Sur, Negros Occidental, Agusan del Norte and Agusan del Sur planted sweet potato for food use only. In Bohol, 98.67 percent of the farmers planted sweet potato to be used as food while the remaining 1.33 percent for feed purposes.

Source of Planting Materials

- The sources of planting materials of 51.33 percent of the sweet potato farmers were co-farmers. Those who obtained planting materials from their own produced were 47.33 percent. Planting materials coming from the Regional Field Office (RFO) of Department of Agriculture (DA) and cooperatives were reported by 1.33 percent and 0.22 percent, respectively.
- At the provincial level, co-farmers were the major providers of planting materials of 81.33 percent of sweet potato farmers in Agusan del Sur, 65.33

percent in Agusan del Norte, and 50.67 percent in Bohol. Owned produced planting materials were cited by 78.67 percent of farmers in Quezon and 61.33 percent in Negros Occidental. Only four (4) percent each in Bohol and Agusan del Sur obtained their planting materials from the Regional Field Office (RFO) of Department of Agriculture (DA).

Months of Planting and Harvesting

- Planting of sweet potato was done all year round. However, planting was common during the month of November 2013 with 18.67 percent of farmers reporting. Plantings in May, June, September, October and December 2013 were cited by 8 to 11 percent. Provincewise, planting in November was mostly done by 30.67 percent of farmers in Bohol, 25.33 percent in Agusan del Norte and 21.33 percent in Negros Occidental. In Bohol, June and September were the peak months for sweet potato planting as stated by 14.67 percent and 21.33 percent of the farmers, respectively. Planting in October was mostly reported in Camarines Sur by 20 percent and in Agusan del Sur by 17.33 percent. May was the planting month of 18.67 percent of the sweet potato farmers in Quezon.
- Harvesting of sweet potato took place throughout the year. However, it was dominant during the months of March and April 2014 as reported by 17 to 20 percent of the sweet potato farmers. April as the month of harvest was mentioned by 30.67 percent of farmers in Bohol, 28 percent in Agusan del Sur and 25.33 percent in Negros Occidental. There were 33.33 percent in Negros Occidental who harvested sweet potato in March.

Type of Labor Used in Land Preparation

- In the six (6) provinces surveyed, the use of man-animal labor in land preparation was practiced by 76.22 percent of sweet potato farmers. Only few at around one percent reported the use of man-machine labor using four-wheel tractor and two-wheel tractor.
- In Quezon and Bohol, more than 90 percent of the sample sweet potato farmers employed the service of animal in land preparation. This was also adopted by 89.33 percent of farmers in Negros Occidental and 88 percent in Camarines Sur. Only 24 percent in Agusan del Sur reported the use of man-animal labor. Man-machine labor using four-wheel tractor was mentioned by 5.33 percent in Quezon and 2.67 percent in Bohol. The usage of two-wheel tractor was noted among 2.67 percent each in Quezon and Bohol, and 1.33 percent in Negros Occidental.

Method of Weeding

- Across the provinces covered in the survey, there were 73.56 percent of sweet potato farmers who did manual weeding while 10 percent practiced chemical spraying.
- Manual weeding was practiced more by 86.67 percent in Camarines Sur and 78.67 percent in Agusan del Sur. This was also mentioned by 61.33 percent to 76 percent of sweet potato farmers in Quezon, Agusan del Norte, Negros Occidental and Bohol.
- Removing weeds through chemical spraying was done by 53.33 percent of sweet potato farmers in Quezon. This operation was employed by 5.33 percent in Agusan del Sur and 1.33 percent in Agusan del Norte.

Users of Fertilizers

- The usage of the solid form of organic fertilizers in sweet potato farming was noted only among 9.33 percent of the sweet potato farmers. In particular, Quezon had 54.67 percent of their sweet potato farmers using organic fertilizers. This was 1.33 percent in Camarines Sur. There was no reported application of solid organic fertilizers in Negros Occidental, Bohol, Agusan del Norte and Agusan del Sur.
- For the solid type of inorganic fertilizers, complete (14-14-14) and urea (46-0-0) were commonly used as reported by 10 percent and 8.67 percent of the sample sweet potato farmers, respectively. Quezon posted the biggest percentage of sweet potato farmers using complete fertilizer (14-14-14) at 22.67 percent and urea (46-0-0) at 36 percent. Some 13.33 percent in Negros Occidental reported the usage of urea (46-0-0). In Bohol, 18.67 percent applied complete fertilizer (14-14-14) in their sweet potato farming.

Users of Pesticides

- During the reference period, herbicides/weedicides in liquid form were applied by 10 percent of sweet potato farmers while only 1.56 percent reported the usage of insecticides in liquid form. For the solid types of pesticides, fungicides and rodenticides were applied by only 0.22 percent and 3.33 percent of the sweet potato farmers, respectively.
- Among the provinces covered, Quezon reported the biggest percentage of sweet potato farmers at 53.33 percent who used the liquid form of herbicides/weedicides and 18.67 percent used the solid form of rodenticides. Some 5.33 percent in Agusan del Sur utilized the liquid herbicides/weedicides. In Negros Occidental, 6.67 percent were users of

liquid insecticides. Sweet potato farmers in Bohol and Camarines Sur were non-users of any form of pesticides during the reference period.

D. Input Usage (Tables 17-22)

Planting Materials (Cuttings)

- The average quantity of planting materials (cuttings) used for producing sweet potato was 813.21 kilograms per hectare. This ranged from 149.45 kilograms per hectare in Agusan del Norte to 1,621.72 kilograms per hectare in Quezon.
- In most of the provinces covered, bigger quantities of the planting materials used by the sweet potato farmers came from their own production while only smaller quantities were reportedly purchased.

Fertilizers

- On the average, application of solid form of organic fertilizer was 350.49 kilograms per hectare. Quezon had higher application rate at 1,358.82 kilograms per hectare while it was only 25.50 kilograms per hectare in Camarines Sur. There was no reported application of solid organic fertilizer in Negros Occidental, Bohol, Agusan del Norte and Agusan del Sur during the reference period.
- Among the solid form of inorganic fertilizer grades, higher application rates per hectare were noted for complete fertilizer (14-14-14) and urea (46-0-0) averaging 18.12 kilograms and 11.97 kilograms, respectively.
- By province, Bohol recorded the biggest usage of complete (14-14-14) fertilizer at 46.31 kilograms per hectare followed by Camarines Sur at 32.05 kilograms per hectare. Urea (46-0-0) was highly applied in Quezon at 36.56 kilograms per hectare and Negros Occidental at 22.65 kilograms per hectare.
- In terms of nutrient content, the quantity of fertilizers applied in a one hectare of sweet potato farm contained 9.84 kilograms of nitrogen, 3.77 kilograms of phosphorous and 2.60 kilograms of potassium. The nitrogen content of fertilizer applied was highest in Quezon at 22.16 kilograms per hectare. The fertilizer usage in Camarines Sur had more phosphorous content at 7.29 kilograms per hectare. The potassium content of fertilizer applied in Bohol was higher at 6.48 kilograms per hectare.

Pesticides

- The application of liquid herbicides/weedicides averaged 0.41 liter per hectare. This was 1.46 liter per hectare in Quezon while less than a liter per hectare was applied in Agusan del Norte and Agusan del Sur.
- The use of liquid insecticides was reported in Quezon, Negros Occidental and Agusan del Sur at less than one (1) liter per hectare. Solid fungicides were reported only in Quezon at 0.12 kilogram per hectare. Application of rodenticides was noted in Quezon and Negros Occidental at 0.01 kilogram per hectare and less.

Labor Utilization

- Across the provinces surveyed, the average labor utilization in the production of sweet potato was 65.99 mandays per hectare. It ranged from 52.97 mandays per hectare in Agusan del Sur to 81.42 mandays per hectare in Camarines Sur.
- By source, operator labor contributed the biggest labor input at 23.43 mandays per hectare. Family members and hired farm workers accounted for 22.58 and 19.50 mandays per hectare, respectively. Exchange labor provided the least at 0.49 manday per hectare.
- Among the farm activities in sweet potato production, the highest labor requirement was observed in manual harvesting averaging 10.91 mandays per hectare. This was followed by planting activity which utilized 8.50 mandays per hectare. Higher labor inputs were reported for picking, plowing using animal, clearing of fields and manual weeding ranging from 4.30 mandays to 6.86 mandays per hectare.
- Provincewise, manual harvesting indicated high labor utilization in Agusan del Sur and Agusan del Norte at around 15 mandays per hectare each. Planting activity had the biggest labor inputs in Camarines Sur at 10.93 mandays per hectare and Quezon at 9.39 mandays per hectare. In Agusan del Norte, higher labor usage per hectare was reported for manual weeding at 11.77 mandays and clearing of fields at 8.99 mandays.

E. Average Production Costs and Returns of Sweet Potato

All Provinces

(Tables 23-24)

- In the six (6) provinces, the average cost of producing sweet potato was P25,998 per hectare. On a per kilogram basis, cost of production averaged P6.17.
- Cash costs at P9,523 were 36.63 percent of the total cost. Hired labor was the main expense item contributing P4,630 per hectare.
- About 11.89 percent or P3,090 per hectare were non-cash costs of which P2,062 were the cost of planting materials.
- Imputed costs contributed the biggest at P13,385 or 51.48 percent of all costs. Operator and family labor were the major cost items which totaled to P9,246.
- From the production of sweet potato averaged at 4,211 kilograms per hectare and planting materials at 387.12 kilograms, the gross returns of farmers totaled P56,568 per hectare. Returns above cash costs averaged P47,045. Returns above cash and non-cash costs were computed at P43,954. Net returns averaged P30,570 per hectare. Farmers netted P1.18 for every peso invested in sweet potato production.
- Average variable costs of P23,737 per hectare comprised 91.30 percent of all costs. The remaining cost comprised the fixed costs at P2,261 per hectare.

Quezon

(Tables 25-26)

- On a per hectare basis, the cost of sweet potato production in Quezon averaged P36,824 per hectare. Per kilogram, it amounted to P7.50.
- Cash costs were computed at P18,830 or 51 percent of the total cost. Major cash cost items were hired labor at P8,237 and fertilizers at P3,691 and repairs at P3,190.
- Non-cash expenses accounted for 14 percent or equivalent to P5,248 per hectare. Of this amount, P4,267 were cost of planting materials.
- Imputed costs totaled P12,747 per hectare. The main cost items were operator labor and family labor valued at P5,077 and P3,170, respectively.

- Sweet potato farmers grossed P67,502 per hectare from an average production of 4,909 kilograms of sweet potato roots and 376.90 kilograms of planting materials.
- After deducting cash costs, returns were computed at P48,672 per hectare. When both cash and non-cash costs were subtracted, returns averaged P43,425 per hectare. Sweet potato farmers netted P30,678 per hectare. There was a gain of P0.83 for every peso of investment in sweet potato farming.
- Average variable costs of production amounted to P33,855 per hectare or 92 percent of all costs. Fixed costs amounted to P2,968.

Camarines Sur
(Tables 27-28)

- In Camarines Sur, the average cost of production of sweet potato per hectare was P30,057. On a per kilogram basis, production cost was P7.59.
- Cash costs at P9,245 per hectare constituted about 31 percent of all costs. Hired labor was the biggest cost item at P4,891 per hectare.
- Non-cash costs at 12 percent corresponded to P3,545 per hectare. Farmers' own-produced planting materials comprised the bulk of the costs at P2,922.
- Imputed costs which averaged P17,266 per hectare accounted for 57 percent of the total production cost. The combined costs of operator and family labor contributed the big expense item at P11,452.
- Production of sweet potato in Camarines Sur averaged P3,961 kilograms per hectare. In addition, planting materials harvested were 655 kilograms. Together, gross earnings of sweet potato farmers amounted to P57,759 per hectare.
- Farm receipts over cash costs were computed at P48,514. Above cash and non-cash costs, farmers received P44,969 per hectare. Net earnings stood at P27,703 per hectare. For every peso of investment in sweet potato production, farmers had net earnings of P0.92.
- On the average, the variable costs of production amounted to P26,814 or 89 percent of all costs. Fixed costs at 11 percent averaged P3,242 per hectare.

Negros Occidental
(Tables 29-30)

- The cost incurred by farmers in Negros Occidental in producing sweet potato averaged at P23,190 per hectare. Production cost was P7.38 per kilogram.
- Cash outlays at P8,462 per hectare shared 36 percent in the total production cost. The main expense items were hired labor at P3,758, repairs at P1,672 and fertilizers at P1,385.
- About 14 percent equivalent to P3,356 per hectare were non-cash costs. Of this amount, P2,294 were spent for planting materials.
- Imputed costs comprised 49 percent or P11,372 per hectare. The bulk of the cost came from the opportunity cost of operator and family labor which totaled P5,388 per hectare.
- In Negros Occidental, sweet potato production per hectare averaged 3,141 kilograms. The quantity of planting materials harvested was 1,082 kilograms. Gross value of outputs summed up to P36,901 per hectare.
- Returns above cash costs were computed at P28,439 while returns above cash and non-cash costs were P25,083 per hectare. After deducting all costs, farmers netted P13,711 per hectare. Sweet potato farmers realized a net gain of P0.59 for every peso of investment.
- Variable costs of production averaged P19,872 per hectare. This accounted for 86 percent in the total production cost. The rest of the cost at P3,318 per hectare were fixed costs.

Bohol
(Tables 31-32)

- In Bohol, sweet potato production entailed an average cost of P30,618 per hectare or P10.20 per kilogram.
- About 26 percent of the production cost or P7,955 per hectare were allocated for cash expenses. Hired labor at P3,664 per hectare was the leading cost item.
- Non-cash costs shared 11 percent or P3,501 per hectare of which landowner's share contributed the biggest expenses at P2,940 per hectare.

- Imputed costs amounted to P19,163 or 63 percent of all cost. Major imputed cost items were opportunity costs of operator and family labor valued at P10,641 per hectare.
- Farmers in Bohol produced an average of 3,001 kilograms of sweet potato roots and 272 kilograms of planting materials. Gross earnings of sweet potato farmers figured to P49,428 per hectare.
- Returns above cash costs averaged P41,474 while returns above cash and non-cash costs were P37,973 per hectare. Net returns averaged P18,811 per hectare. Farmers netted P0.61 for every peso of investment in producing sweet potato.
- Variable cost of production shared 91 percent in the total production cost which averaged P27,859. On the other hand, the remaining cost were fixed costs averaged at P2,758 per hectare.

Agusan del Norte
(Tables 33-34)

- Sweet potato production in Agusan del Norte incurred an average cost of P21,246 per hectare or P4.07 per kilogram.
- Cash costs and non-cash costs shared 21 percent and 8 percent of total costs, respectively. These corresponded to P4,449 and P1,684 per hectare. The major expense items were hired labor valued at P2,953 per hectare and landowner's share valued at P1,029 per hectare.
- Imputed costs which comprised 71 percent of all costs amounted to P15,114 per hectare. Of this amount, P11,105 went to the costs of operator and family labor.
- Sweet potato production in Agusan del Norte averaged 5,224 kilograms per hectare. In addition, 98 kilograms of planting materials per hectare were produced during the reference period. With these outputs, sweet potato farmers had gross earnings at P71,772 per hectare.
- After deducting cash costs, returns were estimated at P67,323 per hectare. When both cash and non-cash costs were subtracted, returns figured to P65,639 per hectare. Net returns settled at P50,526 per hectare and realized a gain of P2.38 per peso of investment in sweet potato production.
- Average variable costs of production amounted to P20,244 per hectare or 95 percent of all costs. The 5 percent were fixed costs averaged at P1,002 per hectare.

Agusan del Sur
(Tables 35-36)

- Per hectare, the cost of sweet potato production in Agusan del Sur averaged P15,997 per hectare. It was P4.14 on a per kilogram basis.
- Cash costs amounted to P3,431 per hectare and this accounted for 21 percent in the total cost. The main contributor was the cost of hired labor at P2,123 per hectare.
- Non-cash costs at 5 percent corresponded to P802 per hectare. The biggest expense items were harvester's share at P349, landowner's share at P234 and planting materials at P214.
- Almost 74 percent of the production cost went to imputed cost valued at P11,764 per hectare. Of this amount, P8,733 were the opportunity cost of operator and family labor.
- In Agusan del Sur, sweet potato production per hectare averaged 3,867 kilograms and harvested an average of 40 kilograms of planting materials. Gross production was valued at P44,144.
- Returns above cash costs were estimated at P40,713. Returns above cash and non-cash costs stood at P39,911 per hectare. Net returns averaged P28,147 per hectare. Sweet potato farmers realized a net gain of P1.76 for every peso of investment.
- Variable costs of production averaged at P15,291 per hectare corresponded to 96 percent of the total cost. The rest were fixed costs at P706 per hectare.

Inter-provincial Comparisons
(Tables 37-38b)

- Among the six (6) provinces covered in the survey, average cost of production was highest in Quezon at P36,824 per hectare. The lowest was noted in Agusan Sur at P15,997 per hectare.
- Cash and non-cash costs were biggest in Quezon at P18,830 per hectare and P5,248 per hectare, respectively. The least costs were reported in Agusan del Sur at P3,431 per hectare for the cash outlays and P802 per hectare for the non-cash outlays. Imputed costs were higher in Bohol at P19,163 per hectare and Camarines Sur at P17,266 per hectare.

- Net of all costs, returns were highest in Agusan del Norte at P50,526. This was followed by Quezon at P30,678 per hectare. Negros Occidental recorded the lowest net returns averaged at P13,711 per hectare.
- The highest net profit-cost ratios were registered in Agusan del Norte at 2.38 and Agusan del Sur at 1.76. The least was noted in Negros Occidental at 0.59.

F. Other Information (Tables 39-48)

Disposition of Produce

- Across the provinces surveyed, bigger portion of sweet potato production at 83.29 percent was sold to trader. Only 3.90 percent were sold to co-farmers. Given away accounted for 3.71 percent while those for home consumption were 4.13 percent. Minimal proportion went to other dispositions.
- At the provincial level, the proportions of volume sold to trader were higher in Quezon at 92.15 percent, Camarines Sur at 89.46 percent and Agusan del Norte at 87.54 percent. It was least in Bohol at 55.73 percent and Agusan del Sur at 69.23 percent. Selling to co-farmers was biggest in Bohol at 14.61 percent and Agusan del Sur at 9.70 percent. Landowner's share was higher in Bohol at 5.57 percent.

Production Compared with Last Year

- When compared with last year's production, there were 43.56 percent of all the sample sweet potato farmers who reported that their production was lower this year while 19.78 percent mentioned higher production this year. About 28 percent cited that they had same level of production this year.
- By province, more than half of the sweet potato farmers interviewed in Camarines Sur and Negros Occidental stated the same production level this year compared with that of last year. This was reported by only 2.67 percent in Quezon. The proportion of sweet potato farmers who had lower production this year was higher in Quezon at 69.33 percent. Higher production this year was mentioned by 36 percent in Bohol.
- Among the sweet potato farmers who said higher production this year, the common reasons were good weather condition and usage of fertilizers as reported by 37.08 percent and 26.97 percent, respectively. The use of good quality planting materials contributed to higher production among 23.60 percent of the sweet potato farmers. There were 22.47 percent who reasoned that there was an increase in area.

- Negros Occidental had the biggest proportion of sweet potato farmers at 66.67 percent whose reason for higher production was good weather condition and 33.33 percent reasoned out the increase in area. The use of good quality planting materials was cited by 66.67 percent in Camarines Sur. In Quezon, there were 58.82 percent reporting on the use of fertilizer and good weather condition as their primary reasons in the increase in production this year.
- The foremost reason given by 66.63 percent of the sweet potato farmers who had lower production this year was the occurrence of bad weather condition. The presence of pest and diseases was reported by 28.06 percent. Only 13.78 percent stated the reduction in area. Only few gave reasons on low quality of planting materials and lack of fertilizers.
- In Quezon, 90.38 percent of the sweet potato farmers identified bad weather condition as the major contributory factor for their lower production this year. This was true for 86.96 percent in Negros Occidental and 70 percent in Agusan del Norte. The occurrence of pest and diseases caused lower production among 38 to 40 percent of the sweet potato farmers in Bohol, Camarines Sur and Agusan del Sur. There were 19.23 percent in Bohol whose reason was lack of fertilizer. Low quality of planting materials was the reason of 25 percent in Camarines Sur.

Problems Related to Production

- Across the representative provinces, the leading production problems were the incidence of pest and diseases and bad weather/calamities as reported by 42.22 percent and 41.33 percent, respectively. Lack of capital was voiced out by 16.89 percent. There were 18.67 percent who complained on poor/inadequate transport facilities.
- By province, Agusan del Norte and Bohol had the biggest percentages of sweet potato farmers who reported problem on pests and diseases at 57.33 percent and 53.33 percent, respectively. Meanwhile, 57.33 percent in Quezon and 40 to 46 percent in Bohol, Negros Occidental, Agusan del Sur and Agusan del Norte were constrained by bad weather condition. There were 46.67 percent in Camarines Sur whose problem was on rough or poor road/inadequate transport facilities. Lack of capital was the constraint of 37.33 percent in Camarines Sur.

Major Buyers of Produce

- Wholesaler-retailer was the major buyer of 42.22 percent of the sweet potato farmers. This was followed by wholesaler and assembler as reported by 22 percent and 16 percent, respectively. There were 13.11 percent who sold

their produce directly to consumers. Only few transacted with agents, retailers and processors.

- Sweet potato farmers who transacted with wholesaler-retailer were highest in Camarines Sur at 70.67 percent. Those who sold their produce to wholesaler were biggest in Quezon at 68 percent. In Agusan del Norte, assembler was major buyer of 76 percent of the sweet potato farmers, respectively. Transaction with retailers was cited by 25.33 percent in Camarines Sur. Direct selling to consumers was common among 40 percent in Bohol.

Problems Related to Marketing

- Price instability was the major marketing problem of 55.78 percent of all sample sweet potato farmers. Low price of produce was the constraint of 36 percent. There were 28 percent whose problem was on rough roads/high transport cost and 14 percent on limited buyer/ market outlets. Farmers who cited problem on lack of marketing information were 10.89 percent.
- There were 88 percent in Quezon and 76 percent in Camarines Sur who cited price instability as their dominant problem related to marketing. About 53.33 percent in Agusan del Sur and 49.33 percent in Agusan del Norte had complaints on the low price of the produce. Problems on rough roads and high transport costs were identified by 62.67 percent in Camarines Sur and 40 percent in Agusan del Sur.

Access to Credit

- During the reference period, only 1.33 percent of the sample sweet potato farmers had availed of loans for sweet potato production. Availment of loans was cited by 2.67 percent in Agusan del Sur and 1.33 percent each in Quezon, Camarines Sur, Negros Occidental and Agusan del Norte. Farmers in Bohol did not avail loan for sweet potato production.
- Of those sweet potato farmers who availed of loans, bank and private individual were the major sources of loan with 33.33 reporting. Some 16.67 percent borrowed from cooperatives and private lending institutions.
- All farmer-borrowers in Camarines Sur and Negros Occidental sourced their loan from private individuals. Meanwhile, farmers who availed loans in Agusan del Norte and Quezon borrowed from bank and private lending institutions, respectively. In Agusan del Sur, cooperative and banks were their sources of loans.

Access to Extension Services

- Awareness of government programs/interventions related to sweet potato production was stated by 11.33 percent of the sweet potato farmers in the 6 province covered in the survey. Of this group of farmers, 19.61 percent said that they availed benefits from the government programs/interventions.
- By province, the percentages of sweet potato farmers who were aware of government programs/interventions were higher in Camarines Sur at 22.67 percent and in Agusan del Sur at 17.33 percent. Only few were aware in Quezon at 1.33 percent, Bohol at 8 percent and Negros Occidental and Agusan del Norte at 9.33 percent each. There was no reported availment of benefits from government programs/interventions in Agusan del Norte, Camarines Sur and Quezon during the reference period. In Bohol, 83.33 percent of the sweet potato farmers who were aware of government programs/interventions were recipients of benefits. This was 14.29 percent in Negros Occidental and 30.77 percent in Agusan del Sur.
- Among the farmer-beneficiaries, about 70 percent received benefits in terms of planting materials and 30 percent participated in training on farming technology.
- At the provincial level, sweet potato farmers who availed government programs/interventions in Negros Occidental were beneficiaries of training on farming technology. On the other hand, farmer-beneficiaries in Agusan del Sur were recipients of planting materials. In Bohol, 60 percent and 40 percent of the farmer-beneficiaries availed benefits in terms of planting materials and farming technology, respectively.
- Among the beneficiaries of the government programs/interventions, 50 percent of the sweet potato farmers used benefits, and 40 percent of them reported that these benefits helped increase their income.
- In Negros Occidental, all sweet potato farmers who were beneficiaries used the benefits in sweet potato production. Agusan del Sur had 75 percent who used the benefits and 33.33 percent of them reported an increase in their income. In Bohol, only 20 percent of the farmer-beneficiaries used the benefits but all of them had increase in their income.

Effect of Climate Change on Sweet Potato Farming

- There were 71.56 percent of the sweet potato farmers who cited that climate change affected their farming practices. Specially, this was stated by 38.67 percent in Camarines Sur to 93.33 percent in Agusan del Sur.

- As to the effect of climate change, decrease in yield was reported by 67.70 percent followed by change in cropping pattern by 62.42 percent. The decrease in yield was cited by 83.08 percent in Bohol. The change in cropping pattern was identified by 79 to 83 percent in Negros Occidental, Quezon and Camarines Sur.

Membership in Organization and Type of Benefit Received

- Only 1.33 percent of sweet potato farmers in the (6) six provinces were members of farmers' organizations. Membership was solely noted in Quezon as reported by 8 percent of the sweet potato farmers.
- All farmer-members of the organization in Quezon were beneficiaries of training/seminars.

Plans of Sweet Potato Farmers

- Across the representative provinces, 61.11 percent of the sweet potato farmers had plans to maintain their current operations, 38 percent wanted to expand their operations and 0.89 percent decided to stop their operations.
- In particular, 72 to 80 percent in Camarines Sur, Quezon and Negros Occidental will maintain their current operations. Expansion in operations was the plan of 57 percent in Agusan del Norte and 64 percent in Agusan del Sur. There were only few who would like to stop operations in Camarines Sur, Negros Occidental and Agusan del Sur.

Recommendations to Further Improve Sweet Potato Production

- Financial support for sweet potato production was the recommendation of 67.78 percent of the sweet potato farmers in the (6) six producing provinces. Price support was cited by 47.56 percent and provision of modern farming technologies by 43.56 percent. There were 16.44 percent who recommended regulation of prices of farm inputs and 19.11 percent on the provision of infrastructure facilities. Other recommendations included addressing environmental concerns, implementing land reform program, soil testing analysis, input and marketing support
- By province, those who sought for financial support were higher in Bohol at 76 percent, Agusan del Norte at 85.33 percent and Agusan del Sur at 90.67 percent. There were 76 percent of the farmers in Camarines Sur who recommended the provision of modern farming technologies while 45 percent proposed the provision of infrastructure facilities. Price support was another main concern of 74.67 percent in Agusan del Sur.

Statistical Tables

Table 1. Percentage distribution of sweet potato farmers by sex, selected provinces, May 2013 - April 2014

Province	Male	Female
All Provinces	82.00	18.00
Quezon	100.00	
Camarines Sur	77.33	22.67
Negros Occidental	68.00	32.00
Bohol	90.67	9.33
Agusan del Norte	82.67	17.33
Agusan del Sur	73.33	26.67

Table 2. Average age and percentage distribution of sweet potato farmers by age group, selected provinces, May 2013 - April 2014

Province	Average Age (years)	Age Group (years)					
		< 31	31 - 40	41 - 50	51 - 60	61 - 70	> 70
(in percent)							
All Provinces	52	3.33	15.78	26.44	32.67	14.67	7.11
Quezon	50	1.33	18.67	32.00	32.00	12.00	4.00
Camarines Sur	53	1.33	12.00	26.67	38.67	17.33	4.00
Negros Occidental	52	4.00	13.33	29.33	32.00	12.00	9.33
Bohol	55		17.33	20.00	32.00	16.00	14.67
Agusan del Norte	50	10.67	13.33	29.33	26.67	14.67	5.33
Agusan del Sur	51	2.67	20.00	21.33	34.67	16.00	5.33

Table 3. Percentage distribution of sweet potato farmers by educational attainment, selected provinces, May 2013 - April 2014

Province	Elementary Level	Elementary Graduate	High School Level	High School Graduate	College Level	College Graduate	Vocational	No Schooling
All Provinces	42.44	24.89	13.11	9.78	3.11	2.89	0.89	2.89
Quezon	21.33	28.00	22.67	18.67	4.00	4.00	1.33	
Camarines Sur	33.33	37.33	16.00	4.00	1.33		2.67	5.33
Negros Occidental	42.67	25.33	6.67	9.33	10.67	2.67		2.67
Bohol	50.67	24.00	6.67	8.00	1.33	6.67	1.33	1.33
Agusan del Norte	45.33	20.00	14.67	14.67	1.33	2.67		1.33
Agusan del Sur	61.33	14.67	12.00	4.00		1.33		6.67

Table 4. Average farming experience of sweet potato farmers and percentage distribution by number of years engaged in sweet potato production, selected provinces, May 2013 - April 2014

Province	Average Farming Experience (years)	Years			
		< 11	11 - 20	21 - 30	> 30
<div>(in percent)</div>					
All Provinces	17	46.00	22.89	15.56	15.56
Quezon	17	41.33	28.00	14.67	16.00
Camarines Sur	15	56.00	14.67	21.33	8.00
Negros Occidental	15	49.33	30.67	12.00	8.00
Bohol	20	45.33	14.67	12.00	28.00
Agusan del Norte	16	49.33	20.00	17.33	13.33
Agusan del Sur	19	34.67	29.33	16.00	20.00

Table 5. Percentage distribution of sweet potato farmers by main occupation, selected provinces, May 2013 - April 2014

Province	Officials of the Government and Special Interest Organizations, Corporate Executives, Managers Managing Proprietors and Supervisors	Clerks	Service Workers and Shop and Market Sales Workers
All Provinces	2.00	0.22	0.67
Quezon			
Camarines Sur	2.67		1.33
Negros Occidental	6.67		1.33
Bohol	1.33		
Agusan del Norte			1.33
Agusan del Sur	1.33	1.33	

Table 5. *Concluded*

Province	Farmers, Forestry Workers and Fishermen			Craft and Related Trades Workers	Plant and Machine Operators and Assemblers	Elementary Occupation: Laborers and Unskilled Workers
	Field Crop Farmers	Orchard Farmers	Livestock Farmers			
All Provinces	78.89	10.22	0.67	0.89	0.89	5.56
Quezon	93.33		1.33			5.33
Camarines Sur	73.33	14.67	2.67	1.33		4.00
Negros Occidental	77.33			1.33	2.67	10.67
Bohol	80.00	9.33		1.33		8.00
Agusan del Norte	74.67	16.00		1.33	2.67	4.00
Agusan del Sur	74.67	21.33				1.33

Table 6. Average farm size, area planted and harvested of sweet potato farm parcels, selected provinces, May 2013 - April 2014

(in hectare)

Province	Farm Size	Farm Parcel	
		Area Planted	Area Harvested
All Provinces	0.58	0.44	0.44
Quezon	0.91	0.68	0.68
Camarines Sur	0.48	0.48	0.48
Negros Occidental	0.51	0.31	0.31
Bohol	0.56	0.22	0.22
Agusan del Norte	0.49	0.43	0.43
Agusan del Sur	0.55	0.55	0.55

Table 7. Percentage distribution of sweet potato farm parcels by tenurial status, selected provinces, May 2013 - April 2014

Province	Fully Owned	Leased / Rented	Tenanted	Rent Free	Owner-like Possession	Held under CLT / CLOA	Others ^{a/}
All Provinces	13.33	4.67	22.89	29.33	20.67	5.56	3.56
Quezon	13.33	18.67	34.67	28.00		1.33	4.00
Camarines Sur	25.33	4.00	34.67	29.33	1.33	4.00	1.33
Negros Occidental	9.33		9.33	36.00	32.00	12.00	1.33
Bohol	14.67		29.33	14.67	26.67	10.67	4.00
Agusan del Norte	8.00	2.67	28.00	28.00	28.00	1.33	4.00
Agusan del Sur	9.33	2.67	1.33	40.00	36.00	4.00	6.67

a/ Include: amortized, mortgaged, protected area, certification patent, stewardship and squatter

Table 8. Percentage of sweet potato farmers by type of farm investment owned and used in sweet potato farm parcels, selected provinces, May 2013 - April 2014

Farm Investment	All Provinces	Quezon	Camarines Sur	Negros Occidental	Bohol	Agusan del Norte	Agusan del Sur
Work animals							
Carabao	50.89	52.00	68.00	57.33	65.33	44.00	18.67
Cattle	1.56	8.00		1.33			
Horse	6.00	36.00					
Farm buildings and other structures							
Farm house	27.11	34.67	26.67	18.67	9.33	34.67	38.67
Warehouse / Storage	0.44	1.33				1.33	
Farm machinery							
Two-wheel tractor	0.89	1.33		1.33	2.67		
Farm vehicles	1.56	5.33		2.67	1.33		
Trailer/cart	2.00	1.33		2.67	1.33	2.67	4.00
Grass cutter	1.33	6.67	1.33				
Others ^{a/}	0.44			2.67			
Farm tools and implements							
Plow	54.22	68.00	62.67	64.00	70.67	41.33	18.67
Harrow	29.33	58.67	40.00	20.00	17.33	28.00	12.00
Sprayer	9.56	42.67		14.67			
Weeder	2.22		1.33	12.00			
Shovel	20.89	49.33	5.33	42.67	9.33	9.33	9.33
Bolo	94.00	88.00	100.00	90.67	88.00	98.67	98.67
Hoe	27.33	48.00	20.00	40.00	22.67	16.00	17.33
Sled	16.67		40.00	17.33	9.33	14.67	18.67
Spading fork	0.89			1.33	1.33	1.33	1.33
Post hole digger	9.33	13.33		13.33		4.00	25.33
Yoke	45.11	64.00	49.33	45.33	70.67	20.00	21.33
Rake	5.56	22.67	2.67	1.33	1.33		5.33
Weighing Scale	16.89	34.67	1.33	17.33	18.67	21.33	8.00
Crates	1.11					2.67	4.00
Others ^{b/}	10.89	1.33		34.67	13.33	2.67	13.33

a/ Include: electric pump and motorcycle

b/ Include: trowel, pointed metal, scythe, sickle, ax, plastic container, mattock and crew bar

Table 9. Percentage distribution of sweet potato farmers by main use of sweet potato planted, selected provinces, May 2013 - April 2014

Province	Food	Feed
All Provinces	99.78	0.22
Quezon	100.00	
Camarines Sur	100.00	
Negros Occidental	100.00	
Bohol	98.67	1.33
Agusan del Norte	100.00	
Agusan del Sur	100.00	

Table 10. Percentage of sweet potato farmers by source of planting materials, selected provinces, May 2013 - April 2014

Province	DA - RFO	Cooperative	Co-Farmer	Own Produced
All Provinces	1.33	0.22	51.33	47.33
Quezon			22.67	78.67
Camarines Sur			49.33	50.67
Negros Occidental			38.67	61.33
Bohol	4.00		50.67	45.33
Agusan del Norte		1.33	65.33	33.33
Agusan del Sur	4.00		81.33	14.67

Table 11. Percentage distribution of sweet potato farmers by month of planting, selected provinces, December 2012 - January 2014

Province	2012	2013												2014
	December	January	February	March	April	May	June	July	August	September	October	November	December	January
All Provinces	0.89	1.78	1.78	2.00	5.33	9.33	8.00	7.78	7.56	10.89	11.33	18.67	8.89	5.78
Quezon		2.67	9.33	2.67	5.33	18.67	4.00	17.33	8.00	6.67	1.33	6.67	5.33	12.00
Camarines Sur		1.33	1.33	1.33	2.67	13.33	12.00	4.00	12.00	9.33	20.00	16.00	6.67	
Negros Occidental				1.33	2.67	5.33	2.67	6.67	1.33	9.33	12.00	21.33	17.33	20.00
Bohol	1.33				2.67	5.33	14.67	4.00	4.00	21.33	8.00	30.67	6.67	1.33
Agusan del Norte	1.33	2.67		4.00	12.00	4.00	5.33	6.67	9.33	10.67	9.33	25.33	8.00	1.33
Agusan del Sur	2.67	4.00		2.67	6.67	9.33	9.33	8.00	10.67	8.00	17.33	12.00	9.33	

Table 12. Percentage distribution of sweet potato farmers by month of harvesting, selected provinces, May 2013 - April 2014

Province	2013								2014			
	May	June	July	August	September	October	November	December	January	February	March	April
All Provinces	2.67	3.11	2.00	6.00	7.33	6.67	8.22	9.78	8.22	8.67	17.33	20.00
Quezon	5.33	8.00	4.00	6.67	17.33	9.33	12.00	9.33	2.67	8.00	5.33	12.00
Camarines Sur	2.67	1.33	2.67	9.33	13.33	2.67	5.33	12.00	6.67	17.33	18.67	8.00
Negros Occidental			1.33	5.33	2.67	5.33	5.33	5.33	12.00	4.00	33.33	25.33
Bohol	1.33			1.33	4.00	6.67	6.67	13.33	9.33	10.67	16.00	30.67
Agusan del Norte	4.00	5.33	1.33	9.33		6.67	9.33	9.33	10.67	2.67	25.33	16.00
Agusan del Sur	2.67	4.00	2.67	4.00	6.67	9.33	10.67	9.33	8.00	9.33	5.33	28.00

Table 13. Percentage of sweet potato farmers by type of labor used in land preparation, selected provinces, May 2013 - April 2014

Province	Man-Animal	Man-Machine	
		Two-Wheel Tractor	Four-Wheel Tractor
All Provinces	76.22	1.11	1.33
Quezon	98.67	2.67	5.33
Camarines Sur	88.00		
Negros Occidental	89.33	1.33	
Bohol	92.00	2.67	2.67
Agusan del Norte	65.33		
Agusan del Sur	24.00		

Table 14. Percentage of sweet potato farmers by method of weeding, selected provinces, May 2013 - April 2014

Province	Manual	Chemical Spraying
All Provinces	73.56	10.00
Quezon	61.33	53.33
Camarines Sur	86.67	
Negros Occidental	70.67	
Bohol	76.00	
Agusan del Norte	68.00	1.33
Agusan del Sur	78.67	5.33

Table 15. Percentage of sweet potato farmers by type of fertilizers used, selected provinces, May 2013 - April 2014

Fertilizers	All Provinces	Quezon	Camarines Sur	Negros Occidental	Bohol	Agusan del Norte	Agusan del Sur
Organic Fertilizer	9.33	54.67	1.33				
Inorganic Fertilizer							
Urea (45-0-0)	1.33	4.00		1.33	1.33	1.33	
Urea (46-0-0)	8.67	36.00		13.33		2.67	
Ammonium Sulfate (21-0-0)	1.33			6.67			1.33
Ammonium Phosphate (16-20-0)	4.22	10.67	8.00	5.33			1.33
Complete (12-12-12)	0.22			1.33			
Complete (14-14-14)	10.00	22.67	10.67	6.67	18.67		1.33
Others ^{a/}	0.44			2.67			

a/ Include: crop giant (15-15-30) and Di-ammonium phosphate (18-46-00)

Table 16. Percentage of sweet potato farmers by type of pesticides used, selected provinces, May 2013 - April 2014

Province	Herbicides / Weedicides	Insecticides	Fungicides	Rodenticides
	In Liter		In Kilogram	
All Provinces	10.00	1.56	0.22	3.33
Quezon	53.33	1.33	1.33	18.67
Camarines Sur				
Negros Occidental		6.67		1.33
Bohol				
Agusan del Norte	1.33			
Agusan del Sur	5.33	1.33		

Table 17. Average quantity of planting materials used per hectare by mode of acquisition, selected provinces, May 2013 - April 2014

(in kilogram)

Province	All Sources	Purchased ^{a/}	Own Produced	Received
All Provinces	813.21	30.33	567.48	215.40
Quezon	1,621.72	20.15	1,367.37	234.20
Camarines Sur	975.23	13.86	621.72	339.65
Negros Occidental	820.34	139.32	594.40	86.62
Bohol	421.25	17.06	212.58	191.60
Agusan del Norte	149.45	31.12	78.93	39.40
Agusan del Sur	339.79		36.52	303.26

a/ Include: paid in cash and in kind

Table 18. Average quantity of fertilizers applied per hectare by type, selected provinces, May 2013 - April 2014

(in kilogram)

Fertilizers	All Provinces	Quezon	Camarines Sur	Negros Occidental	Bohol	Agusan del Norte	Agusan del Sur
Organic Fertilizer	350.49	1,358.82	25.50				
Inorganic Fertilizer							
Urea (45-0-0)	0.74	1.43		2.14	1.53	0.03	
Urea (46-0-0)	11.97	36.56		22.65		0.09	
Ammonium Sulfate (21-0-0)	2.19			16.56			1.22
Ammonium Phosphate (16-20-0)	5.83	4.13	13.99	17.09			1.22
Complete (12-12-12)	0.50			4.27			
Complete (14-14-14)	18.12	28.89	32.05	9.62	46.31		0.30
Others ^{a/}	0.03			0.22			

a/ Include: crop giant (15-15-30) and Di-ammonium phosphate (18-46-0)

Table 19. Average quantity of fertilizer nutrients applied per hectare, selected provinces, May 2013 - April 2014

(in kilogram)

Province	Nitrogen	Phosphorous	Potassium
All Provinces	9.84	3.77	2.60
Quezon	22.16	4.87	4.05
Camarines Sur	6.73	7.29	4.49
Negros Occidental	19.49	5.38	1.86
Bohol	7.17	6.48	6.48
Agusan del Norte	0.06		
Agusan del Sur	0.49	0.29	0.04

Table 20. Average quantity of pesticides applied per hectare by type, selected provinces, May 2013 - April 2014

Province	Herbicides / Weedicides	Insecticides	Fungicides	Rodenticides
	In Liter		In Kilogram	
All Provinces	0.41	0.01	0.03	a/
Quezon	1.46	0.02	0.12	0.01
Camarines Sur				
Negros Occidental		0.04		a/
Bohol				
Agusan del Norte	0.03			
Agusan del Sur	0.15	0.01		

a/ Less than 0.01 kilogram

Table 21. Average labor utilization per hectare of sweet potato production by source of labor, selected provinces, May 2013 - April 2014

(manday)

Province	All Sources	Operator Labor	Family Labor	Exchange Labor	Hired Labor
All Provinces	65.99	23.43	22.58	0.49	19.50
Quezon	61.44	17.90	12.22	0.85	30.47
Camarines Sur	81.42	25.92	34.14	0.17	21.19
Negros Occidental	56.89	19.81	19.81		17.26
Bohol	75.70	30.97	27.10		17.63
Agusan del Norte	74.24	29.52	28.58	1.35	14.79
Agusan del Sur	52.97	22.39	20.34	0.13	10.11

Table 22. Average labor utilization per hectare of sweet potato production by farm activity, selected provinces, May 2013 - April 2014

(manday)

Farm Activity	All Provinces	Quezon	Camarines Sur	Negros Occidental	Bohol	Agusan del Norte	Agusan del Sur
Land Preparation							
Clearing of fields	5.44	2.14	8.25	3.59	1.79	8.99	6.78
Plowing							
Man-Animal	5.01	4.16	7.04	5.49	11.83	4.95	1.34
Man-Machine (Two-Wheel)	c/			0.01			
Man-Machine (Four-Wheel)	0.01	0.02					
Harrowing							
Man-Animal	2.30	2.55	4.37	2.00	1.25	2.52	0.57
Man-Machine (Two-Wheel)	0.04	0.12		0.01	0.05		
Man-Machine (Four-Wheel)	0.01	0.04			0.02		
Furrowing							
Man-Animal	2.32	2.68	3.48	1.92	3.47	2.24	0.67
Man-Machine (Two-Wheel)							
Man-Machine (Four-Wheel)	c/				0.04		
Preparation of planting materials	3.25	4.18	3.12	3.13	2.86	3.16	2.52
Hauling of planting materials	1.23	1.27	1.30	1.18	1.20	1.35	1.06
Planting	8.50	9.39	10.93	9.26	8.08	6.56	6.52
Replanting	0.13	0.12	0.02	0.12	0.12	0.43	0.04
Care of crops							
Fertilizer application	0.81	1.91	0.87	0.77	0.73	0.04	0.05
Fertilizer application (basal)	0.46	0.90	0.87	0.14	0.65	0.02	
Fertilizer application (side dressing)	0.24	0.69		0.32	0.08	0.02	0.05
Fertilizer application (top dressing)	0.12	0.31		0.31			
Manual Weeding	6.86	4.98	5.91	5.99	8.30	11.77	6.12
Chemical spraying (weedicides)	0.28	0.80				0.02	0.38
Off-barring (man-animal)	0.36	0.10	0.05	0.43	1.87	0.77	0.01
Hilling-up							
Man	2.11	1.98	4.06	1.89	1.19	2.10	1.09
Man-Animal	0.85	0.67	1.90	0.87	1.25	0.56	0.22
Pesticide application ^{a/}	0.04	0.12		0.05			c/

Table 22. *Concluded*

(manday)

Farm Activity	All Provinces	Quezon	Camarines Sur	Negros Occidental	Bohol	Agusan del Norte	Agusan del Sur
Harvesting							
Man	10.91	7.42	7.81	7.40	13.48	15.28	15.50
Man-Animal	2.03	2.68	4.85	1.83	1.81	0.16	0.43
Man-Machine	0.04		0.17		0.11		
Picking	4.30	4.73	5.60	3.33	4.36	5.12	2.49
Sorting	2.66	3.27	3.50	1.76	3.65	2.97	1.05
Bagging	2.96	2.29	4.69	3.82	2.94	2.91	1.82
Hauling							
Man	1.38	0.63	1.05	0.82	2.76	1.64	2.19
Man-Animal	1.27	1.92	2.47	0.52	0.67	0.32	0.79
Man-Machine	0.10	0.36		0.03	0.06		0.02
Washing / Cleaning	0.65	0.53		0.67	1.27	0.40	1.29
Others^{b/}	0.14	0.38			0.56		
TOTAL	65.99	61.44	81.41	56.89	75.70	74.24	52.97

a/ Other than weedicides

b/ Include: clearing (man-machine), pulverizing the soil using hoe, and digging

c/ Less than 0.01 manday

Table 23. Average production costs and returns of sweet potato per hectare, selected provinces, May 2013 - April 2014

Item	Per Hectare			Per Farm (P)	Per Kilogram (P)
	Quantity	Unit	Value (P)		
Production					
Sweet potato roots	4,211.13	kg.	54,652	24,273	12.98
Planting materials	387.12	kg.	1,916	851	4.95
Area harvested = 0.55 ha.					
Number of farms = 75					
CASH COSTS			9,523	4,229	2.26
Planting materials	29.26	kg.	118	53	0.03
Organic fertilizers					
Solid	332.78	kg.	501	223	0.12
Inorganic fertilizers					
Solid	39.32	kg.	930	413	0.22
Pesticides					
Solid	0.03	kg.	7	3	e/
Liquid	0.42	L	166	74	0.04
Hired labor	18.98	mandays	4,630	2,056	1.10
Land tax			51	23	0.01
Caretaker / overseer's wages			25	11	0.01
Rentals:					
Land			186	83	0.04
Machine			20	9	e/
Animals			63	28	0.01
Tools and equipment			17	8	e/
Fuel	0.30	L	15	7	e/
Oil	0.04	L	4	2	e/
Transport cost of inputs			74	33	0.02
Interest payment on crop loan			18	8	e/
Storage costs			3	1	e/
Electricity			20	9	e/
Water			3	1	e/
Landowner's share			498	221	0.12
Repairs			1,427	634	0.34
Food expense			516	229	0.12
Others ^{a/}			228	101	0.05
NON-CASH COSTS			3,090	1,372	0.73
Planting materials	568.54	kg.	2,062	916	0.49
Organic fertilizers					
Solid	6.45	kg.	8	4	e/
Hired Labor	0.20	mandays	26	11	0.01
Harvesters' share	10.04	kg.	112	50	0.03
Rentals:					
Land	0.58	kg.	6	3	e/
Animals	0.23	kg.	2	1	e/
Landowner's share	57.57	kg.	874	388	0.21

Table 23. *Concluded*

Item	Per Hectare			Per Farm (P)	Per Kilogram (P)
	Quantity	Unit	Value (P)		
IMPUTED COSTS			13,385	5,945	3.18
Planting materials	215.40	kg.	709	315	0.17
Organic fertilizers					
Solid	11.26	kg.	14	6	e/
Inorganic fertilizers					
Solid	0.06	kg.	2	1	e/
Pesticides					
Solid	c/	kg.	d/	d/	e/
Operator labor	23.43	mandays	4,850	2,154	1.15
Family labor	22.58	mandays	4,396	1,952	1.04
Exchange labor	0.49	mandays	124	55	0.03
Depreciation			264	117	0.06
Interest on operating capital			364	162	0.09
Rental value of owned land			910	404	0.22
Rentals:					
Land			441	196	0.10
Machine			3	1	e/
Animals			1,204	535	0.29
Tools and equipment			30	14	0.01
Fuel	0.10	L	5	2	d/
Transport cost of inputs			44	20	0.01
Storage costs			1	d/	e/
Land Tax			20	9	e/
Others ^{b/}			5	2	e/
TOTAL COSTS			25,998	11,547	6.17
GROSS RETURNS			56,568	25,124	13.43
RETURNS ABOVE CASH COSTS			47,045	20,894	11.17
RETURNS ABOVE CASH AND NON-CASH COSTS			43,954	19,522	10.44
NET RETURNS			30,570	13,577	7.26
NET PROFIT-COST RATIO			1.18	1.18	1.18

a/ Include: basket, can, pail, water dipper, plastic bag, sack, tying materials and pointed wood (harvesting tool)

b/ Include: can, sack and pointed wood (harvesting tool)

c/ Less than 0.01 kilogram

d/ Less than P 1.00

e/ Less than P 0.01

Table 24. Average variable and fixed production costs of sweet potato, selected provinces, May 2013 - April 2014

(in peso)

Item	Per Hectare	Per Farm	Per Kilogram
VARIABLE COSTS	23,737	10,542	5.64
Planting materials	2,889	1,283	0.69
Fertilizers			
Organic			
Solid	523	232	0.12
Inorganic			
Solid	932	414	0.22
Pesticides			
Solid	7	3	b/
Liquid	166	74	0.04
Labor			
Hired labor	4,655	2,067	1.11
Operator labor	4,850	2,154	1.15
Family labor	4,396	1,952	1.04
Exchange labor	124	55	0.03
Caretaker / overseer's wages	25	11	0.01
Rentals:			
Machine	23	10	0.01
Animals	1,269	564	0.30
Tools and equipment	48	21	0.01
Fuel	20	9	b/
Oil	4	2	b/
Transport costs of inputs	119	53	0.03
Storage costs	3	1	b/
Electricity costs	20	9	b/
Water	3	1	b/
Repairs	1,427	634	0.34
Food expense	516	229	0.12
Harvesters' share	112	50	0.03
Landowner's share	1,373	610	0.33
Others ^{a/}	234	104	0.06
FIXED COSTS	2,261	1,004	0.54
Land tax	71	32	0.02
Lease rental	634	282	0.15
Interest payment on crop loan	18	8	b/
Depreciation	264	117	0.06
Interest on operating capital	364	162	0.09
Rental value of owned land	910	404	0.22
TOTAL COSTS	25,998	11,547	6.17

a/ Include: basket, can, pail, water dipper, plastic bag, sack, tying materials and pointed wood (harvesting tool)

b/ Less than P 0.01

Table 25. Average production costs and returns of sweet potato per hectare, Quezon, May 2013 - April 2014

Item	Per Hectare			Per Farm (P)	Per Kilogram (P)
	Quantity	Unit	Value (P)		
Production					
Sweet potato roots	4,908.57	kg.	65,818	44,647	13.41
Planting materials	376.90	kg.	1,684	1,142	4.47
Area harvested = 0.55 ha.					
Number of farms = 75					
CASH COSTS			18,830	12,773	3.84
Planting materials	20.15	kg.	59	40	0.01
Organic fertilizers					
Solid	1,289.24	kg.	1,941	1,317	0.40
Inorganic fertilizers					
Solid	71.01	kg.	1,750	1,187	0.36
Pesticides					
Solid	0.13	kg.	28	19	0.01
Liquid	1.48	L	580	393	0.12
Hired labor	30.47	mandays	8,237	5,587	1.68
Land tax			21	14	c/
Caretaker / overseer's wages			98	67	0.02
Rentals:					
Land			617	418	0.13
Machine			10	7	c/
Animals			61	41	0.01
Tools and equipment			8	5	c/
Fuel	0.53	L	29	20	0.01
Oil	0.09	L	9	6	c/
Transport cost of inputs			140	95	0.03
Interest payment on crop loan			5	3	c/
Storage costs			10	7	c/
Water			12	8	c/
Landowner's share			1,309	888	0.27
Repairs			3,190	2,164	0.65
Food expense			471	319	0.10
Others ^{a/}			246	167	0.05
NON-CASH COSTS			5,248	3,560	1.07
Planting materials	1,367.37	kg.	4,267	2,894	0.87
Organic fertilizers					
Solid	25.36	kg.	32	22	0.01
Landowner's share	56.02	kg.	948	643	0.19

Table 25. *Concluded*

Item	Per Hectare			Per Farm (P)	Per Kilogram (P)
	Quantity	Unit	Value (P)		
IMPUTED COSTS			12,747	8,646	2.60
Planting materials	234.20	kg.	757	514	0.15
Organic fertilizers					
Solid	44.23	kg.	53	36	0.01
Pesticides					
Solid	b/	kg.	1	1	c/
Operator labor	17.90	mandays	5,077	3,444	1.03
Family labor	12.22	mandays	3,170	2,151	0.65
Exchange labor	0.85	mandays	270	183	0.05
Depreciation			213	145	0.04
Interest on operating capital			722	490	0.15
Rental value of owned land			618	419	0.13
Rentals:					
Land			768	521	0.16
Machine			10	7	c/
Animals			848	575	0.17
Tools and equipment			62	42	0.01
Transport cost of inputs			173	117	0.04
Land tax			4	3	c/
TOTAL COSTS			36,824	24,979	7.50
GROSS RETURNS			67,502	45,789	13.75
RETURNS ABOVE CASH COSTS			48,672	33,016	9.92
RETURNS ABOVE CASH AND NON-CASH COSTS			43,425	29,456	8.85
NET RETURNS			30,678	20,810	6.25
NET PROFIT-COST RATIO			0.83	0.83	0.83

a/ Include: sack and plastic bag

b/ Less than 0.01 kilogram

c/ Less than P 0.01

Table 26. Average variable and fixed production costs of sweet potato, Quezon, May 2013 - April 2014

(in peso)

Item	Per Hectare	Per Farm	Per Kilogram
VARIABLE COSTS	33,855	22,965	6.90
Planting materials	5,083	3,448	1.04
Fertilizers			
Organic			
Solid	2,027	1,375	0.41
Inorganic			
Solid	1,750	1,187	0.36
Pesticides			
Solid	29	19	0.01
Liquid	580	393	0.12
Labor			
Hired labor	8,237	5,587	1.68
Operator labor	5,077	3,444	1.03
Family labor	3,170	2,151	0.65
Exchange labor	270	183	0.05
Caretaker / overseer's wages	98	67	0.02
Rentals:			
Machine	20	13	b/
Animals	909	617	0.19
Tools and equipment	70	47	b/
Fuel	29	20	0.01
Oil	9	6	b/
Transport costs of inputs	312	212	0.06
Storage costs	10	7	b/
Water	12	8	b/
Repairs	3,190	2,164	0.65
Food expense	471	319	0.10
Landowner's share	2,257	1,531	0.46
Others ^{a/}	246	167	0.05
FIXED COSTS	2,968	2,013	0.60
Land tax	25	17	0.01
Lease rental	1,385	940	0.28
Interest payment on crop loan	5	3	b/
Depreciation	213	145	0.04
Interest on operating capital	722	490	0.15
Rental value of owned land	618	419	0.13
TOTAL COSTS	36,824	24,979	7.50

a/ Include: sack and plastic bag

b/ Less than P 0.01

Table 27. Average production costs and returns of sweet potato per hectare, Camarines Sur, May 2013 - April 2014

Item	Per Hectare			Per Farm (P)	Per Kilogram (P)
	Quantity	Unit	Value (P)		
Production					
Sweet potato roots	3,960.67	kg.	53,826	25,898	13.59
Planting materials	654.70	kg.	3,933	1,892	6.01
Area harvested = 0.55 ha.					
Number of farms = 75					
CASH COSTS			9,245	4,448	2.33
Planting materials	13.86	kg.	19	9	b/
Organic fertilizers					
Solid	25.50	kg.	38	18	0.01
Inorganic fertilizers					
Solid	46.04	kg.	1,145	551	0.29
Hired labor	21.15	mandays	4,891	2,353	1.23
Land tax			64	31	0.02
Rentals:					
Land			44	21	0.01
Animals			93	45	0.02
Tools and equipment			58	28	0.01
Transport cost of inputs			38	18	0.01
Interest payment on crop loan			28	13	0.01
Landowner's share			494	238	0.12
Repairs			1,099	529	0.28
Food expense			886	426	0.22
Others ^{a/}			349	168	0.09
NON-CASH COSTS			3,545	1,706	0.90
Planting materials	621.72	kg.	2,922	1,406	0.74
Harvesters' share	1.66	kg.	17	8	b/
Landowner's share	37.69	kg.	607	292	0.15

Table 27. *Concluded*

Item	Per Hectare			Per Farm (P)	Per Kilogram (P)
	Quantity	Unit	Value (P)		
IMPUTED COSTS			17,266	8,307	4.36
Planting materials	339.65	kg.	886	426	0.22
Operator labor	25.92	mandays	4,917	2,366	1.24
Family labor	34.14	mandays	6,535	3,144	1.65
Exchange labor	0.17	mandays	25	12	0.01
Depreciation			449	216	0.11
Interest on operating capital			349	168	0.09
Rental value of owned land			1,381	665	0.35
Rentals:					
Land			927	446	0.23
Machine			14	7	b/
Animals			1,740	837	0.44
Tools and equipment			43	21	0.01
TOTAL COSTS			30,057	14,461	7.59
GROSS RETURNS			57,759	27,790	14.58
RETURNS ABOVE CASH COSTS			48,514	23,342	12.25
RETURNS ABOVE CASH AND NON-CASH COSTS			44,969	21,636	11.35
NET RETURNS			27,703	13,329	6.99
NET PROFIT-COST RATIO			0.92	0.92	0.92

a/ Include: sack, plastic bag and tying materials

b/ Less than P 0.01

Table 28. Average variable and fixed production costs of sweet potato, Camarines Sur, May 2013 - April 2014

(in peso)

Item	Per Hectare	Per Farm	Per Kilogram
VARIABLE COSTS	26,814	12,901	6.77
Planting materials	3,827	1,841	0.97
Fertilizers			
Organic			
Solid	38	18	0.01
Inorganic			
Solid	1,145	551	0.29
Labor			
Hired labor	4,891	2,353	1.23
Operator labor	4,917	2,366	1.24
Family labor	6,535	3,144	1.65
Exchange labor	25	12	0.01
Rentals:			
Machine	14	7	b/
Animals	1,833	882	0.46
Tools and equipment	101	49	0.03
Transport costs of inputs	38	18	0.01
Repairs	1,099	529	0.28
Food expense	886	426	0.22
Harvesters' share	17	8	b/
Landowner's share	1,101	530	0.28
Others ^{a/}	349	168	0.09
FIXED COSTS	3,242	1,560	0.82
Land tax	64	31	0.02
Lease rental	971	467	0.25
Interest payment on crop loan	28	13	0.01
Depreciation	449	216	0.11
Interest on operating capital	349	168	0.09
Rental value of owned land	1,381	665	0.35
TOTAL COSTS	30,057	14,461	7.59

a/ Include: sack, plastic bag and tying materials

b/ Less than P 0.01

Table 29. Average production costs and returns of sweet potato per hectare, Negros Occidental, May 2013 - April 2014

Item	Per Hectare			Per Farm (P)	Per Kilogram (P)
	Quantity	Unit	Value (P)		
Production					
Sweet potato roots	3,141.44	kg.	32,468	10,130	10.34
Planting materials	1,081.58	kg.	4,433	1,383	4.10
Area harvested = 0.55 ha.					
Number of farms = 75					
CASH COSTS			8,462	2,640	2.69
Planting materials	132.69	kg.	513	160	0.16
Inorganic fertilizers					
Solid	72.55	kg.	1,385	432	0.44
Pesticides					
Solid	c/	kg.	1	d/	d/
Liquid	0.04	L	39	12	0.01
Hired labor	14.43	mandays	3,758	1,173	1.20
Land tax			145	45	0.05
Rentals:					
Animals			52	16	0.02
Fuel	0.26	L	13	4	d/
Oil	0.04	L	4	1	d/
Transport cost of inputs			65	20	0.02
Electricity			171	53	0.05
Landowner's share			75	23	0.02
Repairs			1,672	522	0.53
Food Expense			494	154	0.16
Others ^{a/}			76	24	0.02
NON-CASH COSTS			3,356	1,047	1.07
Planting materials	601.03	kg.	2,294	716	0.73
Hired labor	1.69	mandays	210	65	0.07
Harvesters' share	20.69	kg.	240	75	0.08
Rentals:					
Animals	1.92	kg.	18	6	0.01
Landowner's share	55.34	kg.	594	185	0.19

Table 29. *Concluded*

Item	Per Hectare			Per Farm (P)	Per Kilogram (P)
	Quantity	Unit	Value (P)		
IMPUTED COSTS			11,372	3,548	3.62
Planting materials	86.62	kg.	439	137	0.14
Operator labor	19.81	mandays	2,920	911	0.93
Family labor	19.81	mandays	2,468	770	0.79
Depreciation			384	120	0.12
Interest on operating capital			326	102	0.10
Rental value of owned land			1,994	622	0.63
Rentals:					
Land			438	137	0.14
Animals			2,269	708	0.72
Tools and equipment			26	8	0.01
Fuel	0.85	L	42	13	0.01
Transport cost of inputs			2	1	d/
Storage costs			6	2	d/
Land tax			30	9	0.01
Others ^{b/}			27	9	0.01
TOTAL COSTS			23,190	7,235	7.38
GROSS RETURNS			36,901	11,513	11.75
RETURNS ABOVE CASH COSTS			28,439	8,873	9.05
RETURNS ABOVE CASH AND NON-CASH COSTS			25,083	7,826	7.98
NET RETURNS			13,711	4,278	4.36
NET PROFIT-COST RATIO			0.59	0.59	0.59

a/ Include: sack, can and tying materials

b/ Include: sack and can

c/ Less than 0.01 kilogram

d/ Less than P 0.01

Table 30. Average variable and fixed production costs of sweet potato, Negros Occidental, May 2013 - April 2014

(in peso)

Item	Per Hectare	Per Farm	Per Kilogram
VARIABLE COSTS	19,872	6,200	6.33
Planting materials	3,247	1,013	1.03
Fertilizers			
Inorganic			
Solid	1,385	432	0.44
Pesticides			
Solid	1	b/	b/
Liquid	39	12	0.01
Labor			
Hired labor	3,968	1,238	1.26
Operator labor	2,920	911	0.93
Family labor	2,468	770	0.79
Rentals:			
Animals	2,339	730	0.74
Tools and equipment	26	8	0.01
Fuel	54	17	0.02
Oil	4	1	b/
Transport costs of inputs	68	21	0.02
Storage costs	6	2	b/
Electricity costs	171	53	0.05
Repairs	1,672	522	0.53
Food expense	494	154	0.16
Harvesters' share	240	75	0.08
Landowner's share	669	209	0.21
Others ^{a/}	103	32	0.03
FIXED COSTS	3,318	1,035	1.06
Land tax	175	55	0.06
Lease rental	438	137	0.14
Depreciation	384	120	0.12
Interest on operating capital	326	102	0.10
Rental value of owned land	1,994	622	0.63
TOTAL COSTS	23,190	7,235	7.38

a/ Include: sack, can and tying materials

b/ Less than P 0.01

Table 31. Average production costs and returns of sweet potato per hectare, Bohol, May 2013 - April 2014

Item	Per Hectare			Per Farm (P)	Per Kilogram (P)
	Quantity	Unit	Value (P)		
Production					
Sweet potato roots	3,000.58	kg.	48,321	10,531	16.10
Planting materials	272.37	kg.	1,108	241	4.07
Area harvested = 0.55 ha.					
Number of farms = 75					
CASH COSTS			7,955	1,734	2.65
Planting materials	13.48	kg.	33	7	0.01
Inorganic fertilizers					
Solid	47.84	kg.	1,319	287	0.44
Hired labor	17.44	mandays	3,664	799	1.22
Land tax			148	32	0.05
Rentals:					
Animals			49	11	0.02
Fuel	1.35	L	56	12	0.02
Oil	0.12	L	20	4	0.01
Transport cost of inputs			101	22	0.03
Landowner's share			398	87	0.13
Repairs			1,359	296	0.45
Food Expense			584	127	0.19
Others ^{a/}			225	49	0.08
NON-CASH COSTS			3,501	763	1.17
Planting materials	216.16	kg.	450	98	0.15
Harvesters' share	7.34	kg.	110	24	0.04
Landowner's share	167.02	kg.	2,940	641	0.98

Table 31. *Concluded*

Item	Per Hectare			Per Farm (P)	Per Kilogram (P)
	Quantity	Unit	Value (P)		
IMPUTED COSTS			19,163	4,176	6.39
Planting materials	191.60	kg.	555	121	0.18
Operator labor	30.97	mandays	5,895	1,285	1.96
Family labor	27.10	mandays	4,746	1,034	1.58
Depreciation			251	55	0.08
Interest on operating capital			287	63	0.10
Rental value of owned land			2,041	445	0.68
Rentals:					
Animals			5,299	1,155	1.77
Tools and equipment			43	9	0.01
Land tax			32	7	0.01
Others ^{b/}			14	3	c/
TOTAL COSTS			30,618	6,673	10.20
GROSS RETURNS			49,428	10,772	16.47
RETURNS ABOVE CASH COSTS			41,474	9,039	13.82
RETURNS ABOVE CASH AND NON-CASH COSTS			37,973	8,276	12.66
NET RETURNS			18,811	4,100	6.27
NET PROFIT-COST RATIO			0.61	0.61	0.61

a/ Include: pail, sack and pointed wood (harvesting tool)

b/ Include: sack and pointed wood (harvesting tool)

c/ Less than P 0.01

Table 32. Average variable and fixed production costs of sweet potato, Bohol, May 2013 - April 2014

(in peso)

Item	Per Hectare	Per Farm	Per Kilogram
VARIABLE COSTS	27,859	6,072	9.28
Planting materials	1,039	226	0.35
Fertilizers			
Inorganic			
Solid	1,319	287	0.44
Labor			
Hired labor	3,664	799	1.22
Operator labor	5,895	1,285	1.96
Family labor	4,746	1,034	1.58
Rentals:			
Animals	5,348	1,166	1.78
Tools and equipment	43	9	0.01
Fuel	56	12	0.02
Oil	20	4	0.01
Transport costs of inputs	101	22	0.03
Repairs	1,359	296	0.45
Food expense	584	127	0.19
Harvesters' share	110	24	0.04
Landowner's share	3,338	727	1.11
Others ^{a/}	240	52	0.08
FIXED COSTS	2,758	601	0.92
Land tax	179	39	0.06
Depreciation	251	55	0.08
Interest on operating capital	287	63	0.10
Rental value of owned land	2,041	445	0.68
TOTAL COSTS	30,618	6,673	10.20

a/ Include: pail, sack and pointed wood (harvesting tool)

Table 33. Average production costs and returns of sweet potato per hectare, Agusan del Norte, May 2013 - April 2014

Item	Per Hectare			Per Farm (P)	Per Kilogram (P)
	Quantity	Unit	Value (P)		
Production					
Sweet potato roots	5,223.75	kg.	70,966	30,359	13.59
Planting materials	98.32	kg.	806	345	8.19
Area harvested = 0.55 ha.					
Number of farms = 75					
CASH COSTS			4,449	1,903	0.85
Planting materials	31.12	kg.	231	99	0.04
Inorganic fertilizers					
Solid	0.12	kg.	2	1	b/
Pesticides					
Liquid	0.03	L	16	7	b/
Hired labor	14.79	mandays	2,953	1,263	0.57
Land tax			27	12	0.01
Rentals:					
Land			23	10	b/
Animals			79	34	0.02
Tools and equipment			19	8	b/
Transport cost of inputs			6	3	b/
Interest payment on crop loan			31	13	0.01
Landowner's share			217	93	0.04
Repairs			369	158	0.07
Food Expense			352	150	0.07
Others ^{a/}			125	53	0.02
NON-CASH COSTS			1,684	720	0.32
Planting materials	78.93	kg.	616	263	0.12
Rentals:					
Land	3.58	kg.	39	17	b/
Landowner's share	76.98	kg.	1,029	440	0.20

Table 33. *Concluded*

Item	Per Hectare			Per Farm (P)	Per Kilogram (P)
	Quantity	Unit	Value (P)		
IMPUTED COSTS			15,114	6,466	2.89
Planting materials	39.40	kg.	274	117	0.05
Operator labor	29.52	mandays	5,631	2,409	1.08
Family labor	28.58	mandays	5,474	2,342	1.05
Exchange labor	1.35	mandays	281	120	0.05
Depreciation			199	85	0.04
Interest on operating capital			183	78	0.04
Rental value of owned land			327	140	0.06
Rentals:					
Land			163	70	0.03
Animals			2,567	1,098	0.49
Tools and equipment			3	1	b/
Transport cost of inputs			2	1	b/
Land tax			9	4	b/
TOTAL COSTS			21,246	9,089	4.07
GROSS RETURNS			71,772	30,704	13.74
RETURNS ABOVE CASH COSTS			67,323	28,801	12.89
RETURNS ABOVE CASH AND NON-CASH COSTS			65,639	28,081	12.57
NET RETURNS			50,526	21,615	9.67
NET PROFIT-COST RATIO			2.38	2.38	2.38

a/ Include: water dipper, basket, pail and sack

b/ Less than P 0.01

Table 34. Average variable and fixed production costs of sweet potato, Agusan del Norte, May 2013 - April 2014

(in peso)

Item	Per Hectare	Per Farm	Per Kilogram
VARIABLE COSTS	20,244	8,660	3.88
Planting materials	1,120	479	0.21
Fertilizers			
Inorganic			
Solid	2	1	b/
Pesticides			
Liquid	16	7	b/
Labor			
Hired labor	2,953	1,263	0.57
Operator labor	5,631	2,409	1.08
Family labor	5,474	2,342	1.05
Exchange labor	281	120	0.05
Rentals:			
Animals	2,645	1,132	0.51
Tools and equipment	22	9	b/
Transport costs of inputs	8	3	b/
Repairs	369	158	0.07
Food expense	352	150	0.07
Landowner's share	1,246	533	0.24
Others ^{a/}	125	53	0.02
FIXED COSTS	1,002	429	0.19
Land tax	36	15	0.01
Lease rental	226	97	0.04
Interest payment on crop loan	31	13	0.01
Depreciation	199	85	0.04
Interest on operating capital	183	78	0.04
Rental value of owned land	327	140	0.06
TOTAL COSTS	21,246	9,089	4.07

a/ Include: water dipper, basket, pail and sack

b/ Less than P 0.01

Table 35. Average production costs and returns of sweet potato per hectare, Agusan del Sur, May 2013 - April 2014

Item	Per Hectare			Per Farm (P)	Per Kilogram (P)
	Quantity	Unit	Value (P)		
Production					
Sweet potato roots	3,867.41	kg.	43,958	24,071	11.37
Planting materials	40.30	kg.	186	102	4.62
Area harvested = 0.55 ha.					
Number of farms = 75					
CASH COSTS			3,431	1,879	0.89
Inorganic fertilizers					
Solid	2.43	kg.	38	21	0.01
Pesticides					
Liquid	0.16	L	58	32	0.01
Hired labor	9.33	mandays	2,123	1,163	0.55
Land tax			5	3	c/
Rentals:					
Land			85	47	0.02
Machine			85	47	0.02
Animals			38	21	0.01
Tools and equipment			7	4	c/
Fuel	0.12	L	7	4	c/
Transport cost of inputs			71	39	0.02
Interest payment on crop loan			34	19	0.01
Repairs			247	135	0.06
Food Expense			363	199	0.09
Others ^{a/}			270	148	0.07
NON-CASH COSTS			802	439	0.21
Planting materials	36.52	kg.	214	117	0.06
Hired labor	0.02	mandays	5	3	c/
Harvesters' share	32.71	kg.	349	191	0.09
Landowner's share	19.48	kg.	234	128	0.06

Table 35. *Concluded*

Item	Per Hectare			Per Farm (P)	Per Kilogram (P)
	Quantity	Unit	Value (P)		
IMPUTED COSTS			11,764	6,442	3.04
Planting materials	303.26	kg.	1,048	574	0.27
Inorganic fertilizers					
Solid	0.30	kg.	7	4	c/
Operator labor	22.39	mandays	4,583	2,510	1.19
Family labor	20.34	mandays	4,150	2,272	1.07
Exchange labor	0.13	mandays	26	14	0.01
Depreciation			151	83	0.04
Interest on operating capital			127	70	0.03
Rental value of owned land			247	135	0.06
Rentals:					
Land			4	2	c/
Animals			1,364	747	0.35
Land tax			54	29	0.01
Others ^{b/}			4	2	c/
TOTAL COSTS			15,997	8,760	4.14
GROSS RETURNS			44,144	24,173	11.41
RETURNS ABOVE CASH COSTS			40,713	22,294	10.53
RETURNS ABOVE CASH AND NON-CASH COSTS			39,911	21,855	10.32
NET RETURNS			28,147	15,413	7.28
NET PROFIT-COST RATIO			1.76	1.76	1.76

a/ Include: pail and sack

b/ Include: can and sack

c/ Less than P 0.01

Table 36. Average variable and fixed production costs of sweet potato, Agusan del Sur, May 2013 - April 2014

(in peso)

Item	Per Hectare	Per Farm	Per Kilogram
VARIABLE COSTS	15,291	8,373	3.95
Planting materials	1,262	691	0.33
Fertilizers			
Inorganic			
Solid	45	25	0.01
Pesticides			
Liquid	58	32	0.01
Labor			
Hired labor	2,128	1,165	0.55
Operator labor	4,583	2,510	1.19
Family labor	4,150	2,272	1.07
Exchange labor	26	14	0.01
Rentals:			
Machine	85	47	0.02
Animals	1,402	768	0.36
Tools and equipment	7	4	b/
Fuel	7	4	b/
Transport costs of inputs	71	39	0.02
Repairs	247	135	0.06
Food expense	363	199	0.09
Harvesters' share	349	191	0.09
Landowner's share	234	128	0.06
Others ^{a/}	274	150	0.07
FIXED COSTS	706	387	0.18
Land tax	58	32	0.02
Lease rental	89	49	0.02
Interest payment on crop loan	34	19	0.01
Depreciation	151	83	0.04
Interest on operating capital	127	70	0.03
Rental value of owned land	247	135	0.06
TOTAL COSTS	15,997	8,760	4.14

a/ Include: pail, can and sack

b/ Less than P 0.01

Table 37. Inter-provincial comparison of yield and inputs usage per hectare for sweet potato production, selected provinces, May 2013 - April 2014

Province	Yield (kg)	Area Harvested (in ha.)	Planting Materials (kg)	Fertilizer (kg)	Labor (manday)
All Provinces	4,211.13	0.44	813.21	389.87	65.99
Quezon	4,908.57	0.68	1,621.72	1,429.83	61.44
Camarines Sur	3,960.67	0.48	975.23	71.54	81.42
Negros Occidental	3,141.44	0.31	820.34	72.55	56.89
Bohol	3,000.58	0.22	421.25	47.84	75.70
Agusan del Norte	5,223.75	0.43	149.45	0.12	74.24
Agusan del Sur	3,867.41	0.55	339.79	2.74	52.97

Table 38a. Inter-provincial comparison of average production costs and returns of sweet potato per hectare by major cost item, selected provinces, May 2013 - April 2014

(in peso)

Province	Cash Costs	Non-Cash Costs	Imputed Costs	Total Costs	Gross Returns
All Provinces	9,523	3,090	13,385	25,998	56,568
Quezon	18,830	5,248	12,747	36,824	67,502
Camarines Sur	9,245	3,545	17,266	30,057	57,759
Negros Occidental	8,462	3,356	11,372	23,190	36,901
Bohol	7,955	3,501	19,163	30,618	49,428
Agusan del Norte	4,449	1,684	15,114	21,246	71,772
Agusan del Sur	3,431	802	11,764	15,997	44,144

Table 38b. Inter-provincial comparison of profitability of sweet potato production per hectare, selected provinces, May 2013 - April 2014

(in peso)

Province	Returns Above Cash Costs	Returns Above Cash and Non-Cash Costs	Net Returns	Net Profit-Cost Ratio
All Provinces	47,045	43,954	30,570	1.18
Quezon	48,672	43,425	30,678	0.83
Camarines Sur	48,514	44,969	27,703	0.92
Negros Occidental	28,439	25,083	13,711	0.59
Bohol	41,474	37,973	18,811	0.61
Agusan del Norte	67,323	65,639	50,526	2.38
Agusan del Sur	40,713	39,911	28,147	1.76

Table 39. Percentage distribution of sweet potato produce by disposition item, selected provinces, May 2013 - April 2014

Province	Sold to Trader	Sold to Co-Farmer	Sold to Processor of Food	Sold to Processor of Feeds	Harvesters' Share	Other Laborers' Share	Landowner's Share
All Provinces	83.29	3.90	0.61	0.01	0.24	0.05	1.05
Quezon	92.15		0.28				0.22
Camarines Sur	89.46		0.89		0.04		0.95
Negros Occidental	80.27	2.64	0.78		0.66	0.53	1.29
Bohol	55.73	14.61		0.16	0.24		5.57
Agusan del Norte	87.54	4.98					1.47
Agusan del Sur	69.23	9.70	1.60		0.85	0.02	0.50

Table 39. *Concluded*

Province	Land Lease / Rental	For Home Consumption	For Home- Based Processing	Given Away	Paid to Creditor	Used / To be Used for Feeds	Wastage	Others ^{a/}
All Provinces	0.02	4.13	0.34	3.71	0.07	0.64	1.92	0.01
Quezon		0.67	0.13	2.57	0.07		3.91	
Camarines Sur		2.86	0.54	3.97		1.11	0.18	
Negros Occidental		7.47	0.07	3.99	0.24	0.02	1.98	0.06
Bohol		9.78	1.66	5.44		3.29	3.52	
Agusan del Norte	0.09	3.10	0.02	1.81	0.02	0.09	0.86	
Agusan del Sur		8.51	0.55	6.62	0.13	1.28	0.97	0.04

a/ Include: stolen and rental of working animals

Table 40a. Percentage distribution of sweet potato farmers reporting on current level of production in comparison with the same period last year, selected provinces, 2013 and 2014

Province	Higher this Year	Lower this Year	About the Same	No Point of Comparison
All Provinces	19.78	43.56	28.00	8.67
Quezon	22.67	69.33	2.67	5.33
Camarines Sur	8.00	37.33	54.67	
Negros Occidental	12.00	30.67	50.67	6.67
Bohol	36.00	34.67	12.00	17.33
Agusan del Norte	22.67	40.00	33.33	4.00
Agusan del Sur	17.33	49.33	14.67	18.67

Table 40b. Percentage of sweet potato farmers with higher volume of production this year by reason for change in production, selected provinces, 2013 and 2014

Province	Reasons for change in production					
	Increase in Area	Good Weather Condition	Absence of Pests and Diseases	Good Quality of Planting Materials	Use of Fertilizer	Others ^{a/}
All Provinces	22.47	37.08	4.49	23.60	26.97	4.49
Quezon	11.76	58.82		17.65	58.82	11.76
Camarines Sur				66.67	33.33	
Negros Occidental	33.33	66.67			11.11	
Bohol	25.93	7.41	3.70	29.63	40.74	7.41
Agusan del Norte	29.41	52.94		29.41		
Agusan del Sur	23.08	46.15	23.08	7.69		

a/ Include: proper farm management and fertile soil

Table 40c. Percentage of sweet potato farmers with lower volume of production this year by reason for change in production, selected provinces, 2013 and 2014

Province	Reasons for change in production					
	Decrease in Area	Bad Weather Condition	Occurrence of Pests and Diseases	Low Quality of Planting Materials	Did Not Use Fertilizer	Others ^{a/}
All Provinces	13.78	66.33	28.06	8.67	5.61	2.04
Quezon	3.85	90.38	23.08	11.54	9.62	
Camarines Sur	3.57	42.86	39.29	25.00	3.57	7.14
Negros Occidental	13.04	86.96	8.70	13.04		
Bohol	30.77	50.00	38.46		19.23	
Agusan del Norte	3.33	70.00	16.67			6.67
Agusan del Sur	32.43	45.95	40.54	2.70		

a/ Include: poor soil condition and lack of knowledge on farm operation

Table 41. Percentage of sweet potato farmers reporting problems on production, selected provinces, May 2013 - April 2014

Province	Occurrence of Pests and Diseases	High Cost of Inputs	Bad Weather / Calamities	Lack of Capital	Rough or Poor Road / Inadequate Transport Facilities	Poor Soil Condition	No Working Animal
All Provinces	42.22	6.44	41.33	16.89	18.67	12.00	0.22
Quezon	16.00	12.00	57.33	17.33	1.33	14.67	
Camarines Sur	42.67	8.00	16.00	37.33	46.67	16.00	1.33
Negros Occidental	34.67	4.00	44.00	9.33	29.33	25.33	
Bohol	53.33	13.33	40.00	6.67	9.33	10.67	
Agusan del Norte	57.33	1.33	46.67	6.67	2.67	5.33	
Agusan del Sur	49.33		44.00	24.00	22.67		

Table 42. Percentage of sweet potato farmers who sold produce to major buyer, selected provinces, May 2013 - April 2014

Province	Traders					Processor	Consumer
	Agent	Wholesaler	Wholesaler - Retailer	Retailer	Assembler		
All Provinces	2.22	22.00	42.22	4.44	16.00	0.67	13.11
Quezon	9.33	68.00	21.33				1.33
Camarines Sur		2.67	70.67	25.33			1.33
Negros Occidental		42.67	52.00				9.33
Bohol	2.67	14.67	41.33	1.33			40.00
Agusan del Norte	1.33		13.33		76.00		9.33
Agusan del Sur		4.00	54.67		20.00	4.00	17.33

Table 43. Percentage of sweet potato farmers reporting problems on marketing of produce, selected provinces, May 2013 - April 2014

Province	Instability of Prices	Rough Roads / High Transport Cost	Low Price of Produce	Limited Buyer / Market Outlet	Lack of Marketing Information
All Provinces	55.78	28.00	36.00	14.00	10.89
Quezon	88.00	10.67	29.33	8.00	1.33
Camarines Sur	76.00	62.67	22.67	6.67	20.00
Negros Occidental	54.67	29.33	34.67	8.00	12.00
Bohol	56.00	18.67	26.67	14.67	
Agusan del Norte	33.33	6.67	49.33	12.00	1.33
Agusan del Sur	26.67	40.00	53.33	34.67	30.67

Table 44. Percentage of sweet potato farmers who availed of loans for sweet potato production and by source of loan, selected provinces, May 2013 - April 2014

Province	Percentage of Farmers Who Availed of Loan	Sources			
		Cooperative	Bank	Private Individual	Private Lending Institution
All Provinces	1.33	16.67	33.33	33.33	16.67
Quezon	1.33				100.00
Camarines Sur	1.33			100.00	
Negros Occidental	1.33			100.00	
Bohol					
Agusan del Norte	1.33		100.00		
Agusan del Sur	2.67	50.00	50.00		

Table 45a. Percentage of sweet potato farmers who were aware and availed of benefit from government programs/interventions on sweet potato production, selected provinces, May 2013 - April 2014

Province	Aware of Government Programs / Interventions	Availed Government Programs / Interventions
All Provinces	11.33	19.61
Quezon	1.33	
Camarines Sur	22.67	
Negros Occidental	9.33	14.29
Bohol	8.00	83.33
Agusan del Norte	9.33	
Agusan del Sur	17.33	30.77

Table 45b. Percentage of sweet potato farmers who received benefit from government programs/interventions on sweet potato production, selected provinces, May 2013 - April 2014

Province	Planting Materials	Training on Farming Technology
All Provinces	70.00	30.00
Quezon		
Camarines Sur		
Negros Occidental		100.00
Bohol	60.00	40.00
Agusan del Norte		
Agusan del Sur	100.00	

Table 45c. Percentage of sweet potato farmers who used the benefit received and increased income, selected provinces, May 2013 - April 2014

Province	Used the Benefit Received from the Government	Increased Income
All Provinces	50.00	40.00
Quezon		
Camarines Sur		
Negros Occidental	100.00	
Bohol	20.00	100.00
Agusan del Norte		
Agusan del Sur	75.00	33.33

Table 46. Percentage of sweet potato farmers by perceived effect of climate change on their sweet potato farming, selected provinces, May 2013 - April 2014

Province	Affected by Climate Change	Effect				
		Change in Cropping Pattern	Increase in Input Usage	Decrease in Yield	Decrease in Frequency of Plowing	Others ^{a/}
All Provinces	71.56	62.42	1.86	67.70	2.48	1.55
Quezon	52.00	79.49	12.82	71.79	2.56	
Camarines Sur	38.67	82.76		44.83	3.45	
Negros Occidental	81.33	78.69		57.38	1.64	1.64
Bohol	86.67	58.46	1.54	83.08	7.69	
Agusan del Norte	77.33	31.03		77.59		
Agusan del Sur	93.33	60.00		61.43		5.71

a/ Include: landslide, soil cracking, "balantik" and "tanga"

Table 47. Percentage of sweet potato farmers who are members of farmers' organization and by type of benefit received, selected provinces, May 2013 - April 2014

Province	Members of Farmers' Organization	Benefits Received
		Training / Seminars
All Provinces	1.33	100.00
Quezon	8.00	100.00
Camarines Sur		
Negros Occidental		
Bohol		
Agusan del Norte		
Agusan del Sur		

Table 48. Percentage distribution of sweet potato farmers reporting on the plan of farm operations, selected provinces, May 2013 - April 2014

Province	Maintain Current Operations	Expand Operations	Stop Operations
All Provinces	61.11	38.00	0.89
Quezon	78.67	21.33	
Camarines Sur	72.00	26.67	1.33
Negros Occidental	80.00	18.67	1.33
Bohol	60.00	40.00	
Agusan del Norte	42.67	57.33	
Agusan del Sur	33.33	64.00	2.67

Table 49. Percentage of sweet potato farmers reporting on the recommendations to further improve the sweet potato production, selected provinces, May 2013 - April 2014

Province	Price Support	Infrastructure Facilities	Regulate Price of Farm Inputs	Financial Support	Soil Testing / Analysis
All Provinces	47.56	19.11	16.44	67.78	11.56
Quezon	33.33	14.67	26.67	60.00	14.67
Camarines Sur	42.67	45.33	10.67	44.00	18.67
Negros Occidental	46.67	12.00	29.33	50.67	17.33
Bohol	56.00	5.33	25.33	76.00	9.33
Agusan del Norte	32.00	2.67	1.33	85.33	8.00
Agusan del Sur	74.67	34.67	5.33	90.67	1.33

Table 49. *Concluded*

Province	Land Reform Program	Environmental Concern	New / Modern Farming Technologies	Others ^{a/}
All Provinces	4.67	1.33	43.56	10.22
Quezon	2.67	1.33	26.67	16.00
Camarines Sur	1.33		76.00	2.67
Negros Occidental	12.00	2.67	38.67	6.67
Bohol		4.00	10.67	18.67
Agusan del Norte	9.33		54.67	12.00
Agusan del Sur	2.67		54.67	5.33

a/ Include: crop calendar, crop insurance, input support and marketing support

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