

BIBLIOGRAPHY

GOBI, JESUSA T. 2011. Contribution of Parsley to Farm Income of Farmers in Bano-oy, Baculungan Norte, Buguias, Benguet. Benguet State University, La Trinidad, Benguet.

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ABSTRACT

The study focused on the contribution of parsley production to farm income in Bano-oy, Baculungan Norte, Buguias, Benguet. It was conducted from December 18, 2010 to February 3, 2011 with 24 total or complete enumerations parsley growers as respondents. Parsley production is a major income source for the growers since the average annual percentage contribution of this venture to the farm income was 40% - 80%. This was obtained by comparing the income received from parsley sales with that of the income from main crop. In terms of net income, a grower received an income of P11258.80 with an area of 120 sq. meters.

Majority of them grew this crop to a silt textured soil and black colored soil. And most of the variety grown was curly-leafed.

In production practices majority of the respondent do not soak seeds in water before planting. They transplant their crop for parsley seeds are slow to germinate it take 3-4 weeks before the seeds will sprout. And they direct or basal apply the fertilizer. With conclusions with regards to parsley production, the different parsley producers employ similar production practices. The common problems encountered they to their main crop is the unstable price of the vegetable in the market, high cost of labor, transportation and inputs used. Their income from parsley production in Bano-oy, Baculungan Norte, Buguias, Benguet is considerable. This is

confirmed by the information gathered that the contribution of this venture is 40% - 80% of the total income and almost 50% of the main crop.



TABLE OF CONTENTS

| | Page |
|---|------|
| Bibliography..... | i |
| Abstract | i |
| Table of Contents | iii |
| INTRODUCTION..... | 1 |
| Rationale | 1 |
| Importance of the Study | 2 |
| Statement of the Problem | 2 |
| Objective of the Study | 2 |
| Scope and Delimitation of the Study | 3 |
| REVIEW OF LITERATURE | 4 |
| History..... | 4 |
| Description..... | 5 |
| Cultivation of Parsley..... | 6 |
| Variety..... | 12 |
| Culinary Use | 13 |
| Farm Income | 13 |
| Soil Texture | 15 |
| Profitability of Parsley | 16 |
| Soil Color | 17 |
| METHODOLOGY | 19 |

| | |
|--|----|
| Locale and time of the Study | 19 |
| Respondents of the Study | 19 |
| Collection of the Data | 19 |
| Data to Gathered | 19 |
| Data Analysis | 19 |
| RESULTS AND DISCUSSION | 20 |
| Profile of the Respondent | 20 |
| Land Area devoted for Parsley Production | 21 |
| Soil Characteristics | 21 |
| Variety Grown | 23 |
| Production Practices | 23 |
| Supplies and Materials Used | 25 |
| Cost and Return Analysis from Parsley Production | 27 |
| Contribution of Parsley to Farm Income | 29 |
| SUMMARY, CONCLUSIONS AND RECOMMENDATIONS | 31 |
| Summary | 31 |
| Conclusions | 32 |
| Recommendations | 32 |
| LITERATURE CITED | 33 |
| APPENDIX | 35 |
| A. Letter to the Respondent | 35 |
| B. Questionnaire | 36 |

INTRODUCTION

Rationale

Parsley is one of the leafy vegetable grown by farmers in Bano-oy, Baculungan Norte, Buguias, Benguet. They widely used as companion plant or border plant to their major crop. They seeded it for three months before planting because it has difficulty in germinating due to the furanocoumarins in its seed coat. And they plant it during rainy season in a moist, well drained and rocky soil. They gather the leaves as soon as possible because they lose their turgidity. They wash the leaves and then pack for market. Beyond three to four a.m. they will wait for a vehicle that will transport the parsley. With this kind of work which has quite difficult, many farmers at Bano-oy is engage to produce parsley. This study will determine why many of the farmers at Bano-oy are engage in producing parsley and what is contributed by parsley to their farm income.

There are several varieties of parsley such as curly-leafed, flat-leaf and the hamburg. In Bano-oy they mainly produce the flat-leaf and the curly-leaf variety because these are the variety in demand in the market.

This is often used as a garnish by the restaurant and hotels. The freshly chopped leaves of parsley used as a topping or decoration for soup, salad and sandwiches. The dried leaf is used in flavoring scrambled eggs, mashed potatoes, soups, pasta, and vegetable dishes. The roots are used medicinally for digestive disorders, bronchitis and urinary tract problems. And the juice is use to treat toothache and as a hair rinse or as a facial steam for dry skin.



Importance of the Study

The finding of this study would contributed a great help in the accumulation of the knowledge; on what type of parsley is best to produced, what condition of soil is best to plant in order to maximize from its production and will enhanced understanding on the contribution of parsley to farm income for farmers producing parsley in Bano-oy, Baculungan Norte, Buguias, Benguet and to those who want to engage in parsley production.

Statement of the Problem

1. What is the farm profile of the farmers producing parsley in Bano-oy?
2. What are the varieties of parsley produced?
3. What are the practices in producing parsley?
4. How much is the annual income of the farmers from their other crop?
5. Determine the profitability of parsley?

Objectives of the study

1. Document the farm profile of the farmers producing parsley in Bano-oy.
2. Determine the variety of parsley produced.
3. Find out the practices in producing parsley.
4. Determine the annual income of the farmers from their other crop.
5. Determine the profitability of parsley

Scope and Delimitation of the Study

This study titled “Contribution of Parsley to Farm Income of Farmers in Bano-oy, Baculungan Norte, Buguias, Benguet” focused on the producers of parsley. This covers



the farm profile of famers in Bano-oy, variety of parsley produced, practices in producing parsley, annual income of farmers from their other crop and the profitability of parsley. And cost and return analysis was done to find how much a farmer was getting for the use of his resources.



REVIEW OF LITERATURE

History

Parsley has been cultivated and developed over so many centuries that its precise origins are difficult to pinpoint, compounded by the probability that all the parsleys we know nowadays, bear little resemblance to their ancestors. The botanical name *Petroselinum* comes from the Greek word for stone, which is *petro*, given to parsley because it was found growing on rocky hillsides in Greece. Although the Ancient Greeks did not use parsley in cooking, it was revered as a symbol of oblivion and death and as a funeral herb. According to legend, parsley sprang up where the blood of the Greek hero Archemorus was spilled when he was eaten by serpents. The Greeks used the herb to fashion wreaths for graves. The Romans are said to have used it at orgies to cover up the smell of alcohol on the breath, while also aiding digestion. And there's the unflattering remark that was once made about those who looked as if at death's door. Parsley is mentioned often throughout history, and not only for its culinary and medicinal properties. The early Greeks made crowns of parsley to bestow upon the winners of the Nemena and Isthmian sports games, in the same manner that bay wreaths honored the Olympians. It is mentioned as one of the plants in the gardens of Charlemagne and Catherine de Medici. Rumor has it that Medici is responsible for popularizing parsley when she brought it back to France from its native Italy. In medieval times parsley was surrounded by much superstition, one belief being that the long germination period for the seeds was due to them having to travel to hell and back seven times before sprouting (McGree, 2006).



Description

Parsley is a non-hairy biennial or short-lived perennial with a much branched stem. A thin, white, spindle-shaped root produces the erect, grooved, glabrous, angular stem that can reach a height of slightly over 2 feet. There are numerous varieties. Parts used are the ripe fruits, the above-ground herb and the leaves (Willard, 2002).

Parsley is hardy, and can be grown year-round. It usually stays green late into the fall. Its leaves may even stay green all during the winter. Parsley can reach six to eight inches in height the first year, and up to three feet when in flower the second year. Young foliage is preferred since the leaves of the second-year growth tend to be somewhat tough and bitter (Craig, 2010).

Parsley is a self-seeding biennial that thrives in rich, moist soil in full sun or partial shade. It grows from a single spindle-shaped taproot producing smooth, many-branched and juicy stems. The bright green leaves are feather-like in appearance, tri-pinnate and finely divided. Some varieties are flat-leaved; others are more compact and curly. Diminutive five-petaled flowers are yellow-green and borne in dense, flat-topped clusters. They bloom in midsummer. The gray-brown seeds are tiny, ribbed and ovate. Parsley can grow as much as 3 ft tall in its second year as the flower-bearing stems become nearly leafless and reach for the sun (Hanrahan and Frey, 2005).

Parsley is a biennial herb but grown as an annual. Its popular curled variety is most recognizable as a fresh garnish for American food. The sprigs used from growing parsley are also edible and add flavor to soups, salads, and main courses. In Medieval times, hungry people placed parsley on the tables and around their necks to absorb food odors. This practice leaves you to wonder exactly what they were eating. It was also used



as a poison antidote. This would prove valuable to have handy for those at risk of food poisoning consuming rancid meat (Floren, 2010).

Parsley is a member of the carrot family, is a lot more than a decorative green leaf on the side of a restaurant plate. In fact, it is one of the most nutritious of all herbs. An excellent source of vitamins A and C. Parsley leaves are comprised of three leaflets on short stems that branch in threes at the tips of eight inch long bare stalks. Leaves of common parsley are dark green with divided tips which curl tightly. Those of Italian parsley are a lighter green and more deeply divided and feathery, resembling celery foliage. A common parsley plant typically grows 9 to 18 inches tall and spreads about 6 to 9 inches. Although parsley is a biennial, it is usually treated as an annual and is pulled up at the end of the first season. That is why its flowers, which appear in early summer of its second year, are seldom seen. They are flat clusters composed of tiny, greenish yellow florets, and resemble Queen Anne's lace. As with most herbs, flowering tends to make the foliage bitter and less useful for cooking (Frogge, 2010).

Cultivation of Parsley

Parsley grows best in moist, well drained soil, with full sun. It frequently has difficulties germinating because of furanocoumarins in its seed coat. If the leaves are not harvested, the plant eventually ceases to produce them in abundance and grows a thicker central stalk with small flowers instead (Jett, 2007).

Conduct your first thinning around May to space plants two inches apart. When they begin crowding, harvest each second plant. Parsley does best when the soil is supplied with humus, preferably from decaying leguminous crops or from stable manure.



To maximize yields, parsley responds well to being transplanted as many as three times during the growing cycle (Adam, 2001).

Parsley seeds are slow to germinate. To give them a jump start try soaking them in water for 24 hours before planting. Parsley seeds should be planted in a shallow trench and covered over with a 1/4-inch layer of fine soil. As the plants grow, thin them out so that the plants stand about 6 inches apart. Try interspersing them with radishes to help mark the rows and help keep down weeds. Weed carefully as the roots are shallow. Parsley plants may be trimmed back as they grow and the leaves and stems used immediately. Parsley plants will take up nearly a square foot of space. In hot dry summers parsley plants can begin to burn up. If this starts to happen, trim back and water generously. Do a good job weeding to give your plants all the advantages of sun and air. To over-winter parsley, give it a light mulch during very cold weather. It will go to seed in the second year. Cut off the stems before they flower to allow the plants to remain productive for a while longer. Parsley blossoms look like Queen-Anne's lace. Parsley can also be grown in pots indoors for fresh parsley throughout the winter. Parsley may be cut from the stalks any time after the leaves become well-formed. Cut the outside leaves and stems, but allow the inner stems to grow so that there is a continuous production of new leaves. There are many types of parsley. Varieties are generally segmented into both curled leaf and flat leafed "Italian" varieties. Flat leaf is more common in cooking while the curled leaf is more often eaten fresh or used as a garnish. The roots of parsley are also edible. There are large root varieties that look and taste similar to parsnips. There is even a Neapolitan variety that has thicker stalks and is eaten in some countries like [celery](#). Parsley does have some enemies. Although a fairly hardy and easy to grow plant, it can



be attacked by [parsley worms](#). These insects in large numbers may ravage a stand of parsley. However, they often tolerated because they are the larvae of the swallow tailed butterfly. They can be controlled by hand picking or use of Bt. Parsley can also be attacked by bacterial leaf spot, fungi, and viruses. For gardeners, the best prevention is to keep a clean garden and thoroughly [composting garden waste](#) (Rayment, 2010).

Parsley requires an ordinary, good well-worked soil, but a moist one and a partially-shaded position is best. A little soot may be added to the soil. The seed may be sown in drills, or broadcast, or, if only to be used for culinary purposes, as edging, or between dwarf or short-lived crops. For a continuous supply, three sowings should be made: as early in February as the weather permits, in April or early in May, and in July and early August - the last being for the winter supply, in a sheltered position, with a southern exposure. So in February for the summer crop and for drying purposes. Seed sown then, however, takes several weeks to germinate, often as much as a full month. The principal sowing is generally done in April; it then germinates more quickly and provides useful material for cutting throughout the summer. A mid-August sowing will furnish good plants for placing in the cold frames for winter use. An even broadcast sowing is preferable, if the ground is in the condition to be trodden which appears to fix the seed in its place, and after raking leaves a firm even surface. The seed should be but slightly covered, not more than 1/2 inch deep and thinly distributed; if in drills, these should be 1 foot apart. It is not necessary, however (though usual), to sow the seed where the plants are to be grown, as when large enough, the seedlings can be picked out into rows. When the seedlings are well out of the ground - about an inch high - adequate thinning is imperative, as the plants dislike being cramped, and about 8 inches from plant



thinning is imperative, as the plants dislike being cramped, and about 8 inches from plant to plant must be allowed: a well-grown plant will cover nearly a square foot of ground. The rows should be liberally watered in dry weather; a sheltered position is preferred, as the plants are liable to become burnt up in very hot and dry summers. The rows should be kept clean of weeds, and frequent dressings may be applied with advantage. If the growth becomes coarse in the summer, cut off all the leaves and water well. This will induce a new growth of fine leaves, and may always be done when the plants have grown to a good size, as it encourages a stocky growth. Soon after the old or last year's plants begin to grow again in the spring, they run to flower, but if the flower stems are promptly removed, and the plants top dressed and watered, they will remain productive for some time longer. Renew the beds every two years, as the plant dies down at the end of the second season. When sowing Parsley to stand the winter, a plain-leaved variety will often be found superior to the curled or mossy sorts, which are, perhaps, handsomer, but the leaves retain both snow and rain, and when frost follows, the plants soon succumb. A plain leaved Parsley is far hardier, and will survive even a severe winter and is equally good for cooking, though not so attractive for garnishing. Double the trouble is experienced in obtaining a supply of Parsley during the winter, when only the curled-leaved varieties are given. Where curled Parsley is desired and is difficult to obtain, because there is no sufficiently sheltered spot in the garden for it, it may often be saved by placing a frame-light over the bed during severe weather to protect the plants, or they may be placed altogether in cold frames. Care must be taken with all Parsley plants grown thus in frames, to pick off all decaying leaves directly noticed, and the soil should be stirred occasionally with a pointed stick between the plants, to prevent its becoming



sour. Abundance of air should be given on all favorable occasions, removing the light altogether on fine days (Grieve, 2010).

The growing parsley seed needs high temperatures to germinate. It could take several weeks for the seeds to sprout. Soak the seeds in warm water overnight before planting. Seeds can be sown in pots and kept warm indoors until the seedlings have sprouted. Plant the herbs outdoors in early spring in rows a foot apart. Cover the bed 1/2 inch deep. Add bone meal to the top layer of soil. The seedlings can be planted outside when they are about three inches tall. Pick a spot for growing parsley that will receive at least six to eight hours of sunlight per day. It performs best in full sun to part shade.

Provide the growing parsley with soil rich in organic matter. Your efforts will be rewarded in a healthy crop gathered from the garden. Consider planting in a container if you have poor soil conditions or not enough space. Growing parsley indoors requires a minimum five hours of sunlight every day. Growing parsley should get a monthly dose of fertilizer to sustain growth through the season. Water often during the summer months to make certain the soil does not dry out. Add mulch to the soil to reduce moisture loss and prevent growing weeds. Later thin the plants to stand about six inches apart. Parsley is an all season herb. From planting time until harvest is about twelve weeks. Because it is a biennial, the herbs will begin to produce seed, which ends the plants use as an herb. In the fall, leaves may be dried and stored in tight jars. Roots may be transplanted into pots for growing parsley indoors. The following spring remove the flower stems as soon as they appear to keep the plants active (Floren, 2010).

There are two main types of parsley. Curly and flat leaf essentially they both taste very similar, however you will find the two different textures will add a totally different



dynamic in your cooking. Italian parsley grows a lot taller than the curly leaf, and as it grows older I find that its' leaves get slightly thicker and larger. Parsley is a biannual plant which means that it will normally last up to two years before it dies off. Let the flowers go to seed when you are growing your parsley, that way you should get a heck of a lot of new plants naturally shooting up in the garden. I personally collect the seeds before they drop of the parsley's seed pods and then sprinkle them over freshly cultivated soil as you will find you have a far greater success rate. An even better idea is to grow the seeds in a seed raising tray or mini green house first and then transplant the parsley in to your garden. When it comes to bugs, parsley is relatively caring free. That is not to say that it won't get problems. It is just that it isn't common. There are caterpillars that will chomp holes in the fresh leaves. The best way to prevent this is to put up bird netting over your herbs right from the day that you plant them. This will stop the swallowtail moths from laying their eggs on your parsley. When parsley is young you can occasionally find that slugs and snails will eat the juvenile shoots, so make sure you put down some slug bait. If you want to keep things organic then a fantastic little trick is to put some flat beer in to several jars around your herb garden. The slugs and snails will go for the beer and end up drowning. Follow these tips and you will find it easy to grow parsley (Ray, 2010).

Parsley grows best in full sun. The ideal soil is moderately rich, moist and well drained. To direct sow seeds in rows, trace a shallow indentation in the soil with a stick or pencil to guide planting. Then sow the seeds by dribbling them through your thumb and forefinger into the indented rows. Plant seeds a half inch deep. Parsley is very slow to germinate. After 3 or 4 weeks, when sprouts are a few inches tall and show their first true



leaves, thin them to allow 8 to 10 inches of space between the remaining ones so they can grow freely. Young parsley plants need regular watering until they become established. Spread one to two inches of mulch, such as grass clippings or chopped leaves on the soil around parsley plants when they are about 6 inches tall. This mulch helps the soil retain moisture and discourages weeds. Begin harvesting parsley when it produces leaf stems with three segments. Harvest the larger leaves at the outside of the plant first, leaving the new, interior shoots to mature. Store freshly picked leaves in the refrigerator in a plastic bag for 2 weeks. Parsley also dries well. Store dried parsley in an air-tight jar for up to a year (Frogge, 2010).

Variety

The most popular form is the tightly curled, green mossy variety. Secondly, there is Italian parsley with deeply divided flat leaves that look like the leaves of celery. Italian parsley has a much stronger flavor than the curly variety. Thirdly, Hamburg parsley has large white turnip-like roots, and tall fern-like leaves that have a celery-like flavor. These roots can be grated into salads or soups, or cooked like parsnips (Craig, 2010).

Wood find out in (1988), that the most common variety is common or curly parsley. These curly types are quite versatile, typically growing 8-14 inches tall. Italian flat-leaf parsley is another popular variety. The flat serrated leaves have a much stronger and sweeter flavor than the other varieties, making it more desirable for cooking. Hamburg parsley is mainly grown for its white, fleshy, parsnip-like roots, used in flavoring soups.. Japanese parsley resembles the Italian parsley but is not commonly grown. It has a more bitter taste and is sometimes used in Asian cooking.



Culinary Use

Parsley's culinary uses are endless and should not be limited to providing an attractive garnish for savory dishes. Add the leaves to soups, stews, stuffing, sauces, vegetable dishes, eggs, savory pies, and casseroles, and use when preparing meat, fish, and shellfish. Include fresh parsley in salads-it's an essential ingredient of tabbouleh, a tasty staple of Middle Eastern cuisine-and in savory mousses, dips, biscuits, and crackers (Small and Deutsch, 2001).

Craig find out in 2010 that parsley can be minced and added to a salad dish, coleslaw, dip, sauce, salad dressing, margarine spread, entree, or a potato salad. It can also be added to tomato dishes, baked potatoes, and peas. The stalks, which have a stronger flavor than the leaves, are essential for flavoring casseroles and cooked dishes. To prevent the sauce being discolored, stems are used instead of leaves in flavoring white sauces. Parsley is also a major ingredient of Tabbouleh, or Lebanese salad.

Farm Income

A farm income statement (sometimes called a profit and loss statement) is a summary of income and expenses that occurred during a specified accounting period, usually the calendar year for farmers. It is a measure of input and output in dollar values. It offers a capsule view of the value of what your farm produced for the time period covered and what it cost to produce it. Most farm families do a good job of keeping records of income and expenses for the purpose of filling income tax returns. Values from the tax return, however, may not accurately measure the economic performance of the farm. Consequently, you need to have a clear understanding of the purpose of an income statement, the information needed to prepare the statement, and the way in which



it is summarized. Net farm income, as calculated by the accrual or inventory method, represents the economic return to your contributions to the farm business: labor, management, and net worth in land and other farm assets. Cash net farm income also can be calculated. It shows how much cash was available for purchasing capital assets, debt reduction, family living, and income taxes (Edwards, 2008).

The ERS farm income and costs program measures, forecasts, and explain indicators of economic performance for the U.S. farm sector and major crop and livestock farm groups. The program's analyses and data are used by USDA and other clients in both the public and private sector to form a perspective about the financial health of the U.S. agricultural economy. Distributional analyses identify subsectors and business types that are performing well relative to past trends and to other groups and types of farms. Identification of these businesses enables analysts to examine more closely factors contributing to differing levels of financial performance, such as assessment of debt repayment difficulties for specific farm types, industry subsectors, and regions of the country. Income forecasts and estimates provide perspective regarding not only the sector's financial status but also its contribution as a key sector of the national economy. ERS analysts support estimation of the national income and product accounts by contributing estimates for farm earnings, expenditures, and value-added to be incorporated into these vital national statistics. Economic trends can be determined and analyzed using data related to production and marketing of commodities, expenditures for types of inputs, income by State, income by size of farm, and the role of government in supporting the sector (Park, 2010).



Soil Texture

Soil texture is the tool used to describe the grains and mineral particle sizes in sediment. Particles are grouped according to their size into what are called soil separates. These separates are typically named [clay](#), [silt](#), and [sand](#). Soil texture classification is based on the fractions of soil separates present in a soil. The soil texture triangle is a diagram often used to determine soil textures. Soil textures are classified by the fractions of each soil separate (sand, silt, and clay) present in a soil. Classifications are typically named for the primary constituent particle size or a combination of the most abundant particles sizes, e.g. "sandy clay" or "silty clay." A fourth term, [loam](#), is used to describe a roughly equal concentration of sand, silt, and clay, and lends to the naming of even more classifications, e.g. "clay loam" or "silt loam" (Brown, 2010).

Soil texture is an important soil characteristic that drives crop production and field management. The textural class of a soil is determined by the percentage of sand, silt, and clay. Soils can be classified as one of four major textural classes: (1) sands; (2) silts; (3) loams; and (4) clays. In this fact sheet, we will discuss the importance of soil texture, different methods to determine soil texture, and the impact of texture on management decisions. A clay soil is referred to as a fine-textured soil where as a sandy soil is a coarse textured soil. Numerous soil properties are influenced by texture including: Drainage, Water holding capacity, Aeration, Susceptibility to erosion, Organic matter content, Cation exchange capacity (CEC), pH buffering capacity, Soil tilth. Soil texture determines the rate at which water drains through a saturated soil; water moves more freely through sandy soils than it does through clayey soils. Once field capacity is reached, soil texture also influences how much water is available to the plant; clay soils have greater water



holding capacity than sandy soils. In addition, well drained soils typically have good soil aeration meaning that the soil contains air that is similar to atmospheric air, which is conducive to healthy root growth, and thus a healthy crop (Berry, 2007).

Profitability of Parsley

Berry did a research in 2007 first to determine yields of various plants per square foot and secondly what the value (organic supermarket prices USD) of the yielded produce at harvest. Given I am a city dweller with a fairly small footprint for my vegetable garden (about 30-35 square feet) making decisions on what to buy at the supermarket and what to grow in the garden may be a huge money saver. Now from the results below you can see the winners for the most produce value per square foot are many of the leafy green vegetables/herbs (parsley, lettuce, chives, dill, Swiss chard) next comes many of the larger vine plants (tomatoes, squash, pumpkins, peas) with many of the root plants taking up the rear. Now much of this makes sense where many of the vine plants grow on trellises and are allowed to spread, which I guess is sort of cheating the square foot rule but I will let it slide. Compared to the root plants whose production is entirely dependent on the space allowed in square footage they have to grow as well as these are normally inexpensive produce items to begin with. **Vegetable USD Value**

Cilantro \$ 21.20, Arugula-Roquette \$ 20.92, Green Salad Mix \$ 17.55, Chives \$ 16.40, Dill \$ 16.40, Lettuce \$ 16.20, Tomato, Cherry, small & medium \$ 15.57, Turnip \$ 9.90, Tomato large \$ 9.50, Squash Winter \$ 8.40, Tomatillo \$ 8.00, Cucumber \$ 7.74, Basil \$ 6.63, Radish, Red \$ 6.22, Pumpkin \$ 6.20, Chard Swiss \$ 6.14, Celery \$ 6.00, Squash Summer \$ 5.96, Choi \$ 5.70, Peas, Snow \$ 4.50, Squash, Summer, Zucchini



\$ 4.17, Pepper \$ 4.50, Onion, Bunching \$ 4.14, Pepper, Bell \$ 3.60, Brussels Sprouts \$ 3.59, Carrots \$ 3.56, Rhubarb \$ 3.25, Squash, Winter, Butternut \$ 3.20, Kale \$ 3.07, Grass, Lemon \$ 3.00, Peas, English \$ 3.00, Onion, Bulb \$ 2.63, Radish, White \$ 2.60, Bean, Bush \$ 2.51, Peas, Edible Pod \$ 2.50 Artichoke, Globe \$ 2.40 Cabbage, Chinese Napa \$ 2.24, Squash, Winter, Delicata \$ 2.10, Spinach, Spring/Fall \$ 1.80, Leeks \$ 1.75, Potatoes \$ 1.50, Parsnips \$ 1.50, Garlic \$ 1.37, Squash, Summer, Yellow \$ 1.34, Parsley \$ 1.31, Corn \$ 1.25, Squash, Winter, Acorn \$ 1.20, Squash, Winter, Hubbard \$ 1.20, Eggplant \$ 1.10, Greens, Mustard \$ 1.10, Rutabaga \$ 1.00, Beet \$ 0.89, Cabbage, Savoy \$ 0.80, Broccoli \$ 0.80.

Soil Color

Soil color does not affect the behavior and use of soil; however it can indicate the composition of the soil and give clues to the conditions that the soil is subjected to. Soil can exhibit a wide range of color; gray, black, white, reds, browns, yellows and under the right conditions green. Varying horizontal bands of color in the soil often identify a specific soil horizon. The development and distribution of color in soil results from chemical and biological weathering, especially redox reactions. As the primary minerals in soil parent material weather, the elements combine into new and colorful compounds. Aerobic conditions produce uniform or gradual color changes, while reducing environments result in disrupted color flow with complex, mottled patterns and points of color concentration. Soil color is influenced by the content of organic matter and water. The presence and oxidation state of iron and magnesium. Yellow or red soil indicates the presence of iron oxides. Dark brown or black color in soil indicates that the soil has high



organic matter content. Wet soil will appear darker than dry soil. However the presence of water also affects soil color by affecting the oxidation rate. Soil that has a high water content will have less air in the soil, specifically less oxygen. In well drained red and brown colors caused by oxidation are more common, as opposed to in wet soils where the soil usually appears grey. This knowledge can be used to form an educated guess about soil drainage in the area (Brady and Weil, 2006).



METHODOLOGY

Locale and Time of the Study

The research was conducted at Bano-oy, Baculungan Norte, Buguias, Benguet. This was conducted from the month of December 18, 2010 to February 3, 2011.

Respondent of the Study

The respondent of this study were the farmers who are engaged in parsley production. In this research there were 24 total or complete enumeration of parsley producer in Bano-oy, Baculungan Norte, Buguias, Benguet.

Data Gathering Procedure

The mode of gathering the necessary information was survey with the aid of survey questionnaire. However, the researcher did personal interviews and actual field observation as supplement.

Data Gathered

The data gathered were the farm profile of farmers in Bano-oy, the variety of parsley produced, the practices in producing parsley, the annual income of farmers from their other crop and the profitability of parsley.

Data Analysis

The data and information gathered from the respondents was tabulated and analyzed using frequency and descriptive analysis.



RESULTS AND DISCUSSION

Profile of the Respondents

Table 1 presents the profile of 24 total enumerations parsley growers from Bano-oy, Baculungan Norte, Buguias, Benguet. The profile of the respondent was described in terms of gender and age of the respondent.

Gender. The table presents that twenty-one (88%) of the respondent are female and three (13%) are male. There were more female engage in parsley production.

Age. The table shows that the respondent belong to different age brackets, age 26-35 years old makes up one or 4% respondent while age 36-45 years old compose of ten or 42% respondent. Moreover ages 46-55 years old makes up eleven or 46% of the respondents followed by 56-55 years old compose of two or 8%. It indicates that even senior citizens were engage in such activity. The study shows that parsley production is mostly done by middle age.

Table 1. Respondent's profile

| PARTICULARS | FREQUENCY | PERCENTAGE |
|-------------|-----------|------------|
| Gender | | |
| Female | 3 | 13 |
| Male | 21 | 88 |
| TOTAL | 24 | 100 |
| Age | | |
| 26-35 | 1 | 4 |
| 36-45 | 10 | 42 |
| 46-55 | 11 | 46 |
| 56-65 | 2 | 8 |
| TOTAL | 24 | 100 |



Land Area Devoted for Parsley Production

In terms of production area, eleven (46%) of the respondent have an area of 10-50 sq. meters (Table 2). Five (21%) with an area of 51- 100 sq. meters. Three (13%) with an area of 101- 200 sq. meters. One (4%) with an area of 201- 300 sq. meters. Two (8%) with an area of 301- 400 sq. meters and two (8%) with an area of 401- 500 sq. meters. This show that parsley production is mostly considered as backyard production area.

Soil Characteristics

Soil texture. The textures of soil planted with parsley were shown in Table 3. Most, sixteen or 67% of the respondent plant silt texture. Many, five or 21% planted sand texture and three or 13% planted clay texture. The finding shows that most of the respondents planted silt texture because it is a well drained soil alike to Jett (2007) stated that parsley is best grown in moist and well drained soil.

Soil color. The color of soil mostly plant with parsley were shown in Table 3. Most, fifteen or 58% of the respondent planted black soil. Six or 23% planted dark brown soil and Five or 19% planted brown soil. This shows that black soil is the color of soil mostly planted with parsley by the respondents for it contains higher organic matter similar as to Brady & Weil (2006) stated that the development and distribution of color in soil results from chemical and biological weathering. Soil color does not affect the behavior and use of soil; however it can indicate the composition of the soil and give clues to the conditions that the soil is subject to. Black soil indicates that soil has high organic matter content.



Table 2. Land area devoted to parsley product (sq. m)

| AREA (sq. m) | FREQUENCY | PERCENTAGE |
|--------------|-----------|------------|
| 10-50 | 11 | 46 |
| 51-100 | 5 | 21 |
| 101-200 | 3 | 13 |
| 201-300 | 1 | 4 |
| 301-400 | 2 | 8 |
| 401-500 | 2 | 8 |
| TOTAL | 24 | 100 |

Table 3. Soil characteristics

| PARTICULARS | FREQUENCY | PERCENTAGE |
|--------------|-----------|------------|
| Soil Texture | | |
| Sand | 5 | 21 |
| Silt | 16 | 67 |
| Clay | 3 | 13 |
| TOTAL | 24 | 100 |
| Soil Color | | |
| Black | 15 | 58 |
| Dark Brown | 6 | 23 |
| Brown | 5 | 19 |
| TOTAL | 26 | 100 |



Variety of Parsley Grown

The commonly planted varieties of parsley were shown in Table 4. Majority, twenty or 80% of the respondent plant curly- leafed and four or 20% plant flat-leafed. The findings shows that the respondents claimed that these variety have a good quality because it take two years before it dies it is in contrast to Floren (2010) find out that parsley is a biennial herb but grown as an annual herb and Frogge (2010) that although parsley is biennial, it is usually treated as an annual and is pulled up at the end of the first season. That is why its flowers, which appear in early summer of its second year, are seldom seen.

Production Practices

The production practices of parsley employ by the parsley growers in Bano-oy, Baculungan Norte, Buguias, Benguet are presented in Table 5.

Seed preparation. Majority, eighteen or 75% of the respondent do not soak the seeds in water before planting and six or 25% are soaking the seeds in water before. The finding shows that majority of the respondent do not soak the seeds in water before planting because the texture of the soil they are planting is silt which is a well drained soil so the seed easily sprout even if not soak with water before planted which in contrast as to Rayment (2010) statement that parsley seeds are slow to germinate so it would be better to soak with water for 24 hours before planting and Floren (2010) find out that parsley seeds high temperatures to germinate, it could take several weeks for the seeds to sprout so it would be better to soak the seeds in warm water overnight before planting.

Planting method. Majority, twenty- three (96%) of the respondent are in transplant method and One (4%) of the respondent are in direct seeding. The finding



shows that most of the respondents are in transplant method because the seeds have difficulties in germination so it take 3-4 week before the seeds sprout alike to what Adam (2001) stated that it would be better to transplant parsley for the seeds are slow to germinate.

Fertilizer application method. Majority, seventeen (68%) of the respondents direct or basal apply fertilizer and Eight (32%) dilute the fertilizer before applying. The finding shows that most of the respondents direct or basal apply fertilizer so that it would be equally and totally utilized by the plant.

Table 4. Variety of parsley grown

| VARIETY | FREQUENCY | PERCENTAGE |
|--------------|-----------|------------|
| Curly-leafed | 20.00 | 83.33 |
| Flat-leafed | 4.00 | 16.67 |
| TOTAL | 24.00 | 100.00 |

Table 5. Practices in parsley production

| PARTICULARS | FREQUENCY | PERCENTAGE |
|------------------------|-----------|------------|
| Seed Preparation | | |
| Soak with water | 6 | 25 |
| Do not Soak with water | 18 | 75 |
| TOTAL | 24 | 100 |



Table 5. Continued . . .

| PARTICULARS | FREQUENCY | PERCENTAGE |
|-------------------------------|-----------|------------|
| Planting Method | | |
| Transplant | 23 | 96 |
| Direct Seeding | 1 | 4 |
| TOTAL | 24 | 100 |
| Fertilizer Application Method | | |
| Dilute before Applying | 8 | 32 |
| Direct or Basal | 17 | 68 |
| TOTAL | 25 | 100 |

*Multiple response

Supplies and Materials Used

Fertilizers. The fertilizers commonly used were shown in Table 6. Majority, twenty-four or 51% of the respondent used chicken dung, followed by urea thirteen or 28%. Moreover least used fertilizer are atlas five or 11% , yara four or 9% and 2 in 1 marca bulaklak one or 2%. The finding shows that most of the respondents used chicken dung and urea as fertilizer because it helps the crop grow better.

Insecticides. Most, Fifteen or 43% of the respondent sprayed Lorsban and Trigard, two or 6% sprayed Bida and Super cartap and one or 3% sprayed Tamaron. The finding shows that most of the respondent sprayed Lorsban and Trigard insecticide because it is effective to prevent insect pest and the other insecticides are used as alternative.



Fungicides. Most, Ten or 31% of the respondents sprayed Vondozeb, five or 16% sprayed Padan and Mancozeb and four or 13% sprayed Dithane m-45. Moreover least sprayed are Shotgun, Anthracol, and Daconil two or 6% and Score and Rover one or 3%. The finding shows that most of the respondent sprayed Vondozeb fungicide because it helps prevent early blight and late blight.

Herbicides. Nine (38%) only of the respondents sprayed afalon herbicide because most of the growers weed their crop when they harvest.

Table 6. Supplies and materials used

| PARTICULARS | FREQUENCY | PERCENTAGE |
|-----------------------|-----------|------------|
| Chicken Dung | 24 | 51 |
| Urea | 13 | 28 |
| Atlas | 5 | 11 |
| Yara | 4 | 9 |
| 2 in 1 Marca Bulaklak | 1 | 2 |
| TOTAL | 47 | 100 |
| Insecticides | | |
| Lorsban | 15 | 43 |
| Trigard | 15 | 43 |
| Tamaron | 1 | 3 |
| Bida | 2 | 6 |
| Super Cartap | 2 | 6 |
| TOTAL | 35 | 100 |



Table 6. Continued . . .

| PARTICULARS | FREQUENCY | PERCENTAGE |
|--------------|-----------|------------|
| Fungicides | | |
| Mancozeb | 5 | 16 |
| Vondozeb | 10 | 31 |
| Dithane m-45 | 4 | 13 |
| Shotgun | 2 | 6 |
| Padan | 5 | 16 |
| Anthracol | 2 | 6 |
| Score | 1 | 3 |
| Rover | 1 | 3 |
| Daconil | 2 | 6 |
| TOTAL | 32 | 100 |
| Herbicides | | |
| Afalon | 9 | 100 |
| TOTAL | 24 | 38 |

*Multiple response

Cost and Return Analysis from Parsley Production

The cost and return analysis presents the total returns per farm and the total expenses or cost of producing parsley in 120 sq. meter of land. Table 7 showed the average sales of farmer is amounting to P30, 000 per cropping. The sales price of parsley per kilo is 50 ranging to 200. The expenses incurred by the farmer in producing parsley included land rent including the opportunity cost of owned land, depreciation cost of farm



tools and equipment, farm supplies, and the labor cost. Unpaid family labor was valued using the current farm wage rate.

The total cost of production, excluding family labor, was P9930.80. Of this total cost, farm supplies are the highest with P6, 315 or 63.59 of the total cost. This was followed by land rent with P3000 or 30.20. Then the cost of hired labor is P500 or 5.03 and the depreciation cost was P115.8 or 1.16. The net income before deducting unpaid family labor was P20069.20. If family labor cost and interest on capital is deducted from the net income, the return to farm operator's labor and management is P11258.80. The finding shows that the income from parsley production could pay the operators labor and management.

Table 7. Cost and return analysis from parsley production

| PARTICULAR | VALUE | PERCENTAGE |
|------------------|----------------|---------------|
| Average sales | 30,000.00 | |
| Expenses or cost | | |
| Land rent | 3000.00 | 30.20 |
| Depreciation | 115.80 | 1.16 |
| Seeds | 190.00 | 1.91 |
| Fertilizers | 2765.00 | 27.84 |
| Insecticides | 2070.00 | 20.84 |
| Fungicides | 1040.00 | 10.47 |
| Herbicides | 250.00 | 2.51 |
| Hired Labor | 500.00 | 5.03 |
| TOTAL | 9930.80 | 100.00 |



Table 7. Continued . . .

| PARTICULAR | VALUE | PERCENTAGE |
|---|-----------|---------------------------------|
| Net farm income | 20069.20 | |
| Unpaid Family labor | 7800.00* | |
| Interest on average inventory | 1010.40** | |
| Returns to operators labor and Management | 11258.80 | |
| * Unpaid family labor was valued Using the current farm wage rate | | **assuming that the rate is 16% |

Contribution of Parsley to Farm Income

The contribution of parsley production to the farm income of farmers was obtained by comparing the income received from parsley production with that of their income from their main crop. The results are presented in figure 1. From the Figure the contribution of parsley is 40% - 80% of the total farm income and almost 50% of the income from main crop.



SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The study focused on the contribution of parsley production to farm income in Bano-oy, Baculungan Norte, Buguias, Benguet. It was conducted from December 2010 to February 2011. The respondents were 24 total or complete enumerations of the parsley growers.

The respondent ages are widely distributed. Most (46%) of the respondent belong to the age bracket 46-55 and (42%) belong to the age bracket 36-45. Majority of the producers are female 21 (88%). Most of them were into parsley production with an area of 10-50 sq. meters. Majority of them grew this crop to a silt textured soil and black colored soil. Most of the variety grown was curly-leafed.

Majority, eighteen (75%) of the respondent do not soak seeds in water before planting. And twenty-three (96%) of them transplant their crop for parsley seeds are slow to germinate it take 3-4 weeks before the seeds will sprout. Most seventeen (68%) of them direct or basal apply the fertilizer. Majority of them used the fertilizer chicken dung and urea, and sprayed insecticide such as lorsban and trigard and vondozeb fungicide.

The highest frequency reported an income contribution within the range of 40%-80% of the total income and almost 50% of the main crop. The average net income in parsley production with an area of 120 sq. meters production area was P11258.80.



Conclusions

The following conclusions were drawn based on the findings of the study.

1. With regards to parsley production, the different parsley producers employ similar production practices.
2. The common problems encountered by the producers to their main crop are the unstable price of the vegetable in the market, high cost of labor, transportation and inputs used.
3. The income of growers from parsley production in Bano-oy, Baculungan Norte, Buguias, Benguet is considerable. This is confirmed by the information gathered that the contribution of this venture is 40% - 80% of the total income and almost 50% of the main crop.

Recommendations

1. Although parsley is cultivated in small area its contribution to income is substantial, sometimes larger than the income from the main crops planted in larger area. But it is advisable that the farmers should maintain to cultivate in small area because of the limited demand and utilization of the crop.



LITERATURE CITED

- ADAM, J. 2001. The Hungry Herb. Retrieved 2001 from http://www.Herbs2000.com/herbs/herbs_parsley.htm
- BERRY, W. 2007. Soil Texture. Retrieved 2007 from http://www.water.rutgers.edu/Rain_Gardens/factsheet29.pdf
- BRADY, N and R. WEIL. 2006. Elements of the Nature and Properties of Soils. Retrieved 2006 from http://en.wikipedia.org/wiki/Soil_color
- BROWN, R. 2010. Soil Texture. Retrieved 2010 from http://en.wikipedia.org/wiki/Soil_texture
- CRAIG, W. 2010. Vegetarianism and Vegetarian Nutrition. Retrieved 2010 from <http://www.vegetarian-nutrition.info/herbs/parsley.php>
- EDWARDS, M. 2008. You're Farm Income. Retrieved August, 2008 from <http://www.extension.iastate.edu/Publications/FM1816.pdf>
- FLOREN, G. 2010. Culinary Herbs: Their Cultivation, Harvesting, and Uses. Retrieved 2010 from <http://www.gutenberg.org/files/21414/21414-h/21414-h.htm#>
- FROGGE, M. 2010. Growing Parsley. Retrieved 2010 from <http://lancaster.unl.edu/hort/nebline/parsley.shtml>
- GRIEVE, M. 2010. Parsley. Retrieved 2010 from <http://www.botanical.com/botanical/mgmh/p/parsle09.html2010>
- HANRAHAN, E. and J. FREY. 2005. Natural Remedies Encyclopedia. Retrieved 2005 from <http://health.learninginfo.org/parsley.htm>
- JETT, J. 2007. That Devilish Parsley. Retrieved 2007 from <http://en.wikipedia.org/wiki/Parsley>
- MCGREE, B. 2006. Origin and History of Parsley. Retrieved 2006 from <http://www.theepicentre.com/Spices/parsley.html>
- PARK, T. 2010. Farm Income and Cost. Retrieved 2010 from <http://www.ers.usda.gov/Briefing/FarmIncome/>
- RAY, M. 2010. The Encyclopedia Of Medicinal Plants. Retrieved 2010 from http://www.herbs2000.com/herbs/herbs_parsley.htm
- RAYMENT, J. 2010. How to Grow Parsley. Retrieved 2010 from <http://www.indepthinfo.com/parsley/cultivation.shtml> How to Grow Parsley



- SMALL, E. and G. DUETCH. 2001. Culinary herbs for short season gardeners. Retrieved 2001 from http://www.herbs2001.com/herbs/herbs_parsley.htm
- WILLARD, T. 2002. Encyclopedia of herbs. Retrieved 2002 from http://www.herbs2000.com/herbs/herbs_parsley.htm
- WOOD, S. 1998. Vegetable Production Guide. Retrieved 1998 from <http://www.ourherbgarden.com/parsley.html>



APPENDICES**APPENDIX A**

Letter to the Respondents

College of Agriculture
Department of Agricultural Economics and Agribusiness Management
Benguet State University
Km-6 La Trinidad, Benguet

November 27, 2010

Dear Respondents:

I am a student of Benguet State University presently conducting a study entitled “CONTRIBUTION OF PARSLEY TO FARM INCOME OF FARMERS IN BANO-OY, BACULUNGAN NORTE, BUGUIAS, BENGUET”.

In this regard, may I ask your participation for the success of my study by answering honestly the attached questionnaire? Rest assured that all the information to be gathered will be kept confidential and it will be very much appreciated.

Thank you and God bless.

Very truly yours,

JESUSA T. GOBI
Student Researcher

Noted by:

DAVID JOSEPH L. BOGNADON
Adviser



APPENDIX B

Survey Questionnaire

I. Personal Information

Name: _____

Age: _____

Gender: ____ Female

____ Male

Occupation: _____

II. Survey Questionnaire

1. What is the texture of the soil you are planting?

____ Sand

____ Silt

____ Clay

| |
|---|
| Sand- gritty Silt- powdery Clay- Sticky |
|---|

2. What is the color of the soil you are planting for parsley?

____ Black

____ Dark Brown

____ Brown

____ Reddish

____ others (specify)

3. How wide is the area you are planting for parsley in m²?



4. What is the variety of parsley you produced?

_____ Curly-leafed

_____ Flat-leafed

_____ Hamburg

5. Are you soaking the seed before planting?

_____ Soaking

_____ Do not soak

6. What is the method you used in planting the seed?

_____ Transplant

_____ Direct Seeding

7. What are the fertilizers you used in producing parsley?

| FERTILIZERS | QUANTITY | COST |
|------------------------|----------|------|
| ___ Chicken Manure | | |
| ___ FCM | | |
| ___ Urea | | |
| ___ Atlas | | |
| ___ Yara | | |
| ___ 2n1 Marca Bulaklak | | |

8. What do you do in applying fertilizer?

_____ Soak before applying

_____ Directly apply the fertilizer



9. What are the spraying items you used in producing parsley?

| PARTICULARS | QUANTITY | COST |
|---------------|----------|------|
| Insecticides: | | |
| Lorsban | | |
| Trigard | | |
| Magnum | | |
| Tamaron | | |
| Bida | | |
| Super Cartap | | |
| Fungicides: | | |
| Mancozeb | | |
| Vondozeb | | |
| Dithane m-45 | | |
| Shotgun | | |
| Padan | | |
| Anthracol | | |
| Score | | |
| Rover | | |
| Daconil | | |
| Herbicides: | | |
| Afalon | | |

10. How much cost you incurred from the following?

| PARTICULARS | QUANTITY | COST |
|-------------|----------|------|
| Seeds | | |
| Labor in: | | |
| Planting | | |
| Weeding | | |
| Spraying | | |



| | | |
|------------|--|--|
| Harvesting | | |
|------------|--|--|

11. How much is the income you earn from your other crop annually?

12. How much income you gain in producing parsley?

___ 5,000-10,000

___ 10,000-15,000

___ 15,000-20,000

___ 20,000-25,000

___ 25,000-30,000

| INCOME (000) | BROCCOLI | CARROTS | CELERY | CHINESE CABBAGE | CABBAGE | LETTUCE | POTATO |
|-----------------|----------|---------|--------|--------------------|---------|---------|--------|
| 5-10 | | | | | | | |
| 10 -15 | | | | | | | |
| 15-20 | | | | | | | |
| 20-25 | | | | | | | |
| 25-30 | | | | | | | |



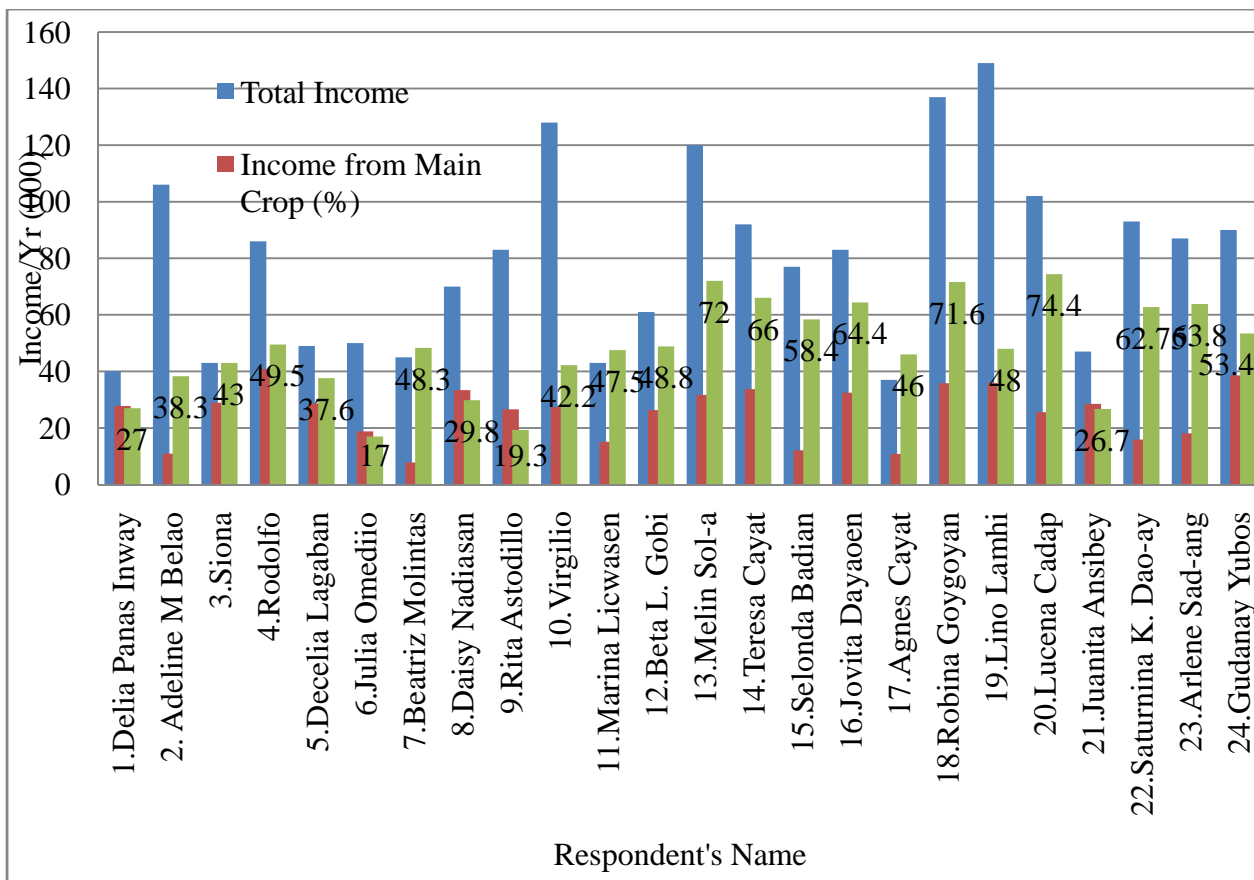


Figure 1. Contribution of Parsley to Farm Income

