

BIBLIOGRAPHY

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ABSTRACT

This study was conducted at La Trinidad, Benguet with the following objectives: to determine the socio-economic profile of the respondents, their perceptions towards the Induyan compost, the effect of compost on crop growth, the benefits in using Induyan compost and the problems encountered in using Induyan compost.

The data gathered through questionnaire and personal interview from thirty (30) respondents. Majority of them were married and had either finished elementary, high school or college. Their source of livelihood is farming with an experience ranging from 2 to 40 years. However, some of the respondents augmented their income through other off-farm occupation like being government employee and hired labor. Majority of the respondents lease the land they tilled and was on open field ranging from 500 square meter to 5,000 square meter area of cultivation.

Compost fertilizer provided adequate nutrients needed by plants improved soil condition, and improved plant growth to be resistant to diseases. The perceptions towards Induyan compost are natural fertilizer, soil conditioner and rich in nutrients. Thus, respondents confirmed wherein compost is advantageous to plants and helped farmers on their farm.

The effect of compost was: robust plants and fast germination, occurrences of late blight, early blight are incidence pest and diseases that affect the growth of the plants. Also the reduced interval irrigation was the moisture content that respondent confirmed. The soil condition was soil is elastic and weeds are easily grown.

With regards to the benefits in using Induyan compost as fertilizer, it reduced farm inputs, better quality of production and quality of vegetable and cheaper compared to inorganic fertilizer. Most of the respondents used fully compost in their farms and considered the texture was fine.

Observations and problems encountered by the respondents while using compost are late blight, cut worms, plant is very robust so it is easily attacked by fungus, plants are stunted and needs foliar fertilizer.

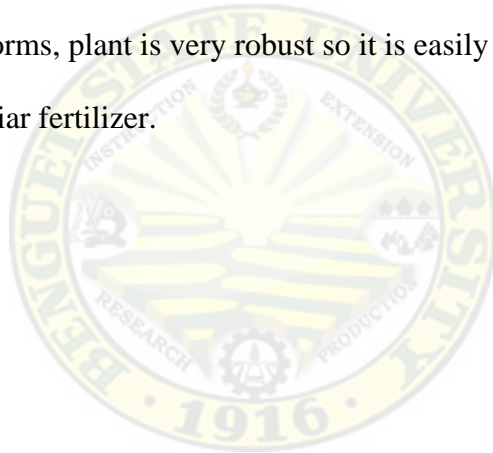
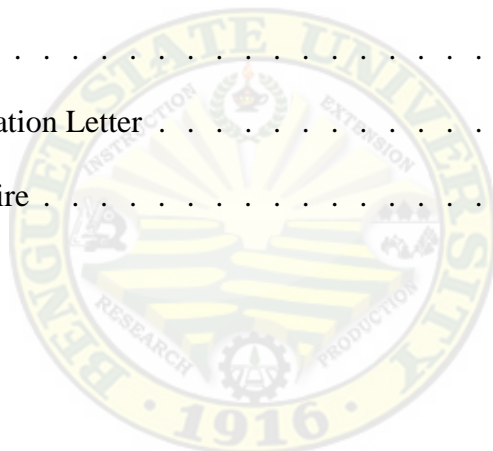


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INTRODUCTION

Rationale

The Municipal Agriculture Office aims to sustain the composting facility at Induyan, Alno by continuous operation and maintenance to produce readily available and quality organic fertilizer that would benefit farmer-users. And to show that composting is one of the most effective means of managing biodegradable waste.

Compost is composed of organic matter derived from plant and animal matter that has been decomposed largely through aerobic decomposition. The process of composting is a simple practice by individuals in their homes, and farmers on their land; Compost can be rich in nutrients and is useful in gardens, landscaping, horticulture and agriculture. The compost itself is beneficial for the land in many ways, such as soil conditioner, a fertilizer, addition of vital humus or humic acid and as a natural pesticide of the soil (Wikipedia, 2010).

Organic product not only contributes to the maintenance of healthy life but also contribute to the maintenance of a healthy regional economic health (Cabreza and Caluza, 2002). Aside from providing safe and nutritious food it also makes sure that physical bodies of human beings continue to be the effective vehicles for the growth of and intention of the human spirit. It can be eaten raw or cooked and is a good source of nutrients like vitamins and minerals.

The application of organic matter is considered to be one of the most important components in maintaining ecological balance in the soil. It is less expensive because the materials to be used in making compost are found in the locality life in manure, grass and rotten leaves and has lasting effect on the soil for favorable plant growth and



development. Organic fertilizer is the natural fertilizer used in the cultivation of farmers in the gardens. It does not need any high expenses, but requires a lot of time preparing it.

Organic farming provides to be more profitable and it was found out that it has the ability to preserve soil by reducing soil erosion up to a large extent. It's not only beneficial on the farm, but it is also useful for the dairy industry. Cattle grazing on organic farmland had been found to be less prone to diseases and yield more milk. These are definitely good signs for consumer of dairy product from health perspective and for dairy organization from the profit perspective (Deshmukh, undated).

Since organic farming has now become a topic, the agriculture sector and the municipal office of agriculture at La Trinidad, Benguet is producing compost as one of their project, a thorough study must be conducted, in order to gather data on how farmers perceive organic farming, and to further inquire in using composed fertilizer.

Statement of the Problem

Specifically, the study answered the following questions:

1. What is the socio-economic profile of the respondents?
2. What are their perceptions toward the Induyan compost?
3. What are the possible effects of compost on crop growth?
4. What are the benefits in using Induyan compost?
5. What are the problems encountered in using Induyan compost?

Objectives of the Study

1. To determine the socio-economic profile of the respondents;
2. To determine the perceptions toward the Induyan compost;



3. To determine the possible effects of compost on crop growth;
4. To determine the benefits in using Induyan compost; and
5. To determine the problems encountered in using Induyan compost.

Importance of the Study

The study found out the perceptions, possible effects and the benefits of farmer-user on composed fertilizer. The result of this study served as a guide to encourage more farmers to use low cost fertilizer, which maybe environmental free and still have better yield and production. It also provided insight to extensionist, researchers, trainers and farmers who are using organic fertilizers as an important technology in their production.

Scope and Limitation

The study was conducted at the municipal office of La Trinidad, Benguet. It was limited on farmer-users to the practices usage on organic fertilizer, and the problems they encountered.



REVIEW OF LITERATURE

Organic fertilizer derived from decompose excrement from animals and or plant residues which can supply one or more essential nutrient elements to plants organic fertilizer are not expensive and abundant in the locality, it can minimize and reduce lower cost of rain in put particularly on the fertilizer. The application of organic fertilizer will also help to maintain soil fertility by improving soil physical and chemical such as structure, tilt, a ration moisture movement and retention the goal of organic fertilizer is to provide a better environment for the plant root system (Asuncion *et al.*, 1976)

Pears and Stickland (1999) stated that organic matter contains a complex range of ingredients, proteins, sugar, carbohydrate and all the other materials that make up plants and animals. Organic matter has many benefits including helping soil particles adhere together into crumb, thus improving the soil structure. These helps drainage in heavy soil, making them more workable and easily penetrated by plant roots. Organic matter makes light soils more moisture-preventive because it holds water. In addition, organic matter also holds on to the nutrient elements in the same way as clay particles, preventing them from being washed out.

On the other hand, application of organic matter is not only confined of its effects on the performance of the present crop but also its effect on the soil. Since every farming operation constantly destroy the desirable conditions of soil, constant application of organic fertilizer should be practiced in order to preserve the productivity of the soil, a pre-requisite of sustainable agriculture. Application of organic fertilizer is one of the most practical fertilizers to be applied in the soil. It is needed in deciding what farm management is to be practiced in the particular part of the soil (Tanguid, 2000).



Pears (2002) said that organic fertilizers are product of plants, animals or mineral origin. The nutrients they contain are generally released slowly over a period of time as a fertilizer is broken down by microorganisms. This slow release feeding is generally much better for plants than the quick fix chemical fertilizers. Avoiding the fast sappy growth that can cause plants, to be more susceptible to insect attract and late spring frost.

Aside from livestock and flower production, vegetable farming is a good source of income and livelihood in La Trinidad where around 5,860 hectares is devoted to vegetable farming (Anonymous, 2004).

The only way for organic farming to become seriously notice would be for the standard of the farming to become so high, that would eventually let the farmers see the value of it; thus paring them the way to organic farming. For all the talk of market and subsidies, the essential ingredient is the quality of the farming. Good organic farming has to be both productive and ecological and the resulting food has to be excellent. Farmers then have to build up their knowledge and understanding of the nature of the soils, and what constitutes a really healthy soil from which healthy and productive crops and stock grow. Both existing and incoming organic farmers have to be helped for them to develop this understanding of the intricacies involved, so that they can bring together their knowledge of manuring, rotations, weather and husbandry to develop really good systems for the land for which they have the privilege of being responsible as stated (Newton, 2004).

Bennet (1995) pointed out that the incorporation vegetable matter in the soil, whether in the form of compost, barnyard or manure, was usually in reducing erosion and off. He reiterated that by improving the structural conditions, organic matter improves



soil and increases its capacity to conserve moisture and deliver it readily to plant roots. It improves soil condition, favoring root penetrations and growth with beneficial microorganism and large organisms.

Effect of Organic Fertilizer

According to Rimando (2001), organic fertilizer have the advantage of providing other essential materials other than inorganic ions, which are also needed for growth. These substances may consist of vitamins and hormones. Organic also often also enhance the growth of beneficial organisms which aid in the transformation of substances to more available forms. Kinoshita (1972) reported that application of organic fertilizer in sufficient amount improve soil structure, serve to improve soil tilt, and aids in desirable processes in the soil. Further more applications of organic fertilizer increases not only the quantity of nutrient elements for plant growth and development but also decrease bulk density of the soil organism matter can increase water absorption and lessen water run off, leaching, erosion. The increased porosity causes greater aeration favoring different kinds of bacteria for nutrient liberation. The greatest benefit of organic fertilizer is that it releases the supply of available nutrient element especially N for efficient utilization of plant (Tisdale and Nelson, 1954).

Brady (1990) point out that farm manure is valuable to crop because of its nitrogen content and influence on the soil and it is considered animal and plant material that tend to intended the yielding of crops. He added that animal manure is valuable sources of both macro and micro element apart from providing a habit for beneficial soil organisms. The value of farm manure is determined not only by the organic matte it furnishes but specially by the quantity of nitrogen that it supplies. Manure has various



effects on the soil which promotes plant growth. It adds plant food to the soil, adds humus, raises the temperature of the soil, increases the water holding capacity of the soil, increase the number of beneficial organism, promotes fermentation changes and provide food to the organism which assist making plant food available (Subido, 1955). Similarly, Dogoon and Cadiz (1985) stated that cow manure is a good source of fiber and fertilizers to the soil.

Processed chicken manure is safer to use because it has under gone processing. It has higher food nutrients because it has undergone decomposition where in mineralization, ammonification and nitrification takes place. These are readily available to plant.

Alnus compost is abundant in the highlands that can be a perfect organic nitrogen source. It is easy to compost and hasten decomposition (Pandosen, 1986) as cited by Marcelino (1995). At present, alnus has been discovered as a good source of organic fertilizer, it is also friendly to the environment and also control some diseases. Tan (1975) mentioned that compost is used to improve in various ways, it granulates the soil particles and make it loose for easy tillage. It improves the soil drainage aside from being a very good source of plant nutrients. Cadiz and Aycardo (1977) stated that there are needs for a sustained application of compost to provide the food supply needs of crop and feed the beneficial flora and fauna especially the microbes that make the tied-up nutrients available. In 1994, Mechalak cited that compost is good source of organic matter and nutrient for plants. It improves soil structure and water retention. Compost contains beneficial microorganisms that suppress plant pathogen in soil.



Bautista (1986) stated that the soil for vegetable production should be rich in organic matter to achieve this condition is through sustained application of compost.. Composting weed, manure and other farm wastes are converted to useful soil amendment, which when use in the farm can improve soil structure making it deal for vegetable production. Bautista (1983) cited that fertilizer should be applied as close as possible to the roots without hindrance to germination or root growth. It should be supplied when nutrients are most needed, usually at early vegetable stage and at flowering or fruiting times. For areas with equal distribution of rainfall during the year or in sandy soil or where there is irrigation the required fertilizer dosage can be applied two to three application if two applications were made, one half of the fertilizer is usually applied at planting and the other half during blooming stage.

The organic farming research foundation (OFRF) in the United States of America defined organic farming as a modern, sustainable farming system which maintains the long term fertility of the soil and uses less of earth's finite resources to produce high quality, nutritious (OFRF, 2004). Furthermore, the International Federation of Organic Agriculture Movement (IFOAM), states the purpose of organic agriculture is to optimize the health and productivity of independent communities of soil life, plants, animals and people.

Organic farming as stated by Magdoff and Weil (2004) does not allow the use of synthetic pesticide or fertilizer and is intended to reduce the detrimental effect of agriculture on soils, animals and the environment.



Advantages of Organic Farming

Organic farming lowers the operating cost of the farmers. This is because they don't have to spend money anymore in purchasing chemicals and fertilizers. This would enable them to expand their operations because of bigger profits. Furthermore, it would also mean additional employment for others in the community. The most important of the advantage of organic food is that it maintains the life of the soil, not only for the current generation, but also for the future generation. Water pollution is reducing with organic farming. Most of the times after it rain, the water form the field, which contain chemicals, gets drained into the rivers. This pollutes the water bodies. In organic farming, since no chemicals or synthetic are used, water pollution reduce well. Organic farming helps in building richer soil. The rich soil helps on plant growth. The rate of soil erosion is reducing drastically. A French study revealed that the nutritional quality and micro-nutrients are present in higher quantities in organically produce crops. The micro-nutrients promote good health. Organically grown food tastes better too. The life of organically grown plants is longer than the plants cultivated by traditional methods. Organically grown crop is drought tolerant. However, along with the pros of organic farming, there are certain cons of organic farming too. The first disadvantage of organic farming is low productivity. With the highly developed chemicals and machinery, the farmer is able to multiply his harvest manifold times. The organic farmers use the cultivation method as opposed to drilling method used by the tradition farmers. The next argument, which goes against organic farming is that organically produce food is expensive. The cost is very often 50-100 percent more than the traditional food. The other



valid argument is that organic food is not always available. There is a reason behind that (Lastimosa, 2009).

Furthermore, Lastimosa (2009) stated that crop rotation, green manure, use of natural fertilizers and biological pest control form the crux of organic farming. It is a proactive ecology management strategy. This strategy enhances the fertility of the soil, reduces soil erosion and at the same time protects the humans and animal kingdom from the side effect of chemicals and synthetics.



METHODOLOGY

Locale and Time of the Study

The municipal office of agriculture has a project on composed fertilizer, aimed to sustain the composting facility at Induyan, Alno by continuous operation and maintenance to produce quality organic fertilizer that benefit farmer-user. The study was conducted at the Municipal Office of Agriculture, La Trinidad, Benguet. It was conducted from December 2010 to January 2011.

Data Collection

Survey questionnaire was used in collecting necessary data from the respondents. It was supplemented with observation and personal interview. The items in the questionnaire were filled up by the researcher. Through explanation of the questions to the respondents is to be fatherly done by the researcher for their intensive understanding, and for safe accuracy purposes. The interview was conducted at any time of the day, depending on the respondents' most convenient time.

Data Analysis

The needed information were categorized and presented in table form. The data were analyzed using the mean and percentage.

RESULTS AND DISCUSSION

Socio-Economic Profile of the Respondents



Table 1 presents the background information of the respondents. Variables such as age, sex, civil status, nature of farming, the number of years in farming and type of farming.

Age. Thirty percent (30%) of the respondents belong to the ages 41 to 50 years old; twenty seven percent (27%) belong to ages 20 to 30; and forty three percent (43%) from 31 to 40 years of age.

Sex. The data show that 80% of the respondents were males and 20% were females. However, this does not mean that females had lesser participation on organic farming specifically on the Induyan compost.

Civil status. Eighty three percent (83%) of the respondents were married. Seventeen percent (17%) were still single. This means that the married respondents were active in farm activities to support their family.

Educational attainment. Twelve percent (12%) of the respondents were able to reach high school level; ten percent (10%) finished college; seven percent (7%) reached elementary level, while one percent (1%), vocational course.

This shows that all of the respondents are literate and are receptive to learn new knowledge, and are interested on using compost as fertilizer on their plants.

Tenure status. Sixty seven percent (67%) of the respondents lease the land they were cultivating, twenty three percent (23%) owned the land and ten percent (10%) rented.

Table 1. The socio-economic profile of the respondents

PARTICULARS	NUMBER OF RESPONDENTS	PERCENTAGE (%)
<u>Age</u>		
20-30	8	27
31-40	7	23



41-50	9	30
51-60	6	20
TOTAL	30	100
<u>Sex</u>		
Male	24	80
Female	6	20
TOTAL	30	100
<u>Educational attainment</u>		
Elementary	7	23
High School	12	40
College	10	33
Vocational	1	3.3
TOTAL	30	99
<u>Tenure status</u>		
Owned	7	23
Lessee	20	67
Rented	3	10
TOTAL	30	100
<u>Areas cultivated</u>		
100 sq.m – 500 sq.m	3	10
500 sq.m-1,000 sq.m	8	27
1,000 sq.m-5,000 sq.m	8	27
5,000 sq.m-10,000 sq.m	10	33
10,000 sq.m-20,000 sq.m	1	3
TOTAL	30	100
<u>Nature of Farming</u>		
Full time	20	67
Part time	7	23
Hired labor	3	10
TOTAL	30	100
<u>Number of years</u>		
2 – 5	4	13
6 – 10	9	30
11 – 15	8	27
16 – 20	1	3
21 – 25	4	13
26 – 30	2	7
31 – 35		
36 – 40	2	7
TOTAL	30	100
<u>Type of farming</u>		
Green House	4	13
Open field	26	87
TOTAL	30	100

Nature of farming. Majority of the respondents (67%) were full time in farming and using compost and 23% of the respondents were part time in farming while 3% hired labor.



Number of years in farming. With regards to the number of years in farming, 30% of the respondents are engaged in farming for 6 to 10 years; 27% for 11 to 15 years; 13% for 21 to 25 years; 13% for 21 to 25 years; 7% for 26 to 30 years; and 7% for 36 to 40 years. The 3% were engaged for 16 to 25 years in using Induyan compost. This shows that the respondents are experienced farmers.

Types of farming. On type of farming, majority of the respondents (87%) operated in open field farms while 13% of the respondents were in green houses.

Areas cultivated. Among the 30 respondents, 33% of the respondents had an area of 5,000 to 10,000 square meters; 27% with 1,000 to 5,000 square meters and 27% with 100 to 500 square meters; and only 3% of the respondents cultivated an area of 10,000 to 20,000 square meters.

Perception Towards Induyan Compost

Table 2 shows the perception of the respondents toward induyan compost, 70% of the respondents considered it as a natural fertilizer; 67% as a good soil conditioner; 47% indicated that compost is rich in nutrient which has the capacity to produce nutrients; and 27% said that compost is a free chemical fertilizer which indicates that compost produces better quality plants.

Table 2. Perception towards the Induyan compost

FACTORS/REASONS	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Natural fertilizer	21	70
Soil conditioner	20	67



Rich in nutrients	14	47
Free chemical fertilizer	8	27

Advantages of Using Compost compared to Inorganic Fertilizer

Table 3 shows the advantages of the organic fertilizer compared to the inorganic fertilizer 87% of the respondents indicated that it improved the soil condition; 53% of the respondents indicated that compost was a good fertilizer which provides adequate nutrients needed for plant growth; 33% said that it could provide better crop production; 30%, much cheaper compared to the inorganic fertilizer. This shows that compost is more advantageous in terms of price of the production or technology for the users to afford in marketing as fertilizer to their farm crops. Although it shows that only 33% said it helped farmers reduced farm inputs.

Methods of Application

Table 4 shows that 50% of the respondents practiced basal application; 40% of respondents practiced broad casting; and 17% used side dressing. This finding implies that the respondents have their different practices in applying fertilizer.

Time of Fertilizer Application

Table 5 shows that 80% of the respondents applied compost fertilizer before planting and 37% of the respondents applied after planting. The finding implies that the respondents practiced different ways in applying fertilizer.



Table 3. Advantages of using compost compared to inorganic fertilizer

FACTORS	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Improve soil condition	26	87
Compost is a fertilizer which provide adequate nutrients needed by plant	16	53
Improve plant growth and can help plants to be resistant to diseases	16	53
Much cheaper compared to the inorganic fertilizer	9	30
Provide better of crop production	10	33

Table 4. Methods of application

METHODS	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Basal placement	15	50
Broad casting	12	40
Side dressing	5	17

Table 5. Time of fertilizer application

TIME OF APPLICATION	NUMBER OF RESPONDENTS	PERCENTAGE (%)
After planting	11	37
Before planting	24	80

Effect of Compost on Crop Growth

Table 6 presents the effect of compost on growth of plant. Most (90%) of the respondents said that their plants were robust with the use of compost and 7% of the respondents said that their plants were easily attacked by diseases. This shows that



compost contribute a big factor to the growth of plants. Furthermore, nutrient analysis of Induyan compost from the Municipal Agriculture Office are 7.9 pH, 1.82 nitrogen (% N), 1.44 phosphorus (% P205), 1.89 potassium (% k20), 40.52 organic carbon (%), total NPK 5.15. This finding of Induyan compost was analyzed by the Bureau of Soils and Water Management, Diliman, Quezon City which implies the Induyan compost is an ideal fertilizer for plants

Germination Growth

Table 7 presents that most of the respondents confirmed that compost could contribute to plant in terms of germination, 70% said that the plant was high rate to germinate, while few or 13% observed low germination rate.

Table 6. Effect of compost on crop growth

MATURITY OF PLANT	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Plant is robust	27	90
Plant is easily attacked by diseases	2	7

Table 7. Germination growth

GERMINATION GROWTH	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Fast to germinate	27	70
Slow to germinate	4	13

Incidences of Pest and Diseases During Plant Maturity

Table 8 presents the pests or diseases, 27% observed late blight; and 23%, early blight; while only 3% said that plants were stunted. However, this may not be attributed to the compost since there are environmental factors to consider.



Moisture Content Extent of Irrigation

Moisture content extent of irrigation represents the effect and the contribution in using compost to the extent of irrigation is shown in Table 9. Majority (47%) of the respondents indicated twice a week of irrigating their plant; 70% before sunrise; 17% once a day; and 3% one time in a week, one day sprinkle, in every two days, in four times a week. Based on observation the use of compost irrigation interval reduced.

Soil Conditions

Table 10 shows the contribution of compost fertilizer in soil condition. This table shows that 57% said that soil is yielding, while 8 or 27% said that soil is firm. These findings show that the use of compost contribute to improve the soil condition.

Table 8. Incidences of pest or diseases during plant maturity

PEST OR DISEASES	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Late blight	8	27
Early blight	7	23
Plant are stunted	1	3

Table 9. Moisture content extent of irrigation

HOW MANY TIMES TO IRRIGATE THE PLANT	NUMBER OF RESPONDENTS	PERCENTAGE (%)
2 times a week	14	17



Before sunrise	2	7
3 times a week	2	7
1 times a week	1	3
1 day sprinkle	1	3
Every 2 days	1	3
4 times a week	1	3
Once a day	5	17

Table 10. Soil condition

SOIL CONDITION	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Soil is firm	8	27
Soil is yielding	17	57

Weed Control

Table 11 shows that 57% of the respondents observed that weeds easily grew; 30% said that easy to control; and 7% of the respondents found difficulty in controlling weeds based on their observation because on the use of compost that may have affect on the growth of weeds.

Benefits in Using Induyan Compost

Table 12 presents the benefits in using Induyan compost. 60% of the respondents confirmed that it reduces farm inputs, while 60% confirmed that it had better quality of



production, 53% of the respondents said it helped produced better quality vegetable; 47% cheaper compared to the inorganic fertilizer; 33% said that production of chemical free vegetables; and 20% observed the increase in the quantity of production. This

Table 11. Weed control

WEED CONTROL	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Easy to control	9	30
Hard to control	2	7
Weeds are easily grown	17	57

Table 12. Benefits in using Induyan compost

FACTORS	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Reduce farm inputs	18	60
Better quality of production	18	60
Production of better quality of vegetable	16	53
Cheaper compared to the inorganic fertilizer	14	47
Production of free chemical crops	10	33
Increase production (sq.m	9	30
Weight is increased	6	20

shows that less farm inputs, better quality of production, production of quality vegetable, cheaper compared to inorganic fertilizer.



Problems Encountered in Using Induyan Compost

Table 13 presents that 57% confirmed that Induyan compost was fully decomposed, while 3% said that was not composed. The result shows that 57% of the respondents implied that it was fully composed this means that most of the users claimed the Induyan compost is effective as an organic fertilizer. Furthermore, the findings also show that some of the respondents were still not contented with the finished compost product.

Characteristics of Compost

Majority (73%) of the respondents claimed that the texture of the compost was fine; and 33% said it had a foul smelling. This finding shows that the respondents had various description of the Induyan compost as shown in Table 14.

Table 13. Problems encountered in using Induyan compost

MATURITY OF COMPOST	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Fully decomposed	17	57
Slightly composed	12	40
Not composed	1	3

Table 14. Characteristics of compost

CHARACTERISTICS	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Texture is fine	22	73
Foul -smelling	10	33

Problems Encountered while Using Compost on Farm



Table 15 shows the observations of the respondents in using Induyan compost. Plant pest and diseases noted were the late blight, cut worms, easily attacked by fungus, plant were stunted, unmetered compost, source of fusarium wilt, causes burning of plants when not properly compost.

Table 15. Problems encountered

CHARACTERISTICS	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Late blight	1	3
Cut worms	1	3
Plant is very robust	1	3
Plant are stunted	1	3
Unmetered compost	1	3
Causes burning of plants	1	3



SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The study was conducted in La Trinidad, Benguet, and focused on the contribution of composting project located at Induyan, Alno, La Trinidad, Benguet under the Municipal Agriculture Office.

The respondents were vegetable farmers. Majority of them were married and had either finished elementary, high school or college. Their main source of livelihood is farming with an experience ranging from 2 to 40 years. However, some of the respondents augmented their income through other off-farm occupation like government employment and hired labor. Majority of the respondents lease the land they tilled on open field, and had 500 square meter to 5,000 square meter area of cultivation.

Compost fertilizer provided adequate nutrients needed b plants, improved soil condition, and improved plant growth to be resistant to diseases. Perceptions toward Induyan compost such as natural fertilizer, free chemical fertilizer, and soil conditioner rich in nutrients. Thus respondents confirmed wherein compost is advantageous to plants and helped farmers on their farm.

The effects of compost were robust plants, fast germination and occurrence of late blight, early blight was incidence pest and diseases that affect the growth of the plants. Also the compost reduced interval irrigation was the moisture content that respondent confirmed. The soil condition was elastic and weeds are easily grown. However, NPK analysis of compost includes nitrogen which helps plant foliage to grow strong, phosphorus helps roots and flowers development and potassium (potash) is important for the plants



With regard to the benefits in using Induyan compost as fertilizer at reduced farm inputs, better quality of production, and quality of vegetable, cheaper compared to inorganic fertilizer.

Most of respondents used fully compost in their farms and considered the texture is fine.

Problems encountered while using compost such as late blight, cut worms, plant is very robust so it is easily attacked by fungus, plants are stunted, needs foliar fertilizer. Thus are the observation and problems by the respondents while using compost.

Conclusions

These were the conclusions drawn from the study:

1. The respondents were married, middle age and literate. Farming was their main source of income although they were engaged in other off farm activities to augment their income;
2. The use of compost improves their production in terms of quality. Furthermore it improves soil conditions;
3. Compost is a way for plants to become robust. Its high rate in germination and irrigation interval reduce, soil become yielding while weeds easily grown. Furthermore, nitrogen, phosphorous and potassium levels are the basis for determining healthy plant growth;
4. Compost provides free chemical crops and it reduced farm inputs; and
5. Respondents have problems while using compost. Include late blight, cut worms, plant is very robust so it is easily attacked by fungus, plants were stunted, plants need foliar fertilizer fusarium wilt and burning if it's not properly composted.



Recommendations

Based on the findings, the following recommendations are offered:

1. The project implementers of the Department of Agriculture should conduct monitoring and follow-up to the users of compost;
2. Conduct trainings and seminars on proper use and application of compost fertilizer;
3. Improvements in the production for farmers continue to use organic fertilizer;
4. To inform farmers about the benefits and advantages of using compost; and
5. To encourage farmers to use compost fertilizer to help in their production of crops.



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APPENDICES**APPENDIX A**

Communication Letter

December 2010

Dear Respondents,

Greetings!

I am Harry Awal Patricio, a fourth year student of Benguet State University who is conducting a study entitled “Contribution of the composting project located at Induyan, Alno, La Trinidad, Benguet under the Municipal Agriculture Office.” This is a major course requirement of Bachelor of Science in Agriculture major in Extension Education.

This questionnaire given to you will be used to fulfill the academic requirement needed in this research.

The success of this study relies on you, on how you honestly answer the question. Your valued cooperation and kind consideration is highly appreciated.

Thank you very much and God bless.

HARRY A. PATRICIO
Researcher

APPENDIX B

*Contribution of the composting project located at Induyan Alno, La Trinidad,
Benguet under the Municipal Agriculture Office/ Harry A. Patricio 2011*



Questionnaire

A. Socio-economic profile of the respondents

Name: _____

Address: _____

Age: _____

Civil Status: _____

Educational Background: _____ Elementary
 _____ High School
 _____ College
 _____ Vocational

Number of Children: _____

Farming Status: Tenure status _____ land owner
 _____ lessee/rented
 _____ others, please specify _____

Area cultivated (sq. m.)/size of the farm
 _____ 5,000
 _____ 10,000
 _____ 15,000
 _____ others, please specify _____

Nature of farming: _____ full time
 _____ part time
 _____ hired labor
 _____ others, please specify _____

Number of year in farming: _____

Type of farming: _____ green house
 _____ open field
 _____ others, please specify _____

B. Perception towards the Induyan compost

1. Why do you prefer to use compost as a fertilizer on your farm?

_____ Natural fertilizer
 _____ Free chemical fertilizer
 _____ Soil conditioner
 _____ Rich in nutrients
 _____ others, please specify _____

2. What are the advantages of using compost compared to inorganic fertilizer?



- Much cheaper compared to the inorganic fertilizer
 Compost is a fertilizer which provide adequate nutrients needed by plants
 Compost can improve plant growth and can help plants to be resistant to diseases.
 Provide better crop production
 Improve soil condition
 Others, please specify _____

3. Methods of fertilizer application

- Basal application
 Side dressing
 Broadcasting
 Others, please specify _____

4. Time of application

- After planting
 Before planting
 Others, please specify _____

C. What are the possible effects of compost on crop growth?

1. In terms of germination

- fast to germinate
 slow to germinate

2. Maturity growth of the plant

- Maturity of the plant is robust
 Plant is easily attacked by diseases

3. Incidences of pest or diseases during plant maturity

- Late blight
 Early blight
 Plant are stunted

4. Moisture content extent of irrigation

- How many times you irrigate your plant
 Others, please specify _____

5. Soil condition

- Soil is firm
 Soil is yielding

6. Weed control

- Easy to control
 Hard to control
 Weeds are easily grown

D. What are the benefits in using Induyan compost?



- Cheaper compared to the inorganic fertilizer
- Production of free chemical crops
- Reduce farm inputs
- Better quality of production
- Increase production (sq.m)
- Production of better quality of vegetable
- Weight is increased
- Others, please specify _____

E. Problems encountered in using Induyan compost on farm. (Observation)

1. Diseases acquired in using Induyan compost.

2. Maturity or development of compost

- Fully decomposed
- Slightly decomposed
- Not composed
- Others, please specify _____

3. Characteristics of compost

- Texture is fine
- Foul smelling
- Others, please specify _____

F. RECOMMENDATIONS/COMMENTS

