

BIBLIOGRAPHY

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ABSTRACT

This study was conducted to document green corn production practices in Wangal, La Trinidad, Benguet, to document the production practices, yield performance, market outlets and problems encountered.

There were 6 green corn producers in the area. The findings showed that the farmers used green corn as a rotation crop for vegetables instead of another variety of vegetables. However, all the farmers devote only a small portion of their farm (2 to 25%) rotated to green corn. Farmers treat seeds with fungicides or insecticides to protect seeds from pest and disease, this method is locally referred to as “pausukan”. The farmers apply commercial fertilizer (Triple 14) to their corn crops but do not spray pesticides, instead insect repellent crops were intercropped in the farm.

Yield was low because of environmental factors such as pest attacking the plants, bad weather condition such as typhoon and storms.

Problems encountered by the farmers include low yield, lack of education or training on corn production especially on the technologies. Profit was low at P1,630 from a 500 sq. m. area and return on expenses was 37% which is still acceptable. The return above cash cost was P3,430.00 for a 500 sq. m. area and return on non-cash expenses was P4,200.00.

Though green corn production provides a meager income, the benefit of planting corn is that corn is heavy feeder crop, thus it helps in control of soil borne diseases, helping the soil to become clean.



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
Historical Background of Corn	4
Types and Uses of Corn	5
Crop Adaptation and Requirement	6
International Scene on the Profitability of Corn.....	6
Philippine Experience on Hi-Tech Corn Seeds.....	7
Impact of High Corn Prices on Ethanol Profitability	8
Definition of Terms	9
METHODOLOGY	10
Locale and Time of the Study	10

Respondents of the Study	10
Data Gathering Procedure	10
Data Analysis	10
RESULTS AND DISCUSSION	11
Profile of the Respondents	11
Total Farm Area and Area Devoted for Corn Production.....	14
Production Practices	15
Fertilizer Application	17
Pest and Diseases	17
Yield Produced per Unit Area	20
Marketing Practices	20
Problems Encountered in Production	22
Profitability of Corn.....	23
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	26
Summary	26
Conclusions	27
Recommendations.....	28
LITERATURE CITED	29
APPENDIX	
A. Letter to the Respondents	30
B. Interview Questionnaire	31

INTRODUCTION

Rationale

Corn is one of the family *Graminae* and is thought to have originated in the tropics of Latin America (IRRI, 1983). Corn is one of the major crops that are grown in the country. It is considered as one of the food of millions of Filipinos residing in southern part of the country. It contains high energy, phosphorus, potassium and thiamine which are very important in human diet (Cayat, 2002).

As Agustin (1985) stated, corn is the second major grain in our country to rice. It is a good source of energy aside from legume. In terms of use, corn is a major component of animal feeds and a staple human food. The whole plant itself is a good source of roughage for livestock.

It is important as a cash crop because it is major substitute and supplement for rice in the period of scarcity even though its cultivation is small due to the limited sources of good planting materials that are suitable and high yielding in the place.

Growing corn in our country is limited to lowland and warm areas. Corn production is during dry season where water shortage is experienced resulting to low production. In the Cordillera region, corn is grown in the warmer areas of Mt. Province, Ifugao, Kalinga, and Apayao. In cooler areas of Cordillera such as Benguet Province, corn is not grown commercially but as a backyard crop. Thus, the green corns sold in the Baguio City and La Trinidad, Benguet were coming from the lowland areas such as Pangasinan and La Union. In view of the said situation, farmers in Wangal particularly Lower Wangal, La Trinidad, had started production of green corn. Thus, this study



documented and looked into the viability of green corn production in La Trinidad, Benguet.

Statement of the Problem

The study aimed to answer the following questions.

1. What are the production practices of green corn growers in Wangal?
2. What is the yield performance of green corn production in the area?
3. Where are the markets outlets of green producers?
4. How profitable is green corn production in Wangal, La Trinidad?

Objective of the Study

Generally, the study aimed to document and produce baseline information on commercial green corn production in Wangal, La Trinidad, Benguet.

Specifically, the study aimed to:

1. Document green corn production practices in Wangal, La Trinidad, Benguet.
2. Determine the yield performance of green corn production in Wangal, La Trinidad, Benguet.
3. Identify market outlets of green corn producers in the area.
4. Determine the profitability of green corn production in Wangal, La Trinidad, Benguet.

Importance of the Study

Green corn is one of the favorite snack items of most Filipinos. This is evident in La Trinidad, boiled green corn sellers are visible in the market and areas such as schools and office areas, especially near the Municipal Hall of La Trinidad and in the public



market . However, corns sold in the area are imports from nearby lowlands areas such as La Union and Pangasinan. Because of this demand of the crop, farmers in Wangal had started growing corn.

The result of the study could serve as basis for farmers in decision on what crops to produce. With the infestation of pest and diseases of vegetables in the area, corn can be a good intercrop since it is a heavy feeder crop, thus could help in the elimination of soil born diseases.

Scope and Delimitation of the Study

As a new commercial crop in Wangal, La Trinidad, Benguet the study focuses mainly on the documentation of green corn production practices, its yield performance, market outlets and profitability.



REVIEW OF LITERATURE

Historical Background of Corn

Corn is completely native to the Americas and was only grown by the Native Americans, thousands of years before Christopher Columbus arrived to the New World. The Native American name for corn was *mahiz*, which means "that which sustains us" and the early settlers called maize. Cultivating corn is responsible for turning the Native American tribes from nomadic to agrarian societies. English and German settlers named corn after their generic term for an edible grass crop. They called it "*Indian corn*" to differentiate it from other grains. The settlers were taught how to grow it by planting kernels in small holes with small fish as their fertilizer and covering them up. The Indians also shared their various ways of preparing corn, such as pounding it into meal to make cornbread, corn soup, corn cakes, and corn pudding. Corn was also used by the early settlers as money and to trade for meat and furs. The love of corn goes very deep and way back into our history. The first governor of the Plymouth Colony, Governor William Bradford, said once "And sure it was God's good providence that we found this corn for we know not how else we should have done" (Puckett, 2003).

According to Gressel (2005), maize (*Zea Mays L.*) is derived from the annual grass *Zea Mays ssp. May L.* and is a highly important crop originating in Mexico. The closest wild relatives of maize are *teosintes (Zea ssp.)* and include annual and perennial species. The distribution of teosinte includes the tropical and subtropical areas of Guatemala, Honduras, Mexico and Nicaragua. Although closely related to maize, there is a considerable debate about the extent that teosinte participated in the eventual



development of maize races in Mexico and thus contributed to prominence of maize as a leading world grain.

Types and Uses of Corn

Corn are classified and their different types. The most notable which is traditional favorite eaten off the cob with butter salt and found in supermarkets roadside stands everywhere is known as the sweet corn. It is named as sweet corn because of its high sugar content and is seldom used for purposes other than direct human consumption. Dent corn is also known as field corn which is the corn of choice for livestock feed and industrial products. Flint corn or ornamental Indian corn sports a range of colors and is primarily grown in central and South America. A sub variety of flint corn is used to make popcorn. Its soft starchy center facilitates the “pop” into the fluffy movie snacking favorite.

Corn is also versatile and has innumerable uses. Indians wove the husks into clothing, sleeping mats, baskets, and children’s toys. Most of the corn grown in the United States and Canada is used as animal feeder. There are also many industrial uses of corn including cosmetics, ink, glue, laundry starch, shoe polish, medicines, fabrics, corn cob pipes and ornaments. As human food, corn is eaten fresh or ground for meal. It is the basic starch plant of Central and Andean South America, where it is still hand ground on metates to be made into tamales, tortillas, and other staple dishes. In the United States it is familiar as hominy, mush, and grits. Starch, sugar, and oil are also extracted for many products, but the chief use of corn is as animal fodder. It is the primary feed grain of the United States, and in Europe this is almost the only use of corn. Corn is also as a raw material in the manufacture of [ethanol](#) for fuel (Smith, 2004).



Crop Adaptation and Requirement

Maize varies widely in length of growing season in plant morphology. Characteristic such as plant height; leaf number, size and angle, tiller number, tassel size; ear number; root morphology; grain shape; color and texture vary tremendously. Survival of this morphological variability has depended on selection by man without husbandry maize cannot survive. Because of its viability, maize as a specie show extremely wide adaptation. It is grown as a commercial grain crop from about latitude of 55° N to 40° S and from sea level to 4000m-altitude. However, maize cultivars are generally much more restricted in their range of adaptation. The environment factors can be overcome by the plasticity within the species but which to limit the range of adaptation of individual cultivars is temperature, day length, diseases and to a lesser extent insect (IRRI, 1983).

In a study conducted by Agustin in 1985 at Benguet State University Environmental Farm from November to March revealed that the normal watering throughout the growth and development stage of corn would lead to higher yield, but during water shortage suspension of irrigation at maturity could be done without significant reduction of yield.

International Scene on the Profitability of Corn

Food ingredients and syrups manufacturer Corn Products International said that fourth-quarter profit fell 41 percent as a result of restructuring in Mexico and South America. Quarterly earnings decreased to \$14.4 million, or 19 cents per share, from \$24.5 million, or 34 cents per share, a year ago. The results included a restructuring charge of \$15 million, or 20 cents per share, related to projects to improve manufacturing efficiency in Mexico and South America. Revenue, on the other hand, rose 6 percent to



\$619.9 million from \$584.8 million. North American sales saw the slowest rise, up 8 percent to \$1.4 billion, while South America led the way with an increase in revenue of 12 percent to \$556 million. Asia and Africa was only a notch behind, seeing sales growth of 11 percent to \$308 million. Profit levels looked rosier for the year as a whole, rising 23 percent to \$93.6 million, or \$1.25 per share, from \$76.4 million, or \$1.06 per share, in 2003, while sales increased 8 percent to \$2.46 billion from \$2.27 billion. Corn Products desire for success has included a push to attain greater efficiency resulting in the closure of two of its corn refining facilities, namely one of its starch plants in Guadalajara, Mexico (Cisne), the smallest of its four plants in Mexico, and one of its facilities in the Andean region in South America.

The company took the decision to try and defend its market position by taking root in China and linking up with Shandong Juneng Electric Power Group Golden Corn Development Company to manufacture modified corn starch (Anonymous, 2005).

Philippine Experience on Hi-Tech Corn Seeds

Two years ago in the Philippines, majority of the 6,000 corn farmers in this southern Philippine agricultural town found their fields ravaged by a disease called 'stalk rot'. Much of the yellow corn they harvested was damaged. The cobs had only a few kernels and the yield fell far below expectations. The product of modern agricultural technology hybrid seeds developed by the U.S. multinational Cargill and given free to them by the agriculture department, which promised farmers could double their yield. The yellow corn seeds were part of a five-year, 75 billion peso (2.8 billion dollar) program designed to make the Philippines self-sufficient in grain. Farmers thought they would benefit because the seeds were given to them free. Most farmers planted the



seeds, but the government program a failure. The seeds were of a hybrid variety requiring large amounts of costly fertilizers and pesticides.

The seeds were bought under the Philippines' Grains Production Enhancement Program- a package of infrastructure, credit and agricultural subsidies given to farmers as an incentive to raise productivity by using high-yield, hybrid seed varieties but Cargill's seeds produced plants that could not thrive in the region's wet climate, and were susceptible to diseases. Activists say that what happened in South Cotabato, the Country's biggest corn-producing province exposes how substantial government subsidies for agriculture can benefit big agribusiness firms to the detriment of farmers and consumers.

Agricultural experts add the high-yielding hybrid seeds that were produced in laboratories overseas are good for only one planting. "You cannot replant them and you eventually have to go back to the original source," said Oscar Zamora, agronomy professor at the University of the Philippines in Los Banos, Laguna province. The new technology alters traditional farming practices among Filipinos who culturally like to share seeds when they have something good they tell their friends and they share the seeds. With moves toward the protection of plant breeders' rights in industrialized nations, Zamora says farmers will become more dependent on multinational firms whose business is to breed seeds, and who thus reap the biggest profits (Rimban, 1997).

Impact of High Corn Prices on Ethanol Profitability

Ethanol production has been blamed for a wide variety of things; some true; some not true, such as the sharp increase in the price of breakfast cereals and the high price of bread. Bread and cereal makers readily admit the price increases are more due to rising



energy costs than the cost of grain (wheat and corn). The extreme highs in wheat prices earlier this year were due primarily to U.S. and foreign weather problems rather than to ethanol. It is true that ethanol production adds substantially to the demand for corn, although livestock feed is still the largest demand factor; and probably will be for at least a few more years. The USDA is projecting that through 2017, ethanol production will not surpass livestock feed as the largest source of demand for corn. However, some private analysts see ethanol becoming the largest source of corn demand within the next three or four years as the industry expands to meet the government mandated level of corn-based ethanol production. U.S. ethanol production capacity has been projected to increase from about 8.4 billion gallons at the end of 2007 to about 11.4 billion gallons in calendar year 2009, based on the mandates from last year's energy legislation. That would increase corn demand by one billion bushels; from 3 billion bushels in the 2007-08 marketing year ending this August 31 to about 4 billion in 2008-09. Both the capacity expansion and the increase in corn usage are slightly in jeopardy due to lags in capacity of distribution and marketing facilities (O'Brien *et al.*, 2008).

Definition of Terms

Teosinte- it is a grass that looks like corn

Volunteerism- a tradition in daily practice in agriculture



METHODOLOGY

Locale and Time of the Study

The study was conducted in barangay Wangal, La Trinidad, Benguet where some of the vegetable farmers had shifted to green corn production or had used the corn as intercrop instead of vegetables. The study was conducted on December, 2010.

Respondents of the Study

The respondents of the study were the green corn farmers producing green corn in barangay, Wangal. Total enumeration was employed in the selection of respondents and where there were 6 farmers who have started growing corn. These farmers served as source of information/data.

Data Gathering Procedure

Personal interview was employed with the aid of interview guide and field observation was also done to validate data gathered from interview.

Data Gathered

The data gathered included the green corn production practices, yield of production, market outlets, production cost incurred and profit.

Data Analysis

The data gathered were consolidated, tabulated and analyzed using frequency/descriptive analysis.



RESULTS AND DISCUSSION

Profile of the Respondents

The socio-demographic profile of the respondents include their age, gender, civil status, educational attainment/background, other sources of income, number of years in farming, type of farmer, status of farming and land tenure. These are presented in Table 1.

Age. One half of the respondents belonged to the age bracket of 40-50 years old. The mean age of the respondents was 47.33 years old. The youngest respondent was 32 years old while the oldest was 56 years old.

Civil status. There were 83.33% of the respondents who were married and only 16.66% were single. This implies that many of the respondents have families to take good care of.

Educational attainment. One half of the respondents have gone to high school and elementary were 33% and only 16.67% have gone to college. This emphasized that farmers in Wangal have attended formal education but have limited knowledge.

Sources of income. The major source of income the respondents are farming. Other sources of income include sari-sari store business (16.67%) and carpentry works (16.67%).

Number of years in corn production. The table further revealed that there were three (66.67%) of the respondents who have been producing corn for almost 5 years, there was one (16.67%) respondent who were producing corn for almost 6-10 years and another one (16.67%) respondent experienced corn production for 11 years.



Table 1. Profile of the respondents

PARTICULAR	FREQUENCY	PERCENTAGE
Age (years)		
30 – 40	1	16.67
41 – 50	3	50.00
51 – 60	2	33.33
TOTAL	6	100.00
Mean age – 47.33		
Gender		
Male	3	50.00
Female	3	50.00
TOTAL	6	100.00
Civil status		
Married	5	83.33
Single	1	16.67
TOTAL	6	100.00

Status in farming. All of the respondents were self-financed. This implies that farmers provide things needed but stated that they still lack some of the materials needed in the production.

Land tenure. Furthermore, the table revealed that all the respondents owned the land they utilize for corn production. There was one (16.66%) respondent who owned his land and at the same time renting other farm.



Table 1. Continued.

PARTICULAR	FREQUENCY	PERCENTAGE
Educational attainment		
College	1	16.67
High school	2	33.33
Elementary	3	50.00
TOTAL	6	100.00
Sources of income		
Farming	6	100.00
Sari-sari store	1	16.67
Carpentry	1	16.67
Number of years in corn production (years)		
1 – 5	3	50.00
6 - 10	2	33.33
11 - 15	1	16.67
TOTAL	6	100.00
Status in farming		
Contract grower	0	0
Self-finance	6	100.00
TOTAL	6	100.00
Land tenure		
Owner	6	100.00
Lessee	1	16.67

*Multiple response



Total Farm Area and Area Devoted for Corn Production

Table 2 shows the total farm area and area devoted for corn production by the respondents. Five of the farmers have a total farm area of 10,000 sq.m (1 ha). One of the farmer have only 2,000 sq.m. Only one of the farmer devoted 2,000 sq. from his 1 ha area (20% of the total area) for green corn production. One farmer with 2,000 sq m, area devoted 500 sq. meter for green corn production (25%). The findings showed that majority of the respondents were utilizing a very limited area for corn production ranging from 200 to 2,000 sq.m. which is only 2 to 25% of the total farm area of the 6 farmers.

Table 2. Farm area of production

FARMER NO.	TOTAL AREA (SQ.M.)	DEVOTED FOR CORN AREA (SQ.M.)	PERCENTAGE OF AREA
1	10,000	2,000	20
2	10,000	300	3
3	10,000	200	2
4	2,000	500	25
5	10,000	300	3
6	10,000	300	3

Production Practices



Area of production. Table 3 shows that 66.67% of the respondents utilized a sloping area for corn production. Two (33.33%) of the respondents cultivated a terraced area and 16.67% of the respondents cultivated a flat but unirrigated area for corn production. Corn is planted after vegetable. This result shows that farmers were utilizing marginal farms/areas for green corn production.

Cropping system practices. All the respondent stated that they were practicing crop rotation. According to respondents, this method is helpful in maintaining the nutrient of the soil and for the control of soil borne diseases.

Variety grown. All the respondents were planting native malagkit corn because this is the available seeds in the area.

Source of seed. There were 83.33% of the respondents who used seed from their own harvest and only 16.67% of the respondents were given seed by other farmers for their production.

Seed treatment. There were 66.67% of the respondents who do not treat their seed while 33.33% of the respondents treat their seeds with fungicide and pesticides before planting. Treating of seeds is locally called “*pausukan*”. This method is practiced by the respondents to protect seeds from pest that may eat the seeds. According to the some respondents, this method is used to prolong shelf-life of the seeds. Seed treatment is not only practiced in corn but also in other crops.

Table 3. Production practices



PRODUCTION PRACTICES	FREQUENCY	PERCENTAGE
Type of area for production*		
Flat Irrigated	1	16.67
Terraced	2	33.33
Sloping Area	4	66.67
Cropping system practices		
Crop rotation	6	100
Mono-cropping	0	0
TOTAL	6	100
Variety grown		
Japanese corn	0	0
Native malagkit	6	100
TOTAL	6	100
Source of seed		
From own harvest	5	83.33
Given by other farmer	1	16.67
TOTAL	6	100.00
Seed treatment		
No seed treatment	4	66.67
Practice seed treatment	2	33.33
TOTAL	6	100.00

Fertilizer Application



Kinds of fertilizer used. The table shows that there were 66.67% of the respondents who used Triple 14 for fertilizing their corn plants and other 50% used urea as fertilizer.

Methods of application. The result shows the methods in applying fertilizer used. Half of the respondents used broadcasting method in applying fertilizer and half of the respondent side dressed their fertilizer.

Amount of fertilizer used. Table 4 shows that there half of the respondents who used at least 5-15 kilograms of fertilizer per area (200-300sq.m) per cropping, 33.33% of the respondents used 16-25 kilograms of fertilizer per area (300sq.m & 2000sq.m) per cropping and only 16.66% of the respondents used 100 kilograms of fertilizer in an area (500sq.m) per cropping. This indicates that an amount of fertilizer applied by farmers depend on the total area of production.

Time of fertilizer application. The table shows that all the respondents apply fertilizer on their corn at least two times for the whole cropping. Fertilizer is applied after planting upon emergence and during its vegetative stage.

Pest and Diseases

Pest attacking the corn crops. Table 5 revealed that 53.33% of the respondents stated that one of the pests that destroyed their corn was army worm. Another 83.33% of the respondents said that stem borers also attacks and destroys their corn crops. This indicates that due to those pests, quality of corn harvested is affected and it also reduces yield.



Table 4. Fertilizer application

PARTICULAR	FREQUENCY	PERCENTAGE
Fertilizers used*		
Urea	3	50.00
T14	4	66.67
Method of application used		
Broadcasting	3	50.00
Cultivation	3	50.00
TOTAL	6	100.00
Amount of fertilizer used		
5-15 kls per area/cropping	3	50.00
16-25 kls per area/cropping	2	33.33
100 kls per area/cropping	1	16.67
TOTAL		100.00
Time of fertilizer application		
After planting	6	100.00
Vegetative stage	6	100.00

*Multiple response

Pest control practices. Table 5 revealed that all the respondents practiced intercropping. Insect-repellant crops were intercropped with corn to deter pests from devouring their target crops and intercrop companion crops to control the population of the pest.



Table 5. Pest control practices

PARTICULARS	FREQUENCY	PERCENTAGE
Pests of corn crops		
Stem borer	5	83.33
Army worms	5	83.33
Pest control practices		
Intercropping	6	100.00

*Multiple response

Utilization of pesticides. Table 6 revealed that all the respondents do not use pesticides. According to the respondents pesticides are harmful and expensive. Instead intercropping is employed to control population of pest and pest will not devour to the main crops.

Farm implements. All the respondents used bolo and trowel for corn production and one farmer also used water pump for irrigation. These are the three implements used in corn production (Table 7).

Table 6. Utilization of pesticides

PESTICIDES UTILIZATION	FREQUENCY	PERCENTAGE
Use pesticides	0	0.00
Do not use pesticides	6	100.00
TOTAL	6	100.00



Table 7. Farm implements used

IMPLEMENT	FREQUENCY	PERCENTAGE
Bolo	6	100.00
Trowel	3	50.00
Water pump	1	16.67

*Multiple response

Yield Produced per Unit Area

Half of the respondents were able to harvest 1-5 sacks of corn from 200 – 300 sq. m. area. Another half of the respondents were able to harvest 6 to 10 sacks from a 500 and 2,000 sq.m. area (Table 8). The yield derived depends on the area and incidence of pest and diseases. Result implies that yield produced was low.

Marketing Practices

Table 9 shows the marketing practices of the farmer respondents. The table presents the market outlets, method of selling and payment, price determination, method of promoting and means of transporting their produce.

Market outlet of the respondents. The table shows that half of the respondents were peddling their produce to their neighbors, while only one (16.67%) of the respondents market their products outside La Trinidad. This farmer send his produce to Itogon, Benguet where his buyer is located. Another half of the respondents do not market their produce because it is used for home consumption due to poor quality and damaged products caused by environmental factors that destroyed the production.



Table 8. Yield produced by the farmer respondents

YIELD	FREQUENCY	PERCENTAGE
1-5 sacks	3	50.00
6-10 sacks	3	50.00
TOTAL	6	100.00

Table 9. Marketing practices of the respondents

PARTICULAR	FREQUENCY	PERCENTAGE
Market outlet*		
Peddler in Itogon, Benguet	1	16.67
Peddling to neighbor	3	50.00
Do not market their produce	3	50.00
Method of payment		
Consignment	1	16.67
Cash on delivery	2	33.33
Price determination		
Set by farmer	2	33.33
Set by peddler	1	16.67
Method of promoting their produce		
Words of mouth	3	50.00
Do not promote their products	3	50.00
TOTAL	6	100.00
Delivery of products		
Brought to market by farmer	2	33.33
Transported to consumers	1	16.67

*no response from other respondent



Method of selling and payment. There were only 33.33% of the respondents who mentioned that the buyer pay in cash upon delivery, while the farmer who is sending his produce to Itogon was on consignment basis.

Price determination. Two of the respondents mentioned that they set the price of their produce and the one (16.67%) farmer who is supplying the peddler in Itogon said that the peddler of the product was the one who set the price.

Method of promoting their products. Table furthered revealed half of the respondents promoted their product through words of mouth and other half of the respondents do not promote their products because they don't market it, instead they used it for their consumption. The reason for not selling their produce was because of the poor quality due to typhoon and pest.

Means of transporting their products. There were 33.33% of the respondents stated that they brought their products to the market and 16.67% of the respondents just send his produce through the jeepney drivers of Itogon.

Problems Encountered in Production

Problems in production. Table 10 presents the problems encountered by the farmers in corn production. The major problem encountered in corn production was environmental factors such as pests, storms and typhoon. These problems causes damaged in the corn production producing non-marketable yield.

Lack of finance/capital for production is another problem encountered by the respondents. Although, the farmers financed their farming, the total input required by the crop was sustained. Thus, the nutrient requirement of the crop including pesticides was not sustained.



Table 10. Problems encountered by the farmers

PROBLEM	FREQUENCY	PERCENTAGE
Lack of educational training	2	33.33
Lack of financial needs	6	100.00
Pests	6	100.00
Storms/typhoons	6	100.00
Lack of information for standard pricing	2	33.33
Buyers control price	2	33.33

*Multiple response

Lack of education/training on the production method/technology was also one of the problems mentioned by the 33.33% of the respondents. As shown in the profile, most of the respondents have not reached college and have not attended any training or seminars on corn production since this crop is not common in the area. The respondents lack information about green corn production.

There were 33.33% of the respondents who mentioned that they lack information about standard pricing. This is one reason why farmers who brought their products to market said that their profit is not enough to sustain their family needs. In this case, they instead used some of their products for their consumption.

Profitability of Corn

Corn production is a new enterprise in Wangal, La Trinidad, Benguet. Only 6 of the farmers in the area are into corn production and as a rotation crop to vegetables. In terms of production method or technology, the farmers have limited knowledge and have not attended any training on corn production. The limited knowledge on production practices/technology, resulted to the low yield derived by the farmers.



Table 11 shows that cash cost is minimal because of the limited inputs especially on fertilizers and pesticides. Most of the cost incurred in their production is non cash cost which comprises the family labor from land preparation to harvesting, seeds (since most of the farmers used their own seeds from previous crop or some get seeds from neighbor free), thus, the value used was opportunity cost for labor and seeds. Other non cash cost is the depreciation cost

On the cost and return analysis, result shows that the net income from a 500 sq m area was P1,630.00. The return on cash expenses (ROEs) was 37%. Return above cash cost was P4,200.00 and return on non cash cost was P3,430.00. Result shows that corn production is profitable but profit is not so high but considering that most of the cost comprises non-cash cost then it is acceptable.

Table 11. Cost and return analysis (500 sq. m.)

PARTICULAR	AMOUNT (PESOS)
Total sales	6,000.00
Cost of production	
Cash cost	
Fertilizer	1,200.00
Packaging	100.00
Marketing and transport cost	500.00
Total Cash Cost	1,800.00
Non cash cost	
Seeds	20.00



Table 11. Continued.

PARTICULAR	SAMOUNT (PESOS)
Family labor	2,500.00
Depreciation cost	50.00
Total Non Cash Cost	2,570.00
Total Cost	4,370.00
Net Income	1,630.00
Return on Cash Expenses (ROEs)	37%
Return above cash cost	4,200.00
Return Above non cash cost	3,430.00



SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study was conducted in barangay Wangal, La Trinidad, Benguet. This study aimed to determine the practices of green corn growers and to find out their marketing and production practices. The study was conducted on December, 2010. Data gathering was done with the aid of interview questionnaire and field observation method.

Majority of the respondents were in their middle age, male, married and no other source of income except farming. With regards to their educational attainment, all of them have attended formal education but still knowledge on proper corn production practices is limited. Majority of the respondents practice conventional farming and they all financed their production.

Regarding production practices, majority of the respondents utilized a sloping farm landscape or microniche for corn production. All of the respondents practiced crop rotation to maintain nutrient of the soil and control soil borne diseases. Farmers also practiced seed treatment with the use of fungicide and pesticide before planting and they called it “pausukan”. This practice protects the seeds from pests and to prolong its shelf-life. As to their fertilizer application, majority of the respondents used complete fertilizer – Triple 14 and applied through broadcasting and side dressing method. The amount of fertilizer used depend on the area of corn production and if how much they can afford. Respondents mentioned that the corn crops were fertilized for at least 2 times per cropping. When it comes to pests control practices, all of the respondents do not use pesticides due to its harmful effect and is expensive, instead they use insect- repellent



crops to intercrop with corn to deter pests from devouring their target crops and intercrop companion crops to control the population of the pest. All of the respondents used bolo and trowel as their farm implements.

On the marketing practices, half of the respondents have gathered 6-10 sacks of their corn crops and other respondents gathered 1-5 sacks of their corn crops. Among the six respondents, only three of them market their produces. Farmers sell their produce by peddling to their neighbors and market it outside La Trinidad. Majority mentioned that the products were brought to the market. Other respondents do not market their product because it is used for home consumption due to its poor quality and damaged products caused by environmental factor that destroyed the plants. Two of the respondents mentioned that they set the price of their produce and being paid on cash basis and promoted their products through words of mouth.

The problem encountered by the respondents varied but one major problem they encountered was environmental factors such as pests, typhoons and storms. These were the reasons why most of the respondents did not market their produce this year that caused loss of income to their families. Another major problem was the lack of financial needs. The farmers cannot buy all the materials needed in corn production.

Conclusions

Based on the findings, the following conclusions were made.

1. All the farmers in Wangal, La Trinidad, Benguet depend on farming for their income.
2. Yield of green corn in Wangal is low because farmers lack educational training on proper production practices or technology for green corn production.



3. Market outlet for corn produced in Wangal is limited because corn sold in the locality especially in Baguio City and La Trinidad, Benguet is dominated by corn coming from La Union and Pangasinan.

4. Farmers do not use pesticides due to its harmful effect and expensive.

5. Income from corn production is low, however, cost of production incurred is more on non-cash cost. The net income is not only the consideration but also the benefits that could be derived from corn production such as a good rotation crop to reduce incidence of soil borne diseases and other pest.

Recommendations

In line with the findings of the study, the following recommendations were derived. Since corn production is a new enterprise then it is recommended that training on green corn production technology should be conducted by concerned agencies like Department of Agriculture and Benguet State University.

Corn is a good intercrop to reduce soil borne diseases like nematodes and bacterial wilt.



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APPENDICES**APPENDIX A**

Letter to the Respondents

Department of Agricultural Economics and Agribusiness Management
Benguet State University
La Trinidad, Benguet

November 27, 2010

Mr. Valentine Walang
Barangay Captain
Wangal, La Trinidad, Benguet

Sir:

I am a student of Benguet State University presently conducting a study on production of commercial green corn.

In this connection, may I ask permission to interview the farmers of barangay Wangal who are presently producing green corn and for those farmers who have tried producing it.

Your favorable endorsement for this request will be much appreciated.

Thank you and more power.

Very truly yours,

RIEMA L. MERCOLES

Noted by:

JOVITA M. SIM
Adviser



3. Variety Grown

- Japanese corn
 Native Malagkit
 others, specify

4. Source of Seeds

- From own harvest
 Buy from market
 buy from farm supply store
 buy from other farmer
 others, specify

5. Do you practice seed treatment?

- Yes No

If yes, how?

6. Planting season: _____

Harvest season: _____

Fertilizer application

KIND OF FERTILIZER	METHOD OF APPLICATION	QTY. PER AREA/ CROPPING	PURCHASE VALUE	COST
Urea				
T14				
T16				
Others, specify				

7. Pest and Disease

a. What are the pest attacking your corn crops?

- Stem borer
 Army Worms
 Others, specify

b. What corn diseases have you encountered?



c. Ways of controlling pest and diseases

- Spray with chemical
 Intercropping
 Others, specify

Utilization of Pesticides

PESTICIDES	METHOD OF APPLICATION	FREQUENCY OF APPLICATION	QUANTITY	COST

Farm implements used

IMPLEMENTS	QUANTITY	COST	LIFESPAN	DEPRECIATION

III. Marketing Practices

a. Volume/ yield produce per unit area: _____

b. Where is your market outlet?

- La Trinidad Trading Post
 Baguio Hunger Market
 Outside La Trinidad

Peddling to:

- Neighbors



- Direct Consumers
- Others (pls. specify)
- Others (pls. specify)

c. Input selling price _____

d. Labor cost _____

e. Method of Payment

- Consignment
- Cash on delivery
- Others (pls. Specify)

f. Price determination

- Set by farmer
- Set by buy
- Others (pls. Specify)

g .How do you promote your products?

- Participate in local trade fairs/festivals
- Word of mouth
- Endorsement
- Others (pls. Specify)

h. How do you transport your produce?

- Brought to the market by farmer?
- transported by entities affiliated from (pls. specify) _____
- Others (pls. Specify)

IV. Problems encountered in production

- Lack of educational training to strictly implement proper production method
- Lack of financial needs
- Environmental factors
 - Pest and diseases
 - Storms/ typhoons
- Others (pls. Specify)
- Absence of marketing channel
- Lack of information for standard pricing
- Buyers control prices
- others, specify

