AGRI Pinoy

Asha and Namnama peanuts

PRODUCTION GUIDE

DEPARTMENT OF AGRICULTURE
Regional Field Unit No. 02
Tuguegarao City, Cagayan

This publication is a project of the Department of Agriculture, Regional Field Unit No. O2. It contains the most recently available and locally adaptable technical information on Asha and Namnama peanuts production in Region O2.

FIRST EDITION
January 2011

Our Cover

DA, Secretary Proceso J. Alcala (left) and Regional Executive Director Andrew B. Villacorta being brief by DA,CVIARC Center Manager Orlando J. Lorenzana (right) and Ms. Rose Mary G. Aquino on Asha Seed Production Project at DA,Cagayan Valley Integrated Agricultural Research Center Sn. Felipe,Ilagan,Isabela.

DESIGN: ED PAZ

FOREWORD

Among the provinces in the Philippines, the top producers of peanut are Pangasinan, La Union, Ilo-ilo, Cagayan Ilocos Sur and Isabela. In terms of area planted Cagayan Valley ranks only second, with 3,690.00 ha., next to Ilocos Region with 7,659.88 in year 2009.

Peanut can be planted throughout the year and very favorable with the climatic conditions of the region. Dry cropping (October-January) however gives higher yield and of better quality than the rainy season crop.

With the results of field tests in the region, Asha and Namnama which are high yielding and adaptable in the locality provide farmers with options to shift to peanut especially in frequently flooded and drought-prone corn areas. I am also confident that peanut shall be seen as the next big crop in Cagayan Valley Region.

In support to the promotion activities of the Department, this farm primer will address the needs of extension workers, researchers especially peanut farmers and would-be peanut farmers.

I therefore encourage our readers to fully utilize this production guide so that our efforts will be meaningful and rewarding.

I wish to acknowledge the efforts and financial assistance of DA-BAR, PCARRD and ICRISAT, our partner agencies. We also thank our peanut farmers and farmer scientists' in sharing their insights to make the technology recommendations location specific and to the technical and information staff in packaging this first edition.

ANDREW B. VILLACORTA, DVM, CESO IV
Regional Executive Director

DA,CVIARC File Photos

INTRODUCTION

Asha and Namnama are the most sought peanut varieties in the Philippines today. Dubbed as the "New Hope" for peanut farmers. Asha and Namnama both means "hope" in Hindi (India),and in our Ilocano dialect.

These two International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) - bred varieties introduced in Cagayan Valley region were found to be viable in our local climatic conditions. Asha and Namnama are being popularized by the Department of Agriculture - Cagayan Valley Integrated Research Center, Ilagan, Isabela. Pod yield ranges from 2.2 - 2.6 tons / ha for Namnama and 2.9 - 3.5 tons / ha for Asha.

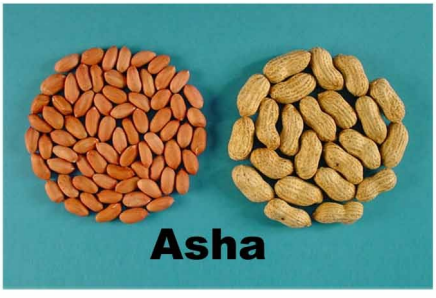
ADAPTATION

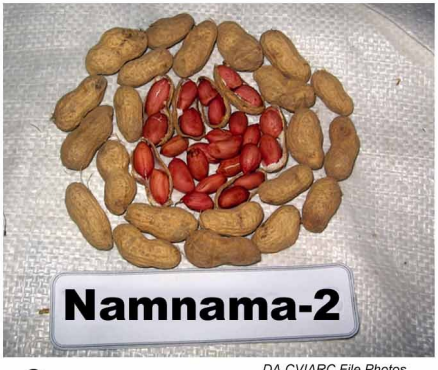
Namnama is an all season variety while Asha is best planted in October-November (dry season). Best in sandy loam soil with high calcium content and moderate amount of organic matter.

SEED REQUIREMENT

140-150 kgs. of unshelled seeds (medium size) is needed per hectare.

If class A and B (Jumbo size seeds) of Asha is used, 150-160 kgs / ha is required.





DA,CVIARC File Photos

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LAND PREPARATION

Prepare the land thoroughly to obtain optimum yield. Plow and harrow the field 2-3 times at an interval of seven days. Each harrowing consists of two passing.

INOCULATION

Inoculate peanut seeds with rhrizobium inoculant at the rate of 1pack per 5 kgs of seeds to enhance nitrogen fixation. This cuts down production cost by reducing the use of nitrogen fertilizer.

PROCEDURE

Place seeds in a basin of water big enough for easy mixing. Do not use woven basket.

Moisten every 10 kg. seeds with a glass of water.

Mix thoroughly 1 pack (100g) of rhizobium for every 5 kg. of seeds.

Do not expose inoculated seeds to sunlight.

Plant inoculated seeds immediately.

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Peanut seed inoculants are available at the DA Regional & Provincial Soil Laboratories.

FERTILIZER APPLICATION

Basal application of macro-nutrients using 14-14-14 or 16-20-0 at 2-4 bags/ ha is generally recommended particularly in corn-based areas.

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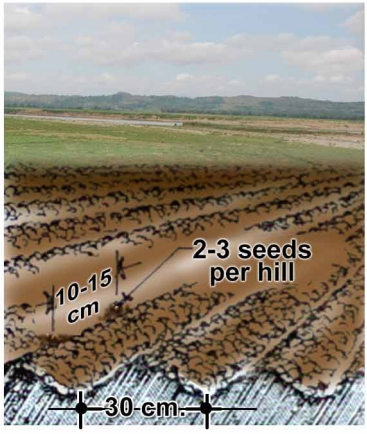
Regardless of soil test results, sidedress 300-400 kgs/ha of gypsum (calcium sulfate) at peak of flowering (30-40 days after planting) followed by light cultivation.

PLANTING

At planting follow the recommended spacing as follows:

ASHA
Sandy loam soil

Dry Season- 30 cm
between rows
x 10-15 cm between hills

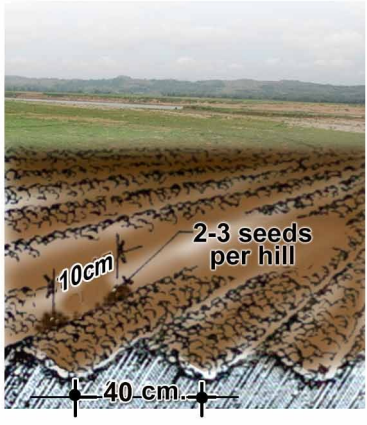


Clay loam soil

Dry season- 40-50 cm
between rows
x 10-15 cm between hills

NAMNAMA
Sandy loam soil

Dry Season- 40 cm x 10 cm



Clay loam soil

Dry season- 40cm x 10 cm
Wet season- 50cm x 10 cm

WATER MANAGEMENT

About 50-60 days after planting, the pegging zone (the top 8-12 cm of the soil) should be moist. Apply frequent but light irrigation if the soil becomes dry.

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CROP PROTECTION

Weed Control

Maintain a clean production area through thorough land preparation and cultivation (off-baring and weeding) at 15 and 25 days after planting. This must also be done to lessen insect pest infestation.

Weed Control is critical especially at the early stage of crop growth. The presence of weeds 2 to 4 weeks after planting significantly decrease yield. It is important to keep the field weed-free at this stage.

Insect Control

BEANFLY

CUTWORM

CORN EARWORM

LEAFHOPPERS

Various insect pest attact peanut at all stages of growth. Beanfly, cutworms, leafhoppers,aphids, corn earworm, semi-looper, whitegrub and leafroller are common throughout the vegetative stage..

Biological control with the use of earwigs is recommended . These friendlly insects feed on eggs, larvae nymphs and pupae of almost all kinds of insects.

DA,CVIARC File Photos

EARWIG

To control white grub, hand pick this during land preparation.

Disease Control

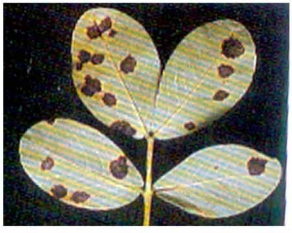
Disease outbreak is one of the causes of low yield. Listed below are some diseases of peanut and their suggested preventive and control measures.

1. **Bacterial / Fusarium Wilt.** This is a major disease infecting peanuts. Infected plants loss freshness, and become dry within few days and finally die with leaves still attached to the plant. These disease can be avoided through crop rotation of peanuts with cereals (corn, sorghum, rice and legumes). and application of gypsum.

2. **Cercospora Leaf Spot .** This destructive fungal disease occurs during wet and dry seasons at about 37 days after planting. The disease appears as reddish brown or black spots on the leaves and petals.

3. **Leaf Rust.** This disease is caused by fungus and usually occurs at the late vegetative stage during the dry cropping season. The disease shows dark orange to dark brown blisters on the underside of the leaves.

   If the occurence of these diseases is observed at early growth stage, spraying with appropriate fungicides can be done.



LEAF SPOT

LEAF RUSH

HARVESTING AND POSTHARVEST

Asha matures from 120-150 days after planting (DAP) and Namnama 100-120 DAP. Allow full maturation to obtain high grade confectionary seeds.

Physiologically matured plants show yellow brown leaves, presence of reticulation in pods and the inner shell becomes dark in color.

At harvest time, peanut pods contain 35-60 % moisture. To avoid mold and aflatoxin, dry in windrows the uprooted plants until pod moisture drops down to 18-20% before pod stripping

Sound, mature, clean and well-filled pods should be selected for seed material purposes.

The moisture content of unshelled peanut should be below 10% for longer shelf life.

Farmers may also store their seed for 6-8 months using plain galvanized iron sheet drum storage with fitted covers developed by DA-CVLMROS.

REGION 02
POTENTIAL PEANUT EXPANSION AREAS

CAGAYAN

MUNICIPALITY	HECTARAGE 15 YRS. BACK (HAS)
*Alcala	1,000
*Amulung	500
Iguig	50
*Lal-lo	470
*Enrile	1,200
*Tuguegarao	280
Baggao	150
Solana	50
Penablanca	200
Lasam	50
Sto. Nino	50

ISABELA

*Echague	1,500
*Jones	2,000
*Quirino	500
Sn. Mariano	1,500
*Cabagan	1,400
Sto. Tomas	500
Cauayan	150
Cordon	150
Quezon	150
*Benito Soliven	1,500
Sta.Maria	900
San Pablo	180
Naguilian	1,000
Roxas	150
Tumauini	200
Gamu	220
Angadanan	2,000

QUIRINO

MUNICIPALITY	HECTARAGE 15 YRS. BACK (HAS)
*Maddela	1,780
Diffun	200
Aglipay	130

Impact Municipality

TOTAL AREA ..... 17,479.0 has

COST AND RETURN ANALYSIS OF PEANUT PRODUCTION/ HECTARE

(Region 02, CY 2010)

VARIABLE COST	VALUE/ COST
A. Labor Cost	
• Land Preparation	1, 800
• Shelling of seeds	300
• Furrowing & Planting	1, 400
• Fertilization	
o Basal	200
o Side dressing	200
• Cultivation	
o Hilling-up	900
• Wedding	2, 500
• Pest Control	200
• Harvesting	1, 500
• Pod Stripping	1, 000
SUB-TOTAL	**P 15, 000**
B. Materials/ Input Cost	
• Seeds	3, 000
• Fertilizers	
o 2 bags 16-20-0	1,960
• 2oo kgs/ha gypsum / calcium sulfate	1,000
• Seed Inoculant	100
• Sacks & Plastic Twine	400
• Miscellaneous expenses	500
SUB-TOTAL	**P6,960**
C. Interest On Capital	
(30% per cropping of input cost)	2,088
*** TOTAL COST**	**24,048**
*** GROSS INCOME**	**50,000**
*** NET INCOME**	**25,952**
*** BREAK EVEN COST/KILO**	**12.02**
*** ROI**	**107.9%**

Farm Gate Price : 25.00/kilo
Pod Yield ; 2, 000 kg/ha

COST AND RETURN ANALYSYS PER HECTARE OF PEANUT PRODUCTION AT VARIOUS YIELD LEVELS

(Region 02, CYB 2010)

SEED YIELD LEVEL (Tons / ha)	2.0	2.5	2.75	3.0
Cost of Labor	15, 000	15, 000	15, 500	16, 000
Cost of Materials / inputs	5, 960	7, 600	8, 000	8, 500
Interest on Capital	1, 788	2, 250	2, 400	2, 550
Total Cost of Production	22, 748	24, 850	25, 900	27, 050
Gross Income	40, 000	50, 000	55, 000	60, 000
Net Income	17, 252	25, 150	29, 100	32, 950
Cost per Kilo	11.37	9.94	9.40	9.01
Net Income per Kilo	8.62	10.06	10.60	11.0
R O I	75.8%	101.2%	112.3%	121.8%

POPULAR PEANUT PRODUCT LINES

BARBECUE - FLAVORED PEANUT

Ingredients

5 cups peanut
1 tbsp barbecue mix
1 tsp salt
1 bottle cooking oil

Procedure

1. Soak the peanut in water for at least 3 hours.
2. Remove the seed coat.
3. Drain from water and air dry.
4. Prepare frying pan. Heat oil enough to cover the peanut completely.
5. Fry the peanut with constant stirring for at least 15 minutes or until light brown.
6. Drain. While still hot, add salt and flavouring.
7. Cool, then pack in small cellophane then seal or place in clean jars.

PEANUT PANUTSA

Ingredients

1 cup roasted peanut
1 cup melted molasses (tagapulot)
1 ½ cups water

Procedure

1. Roast peanut and remove seed coat.
2. Dissolve molasses in water and bring to a boil.
3. When syrup thickens, add peanut and stir constantly to have even distribution of peanut.
4. Remove from fire and form into desired size.

PEANUT BUTTER

Ingredients

8 cups peanut
2 cups refined sugar
1/2 cup corn oil
2 tbsp. margarine
1 bar dairy cream (optional)

Procedure

1. Roast the peanuts until brown. Remove seed coat.
2. Measure all ingredients and mix thoroughly.
3. Grind the mixture 2-3 times by using a corn mill grinder.
4. Pack in sterilized bottles.

PEANUT BAR

Ingredients

4 cups roasted peanut, finely ground
1 can condense
2 /2 cups refined sugar
1 cup flour
1 tbsp. Vanilla

Procedure

1. Mix in one direction all ingredients in a suitable container.
2. Spread on a greased chopping board with a rolling pin.
3. Cut into bars and wrap with colored cellophane.

PEANUT BRITTLE (SPECIAL)

Ingredients

¾ cup roasted peanut, chopped
1 cup refined sugar
3 tbsp. margarine
¼ tbsp. baking soda

Procedure

1. Roast the peanut and remove the skin.
2. Crush or chop peanut. Set aside.
3. Caramelize sugar in a pan.
4. Add margarine to the melted sugar.
5. Cook in slow fire and add chopped peanut and baking soda.
6. Pour the peanut mixture in a greased chopping board and spread using rolling pin.
   Cut into desired sizes while hot.
7. Pack in plastic container or wrap with colored cellophane.

PEANUT-COATED PEANUT

Ingredients

3 cups raw shelled peanut
3 pieces medium-sized garlic, fresh
1 ½ tbsp. refined sugar
2 tbsp. refined salt
¼ tbsp. MSG

Procedure

1. Dry shelled peanuts in oven for 20-25 minutes at 250°C. Stir every 5-10 minutes,
2. Remove the seed coat.
3. Pre-heat oven to 350°F (175 °C).
4. Mix seasoning and water in blender.
5. Mash the seasonings into the peeled peanuts.
6. Bake peanut in oven for 45 minutes to one hour. Stir every 10 minutes.
7. Pack in suitable plastic bags.

SUGAR COATED PEANUT

Ingredients

2 cups shelled peanut
1 cup white sugar
1/2 cup water
2 tbsp margarine

Procedure

1. Mix all ingredients in a pan.
2. Cook slowly and stir until sugar dries up.
3. Continue stirring until the sugar melts. Remove from fire.Cool.
4. Place in clean jars or in a small plastic bags and seal.

MASAPAN DE MANI

Ingredients

1 cup ground roasted peanut
1/2 cup skim milk
1/2 cup refined sugar
1/4 cup water
1/4 cup grated cheese
1 tbsp. vanilla

Procedure

1. Mix sugar and skim milk very well. Add water and vanilla then mix thoroughly in one direction.
2. Distribute the mixture on greased muffin cups.
3. Add grated cheese and brush beaten egg on top of the mixture.
4. Bake in an oven at 250°C for 10-15 minutes.
5. Allow to cool and pack.

POLVORON DE MANI

Ingredients

1/4 cup refined sugar
1/2 cup margarine
1/2 cup skim milk
1 cup flour

Procedure

1. Roast peanut until cooked. Remove seed coats.
2. Grind finely.
3. Sift flour, skim milk and sugar separately.
4. Roast flour until brown. Add sugar while stirring. Add skim milk and peanut.
5. Mix thoroughly and set aside.
6. Meanwhile, melt the margarine and mix thoroughly to the mixture.
7. Mold using polvoron molder and wrap in Japanese paper.

* Note: If mold collapses, add more margarine or cooking oil to obtain a firm product.

YEMA

1/2 cup ground roasted peanut
1 can condensed milk

Procedure

1. Heat condensed milk in a pan until thick.
2. Mix peanut with condensed milk and continue cooking and stirring for 5 minutes. Mix/stir in one direction.
3. Remove from fire. Take out one at a time 1 tbsp of cooked product in a flat pan. Allow to set and cool.
4. Wrap in a colored cellophane.

PASTILLAS DE MANI (ORDINARY)

Ingredients

3/4 cup roasted peanut
3/4 cup skim milk
1/3 cup water
1/3 cup confectioner's sugar
1 tbsp. vanilla

Procedure

1. Roast peanut, remove seed coat and grind finely.
2. Mix in one direction the sugar and skim milk thoroughly.
3. Add water and mix in one direction.
4. Stir in peanut and vanilla. Continue mixing until homogenous.
5. Cook over medium heat. Stir constantly until mixture stick as one ball.
6. Cut into desired sizes. Roll over confectioner's sugar and wrap with wax paper.

PASTILLAS DE MANI (SPECIAL)

Ingredients

1 cup finely ground roasted peanut
1 can condensed milk
2 cups powdered milk
1 cup refined sugar
1/4 bar grated cheese

Procedure

1. Roast peanut, remove seed coat and grind finely,
2. Mix in one direction all ingredients in a mixing bowl.
3. Blend well and mold into small pieces.
4. Roll with refined sugar and wrap with colored cellophane.

Note: If desired, cook the mixture over slow fire stirring constantly until the mixture stick as one ball.

Roasting

Conventional Oven Roasting ("Parching")

Place raw peanuts, shelled or unshelled, one layer deep in a shallow backing pan. Roast in oven at 350 F – 15 to 20 minutes for shelled and 20 to 25 minutes for unshelled peanuts. (Remove from heat just short of doneness desired, as peanuts continue to cook as they cool).

Microwave Oven Roasting

Shelled Peanuts

Place two cups raw shelled peanuts in a 10x6 inch glass or similar microwave container. Dot with butter or margarine. Microwave on high for two minutes at a time – followed by stirring until peanuts have been microwaved 10 minutes for high roast; 12 minutes for regular roast. Remove from microwave. Season to taste.
Caution: peanuts continue to cook as they cool. Cooking time may vary with oven.

Oil Roasting (French Frying)

Ingredients

Raw shelled red skin or blanched peanuts	2 Cups
Peanut oil	1 ½ cups or enough to cover peanuts

Method

In an electric skillet, deep fryer or heavy saucepan, heat oil to 350 F add peanut and cook, stir occasionally for about five minutes or until just under doneness desired (they continue to cook as they cool). Drain on paper. Season to taste.

Season to complement freshly roasted shelled peanuts include salt, seasoned salt, popcorn salt, onion or powder, garlic salt or powder, paprika, chilli powder and parmesan cheese. Total 1,672 calories.

Boiled Peanuts (Using Dry Raw Shelled Peanuts)

Put 1 pound (1/2 kg) raw shelled peanuts in a 3 quart crock pot. Fill pot with water. Allow peanuts to soak 8 hours or overnight. Peanuts will absorb a lot of water making it necessary to add water until the pot is filled. Add salt to taste.

Cook peanuts on low fire for 8 hours and then on high for 1 ¼ hours or medium for 4 ¼ hours. Drain, serve hot.

(Try 4 to 5 tablespoon of salt; taste toward end of cooking time. Add more salt if taste dictates and allow to cook for about 1 hour more). Total 1, 285.50 calories.

Freezing Boiled Peanuts

Prepare boiled peanuts as indicated above in either "boiled peanuts" recipe. Drain, allow to cool and freeze in airtight containers. The keep indefinitely.

Crunchy Combo

Roasted Peanuts	1 cup
Seedless raisins (diced)	1cup
Chocolate chips	1 packet

Toss to combine. Store in a tightly closed container. Yields 18 to 20 servings.

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EDITORIAL

Technical Editors ..... Rose Mary G. Aquino
Orlando J. Lorenzana
Norma A. Nerona
Engr. Lorenzo Caranguian

Commodity Specialist ..... Rose Mary G. Aquino

Copywriter / Graphic Artist.... Edgar P. Paz

Photograpers ..... Eduardo P. Bulaqui
Renato P. Tarun

Production ..... Dicksteine U. Pascual

Circulation ..... Prisca B. Baquiran
Anita Bulaqui

Tecnical Advisers ..... Robert Olinares
Dr. Valentino Perdido
Reg'l. Technical Director / Scientist I

Consultant ..... Dr. Andrew B. Villacorta, **CESO** IV
Regional Executive Director

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