

COST AND RETURN ANALYSIS

ITEMS	QTY.	UNIT	RATE	AMT. Php
A. LABOR (250/MAN-DAY)				
Mowing	4	h	750	750
Plowing (2x)	8	h	1500	1,500
Compost application	4	MD	250	1,000
Harrowing (2x)	8	h	1500	1,500
Rotavation	8	h	1500	1,500
Furrowing	2	MD	500	1,000
Planting/basal fertilization (Organic fertilizer/soil conditioner)	8	MD	250	2,000
Thinning	2	MD	250	500
Cultivation (off-baring and hilling-up)	4	MD	50	2,000
Irrigation (2MD-12x)	24	MD	250	6,000
Side-dressing	2	MD	250	500
Spraying (botanical pesticides and natural concoctions)	8	MD	250	2,000
Weeding (30MD-2x)	60	MD	250	15,000
Roguing (2x)	4	MD	250	1,000
Harvesting/hauling	70	MD	250	17,500
Seed extraction/ cleaning/drying	50	MD	250	12,500
Seed sorting	12	MD	250	3,000
Seed packaging	2	MD	250	500
B. SUPPLIES/MATERIALS				
Seeds	12	kg	300	3600
Compost/ Vermicompost	150	bag	150	22,500

ITEMS	QNTY.	UNIT	RATE	AMT. PhP
-Net bag 22inx30in	50	pcs	50	2500
Power Cost (Electricity/Irrigation)				5000
Contingencies (10%)				10,435
Total Production Cost				114,785
Gross Income (300/kg) Seed Yield - Php700/kg * may be used for two seasons				210,000
Net Income (P)				95,415
ROI %				83.12

Legend:
MD = man-day, kg = kilograms, L = liter, m = meter, pc = piece



Technology developed by: BPI - Los Banos,
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BPI - CROP RESEARCH AND PRODUCTION SUPPORT DIVISION
692 San Andres St., Malate, Manila
Tel. (02)8525-7313 / Email: bpioap.crpsd@gmail.com
Website: www.bpi.da.gov.ph

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Republic of the Philippines
DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY



ORGANIC COWPEA SEED PRODUCTION

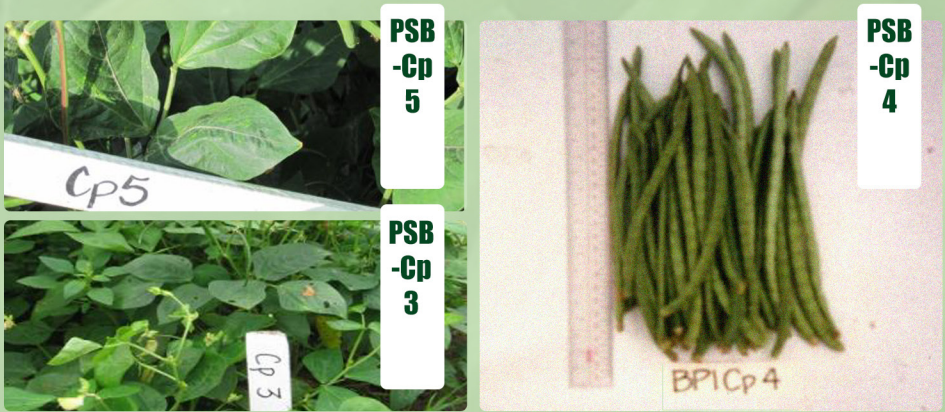


INTRODUCTION

Cowpea (*Vigna unguiculata* L. Walp) is a herbaceous and self-pollinated crop and considered as one of the important crops worldwide. It is rich in potassium, calcium, magnesium, phosphorus, vitamin A, C & B6, thiamin, riboflavin, niacin and pantothenic acid. It also has small amount of iron, sodium, zinc, copper, manganese, selenium and foliate. Helps induce urination, relieves leucorrhea, dysmenorrhea, headaches, constipation and chest pains.

VARIETIES

BPI-Cp1, BPI-Cp3, BPI-Cp4 and PSB-Cp5 are varieties released and approved for commercialization for its good pod quality, early maturity and moderate resistance to pests and diseases.



ECOLOGICAL REQUIREMENT

Soil - Cowpea is preferably grown on sandy soil for root development and requires pH of 5.5 to 6.8.

Climate - Drought tolerant at optimum temperature of 30°C. For dry bean production, planting on October and December is recommended.

CULTURAL MANAGEMENT

Land Preparation - 2 - 3 times plowing and farrowing. Set furrows at 60 cm apart during dry season and 75 cm for wet season.



Planting - In 1 hectare, seed requirement ranged from 10 to 12 kg of seeds/ha. Drill the seeds in furrows at 15 to 20 per linear meter and thin out the seedlings 10 days after emergence.

Fertilization - Before plowing, apply 2 tons of well decomposed manure/compost per ha. Foliar spray composes of Fermented Plant Juice (FPJ) or Fermented Fruit Juice (FFJ) is recommended to spray twice a week from planting up to flowering stage.

Weeding and Cultivation - Off-baring and hilling-up can be done as early as 2 weeks.



Irrigation - During dry season, weekly irrigation is recommended especially on flowering and pod development stage.



COMMON PEST AND THEIR CONTROL

1. Aphids (*Aphids craccivora*).

Control: spray garlic chives extract, citronella or alagao extracts mixed with sticker: made of perla soap, okra, gumamela flower or blended fruit. Soak overnight the extract with sticker then spray next day in early morning or late in the afternoon.

2. Pod borer (*Maruca vitrata*).

Control: Regular application of neem seed extract, used biological control: Trichogramma spp. Parasitoid. Plant insect repellent crop such as marigold, basil, onion, and citronella around the planting area.

3. Cowpea Weevil (*Callosobruchus spp.*).

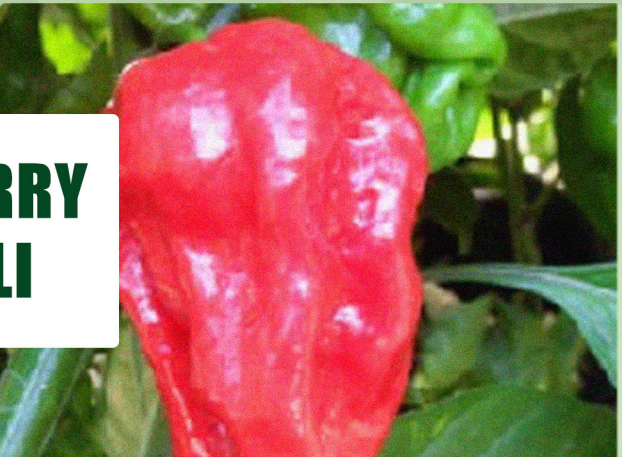
Control: Mix seeds with vegetable oil/coconut oil before storage (10ml/kg). Mix grinded dried neem leaves to seeds before packaging and storage.

TIP: For effective control, use resistant varieties, crop rotation, rouging and pruning of infected plant parts and planting of repellent and companion crops. Organic pesticides such as citronella extract, guyabano seed extract, luyang dilaw, alagao and perla soap can also be utilized to control and minimize pests for vegetable legumes.

CITRONELLA



STRAWBERRY HOT CHILI



ALAGAO



HARVESTING: Matured dried pods should be harvested promptly. For vegetables, pods are harvested 35 - 40 days after planting.

G. POST HARVEST: Select seeds with good shape, color and size. Drying is important to lessen the moisture content of the seeds significantly to avoid it from getting moldy.