

## Weeding and Cultivation

Control weeds to attain maximum crop yield. Off-bar at 10 DAT and hill-up at 30 DAT. Hilling-up minimizes cultivation and weeding and facilitates irrigation. It also provides soil support for the plant when they become laden with fruits. Avoid deep cultivation in order not to cause root injury to the plants. Hand weed between hills.



## Crop protection

Most prevalent pests of pepper are aphids, spider mites and leaf hoppers. Common diseases include bacterial wilt and anthracnose. Management of these pests and diseases are presented in the *Pests and Diseases Management Guide for Lowland Vegetables* included in this kit.



## Harvesting

Harvesting of pepper starts from 60 to 75 days after transplanting (DAT). Harvest pepper at the mature green stage when the fruits have attained full size and appear waxy and shiny. Fruits for harvesting must be in good shape and color, have thick flesh and fresh in appearance. Pick the fruit by breaking the pedicel with an upward twist or by cutting the peduncle with a sharp knife. Classify fruits and discard damaged or rotten ones before packing. Pack in polyethylene plastic bags or boxes before marketing.



## COST AND RETURN ANALYSIS FOR HOT PEPPER Per Hectare Basis for CY 2008

| PARTICULARS                                                 | UNIT  | QNTY   | UNIT COST (P) | TOTAL COST (P)    |
|-------------------------------------------------------------|-------|--------|---------------|-------------------|
| <b>A. Labor Inputs/Hectare</b>                              |       |        |               |                   |
| 1. Seedbed Preparation (1x10 m)                             |       |        |               |                   |
| a. Digging and pulverizing                                  | MD    | 4      | 150.00        | 500.00            |
| b. Levelling                                                | MD    | 2      | 150.00        | 300.00            |
| c. Sowing, watering and spraying                            | MD    | 7      | 150.00        | 1,050.00          |
| 2. Land Preparation                                         |       |        |               |                   |
| a. 1 <sup>st</sup> Plowing                                  |       | 8      | 300.00        | 2,400.00          |
| b. 1 <sup>st</sup> Harrowing                                |       | 4      | 300.00        | 1,200.00          |
| c. 2 <sup>nd</sup> Plowing                                  |       | 5      | 300.00        | 1,500.00          |
| d. 2 <sup>nd</sup> Harrowing                                |       | 3      | 300.00        | 900.00            |
| f. Furrowing                                                |       | 2      | 300.00        | 600.00            |
| 3. Basal Fertilization                                      | MD    | 4      | 150.00        | 600.00            |
| 4. Transplanting                                            | MD    | 15     | 150.00        | 2,250.00          |
| 5. Care of the Plants                                       |       |        |               |                   |
| a. Watering (3x a week for 1month)                          | MD    | 12 x 2 | 150.00        | 3,600.00          |
| b. Weeding and cultivation                                  | MD    | 10     | 150.00        | 1,500.00          |
| c. Side dressing of fertilizer                              | MD    | 7      | 150.00        | 1,050.00          |
| d. Hilling up                                               |       | 5      | 300.00        | 1,500.00          |
| e. Control of pest and diseases (9 sprayings)               | MD    | 9 x 2  | 150.00        | 2,700.00          |
| 6. Harvesting and Packing                                   | MD    | 50     | 150.00        | 7,500.00          |
| 7. Hauling                                                  | MD    | 5      | 150.00        | 750.00            |
| <b>Sub-Total</b>                                            |       |        |               | <b>29,000.00</b>  |
| <b>B. Materials Inputs</b>                                  |       |        |               |                   |
| 1. Seeds (OPV)                                              | kg    | 0.25   |               | 750.00            |
| 2. Fertilizer                                               |       |        |               |                   |
| Complete (14-14-14)                                         | bag   | 2      | 3,800.00      | 7,600.00          |
| Ammosul                                                     | bag   | 1      | 1,900.00      | 1,900.00          |
| Organic Fertilizer                                          | bag   | 20     | 4,000.00      | 80,000.00         |
| 3. Insecticides                                             | liter | 3      | 2,550.00      | 7,650.00          |
| 4. Fungicides                                               | kg    | 2      | 700.00        | 1,400.00          |
| 5. Fuel                                                     | liter | 40     | 2,000.00      | 80,000.00         |
| 6. Polyethylene                                             | sack  | 1,250  | 6,250.00      | 7,812.50          |
| 7. Miscellaneous                                            |       |        | 1,500.00      | 1,500.00          |
| <b>Sub-Total</b>                                            |       |        |               | <b>23,450.00</b>  |
| <b>Sub-Total (A &amp; B)</b>                                |       |        |               | <b>53,350.00</b>  |
| C. Contingencies (15% of the total labor & material inputs) |       |        |               | 8,017.50          |
| <b>GRAND TOTAL</b>                                          |       |        |               | <b>61,352.50</b>  |
| Estimated Yield/ha (kg)                                     |       |        |               | <b>20,000</b>     |
| Estimated Gross Income (P8.00/kg)                           |       |        |               | <b>160,000.00</b> |
| Estimated Net Income                                        |       |        |               | <b>98,647.50</b>  |
| Return on Investment (ROI)                                  |       |        |               | <b>161%</b>       |
| Break Even Price (Per Kilo)                                 |       |        |               | <b>6.97</b>       |

MD-man days

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# HOT PEPPER

## Production Guide

Pepper (*Capcicum annuum L.*) belongs to the family *Solanaceae*. It is one of the most popular ingredients used in cooking Filipino dishes. It is used in the preparation of sauces, pickles and as flavoring ingredient of various recipes. The large varieties are stuffed and baked. Red chillies are very rich in Vitamin C and provitamin A. These are also good source of B vitamins and high in potassium, magnesium and iron. The green leaves are excellent source of calcium. Hot pepper in particular, is a favorite mix in “*pinakbet*” and “*sinigang*” because of its aroma. It is also being grown for its medicinal and pharmaceutical properties. It alleviates pain in arthritic patients. It helps lower the risk of diabetes.



## SOIL AND CLIMATIC REQUIREMENTS

Hot pepper is a sun-loving crop. It can be planted from May to September in the wet season and October to February in the dry season.

Hot pepper can grow in any type of soil however, for optimum yield, plant pepper in sandy loam to clay loam with plenty of organic matter and with sufficient moisture and good drainage.

## CULTURAL MANAGEMENT PRACTICES

### Selection of Varieties

For better yield and profit, select varieties that are adaptable to local conditions, resistant to insect pests and diseases and market preference. To guide you in selecting your varieties refer to the *Guide you in Selecting Varieties for Lowland Vegetables* included in this kit.

### Land Preparation

The field is alternately plowed and harrowed 2 to 3 times to make the soil to a fine tilth.

Prepare furrows at 80 cms apart just before transplanting. The distance between rows however, depends upon the locality, variety and soil fertility. Double-row method (spaced 35 cm between the two rows and 75 cm to 1 m between the double rows) is also practiced to provide developing fruits adequate protection against sun scalding.

## Raising Seedlings

A hectare of farm requires 100 g of seeds. One gram is approximately 250 seeds.

There are two methods of seedling establishment in pepper, namely, the seedbed method and the box, tray or potlets method.

### Seedbed Method

- ❖ Choose a level area fully exposed to sunlight, accessible to water source, with good drainage and provided with windbreaks.
- ❖ Prepare the area by plowing and harrowing alternately until the soil is reduced to fine tilth.
- ❖ For one (1) hectare area to be planted, construct seedbed measuring 1x10 m at 15 cm high.
- ❖ Pulverize the soil and level the bed with the use of hand tools and remove weeds and stubbles.
- ❖ Before sowing the seeds, sterilize the seedbed to kill weed seeds and pathogens present in the soil.

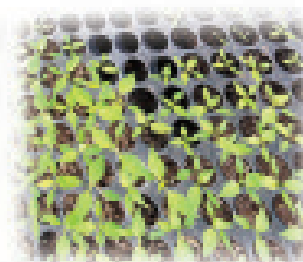
- Water the prepared seedbed first for better heat penetration.
- Spread about 3 to 5 cm thick of either rice straw or rice hull on top of the seedbeds and burn slowly.
- When the soil cools, remove unburned materials and excess ash.

- ❖ To avoid toxic effects of burned materials, do not sow seeds immediately after sterilization.
- ❖ Water the seedbeds before sowing.
- ❖ Prepare rows at a distance of 5 cm with the use of a stick.
- ❖ The night before sowing, soak the required amount of seeds in clean water. Sow immediately or air dry the seeds before sowing.
- ❖ Drill the seed evenly in the furrows and lightly cover with fine soil.

### Seedling Tray/Potlets Method

Raising seedlings in tray or potlets require less seeds, promote uniform growth of superior seedlings, minimize transplanting shock and lessen seedling mortality. It also saves labor for thinning, weeding, watering, and pest management.

Prepare the sowing medium by mixing thoroughly one part compost, one part carbonized rice hull (CRH), and one part garden soil.



Sterilize the garden soil by roasting or drenching with boiling water before mixing with other medium.

Fill holes of the tray or potlets with the medium and slightly compact it using your palm. Use a seedling tray with 100 or 104 holes. The volume of medium in each hole contains enough nutrients to sustain the seedling until transplanting time.

The night before sowing, soak the required amount of seeds in clean water. Sow immediately or air dry the seeds before sowing.

### Care of Seedlings

Keep the soil fairly moist until the seedlings are well established. Water the seedlings in the morning to minimize damping off.



Thin seedlings after they develop 2 pairs of true leaves. Prick the thinned seedlings in seedbeds, potlets or seedboxes intended for this purpose. Water the pricked seedlings and place in a shaded area until these have recovered.

Apply starter solution at 10 days after emergence. Dissolve 2 tbsp of ammonium phosphate (16-0-0) or complete fertilizer (14-14-14) in 4 liters of water. Drench the solution equally to the seedlings. Water the seedlings after applying the fertilizer solution to prevent leaf injury.

One week before transplanting, harden the seedlings by gradually withholding water and exposing them to direct sunlight. Hardening is done to prepare the seedlings to direct field condition.

### Irrigation

Irrigate the field especially during the dry months to produce good quality fruits. Depending on the soil moisture, irrigate 4 to 5 times from transplanting to first harvest, as follows:

|     |   |                                  |
|-----|---|----------------------------------|
| 1st | - | at transplanting                 |
| 2nd | - | 14 days after transplanting(DAT) |
| 3rd | - | 30 DAT                           |
| 4th | - | 50 DAT                           |

Final irrigation should be done before the last week of harvesting.

## Transplanting

Transplant seedlings 28 to 42 days after sowing. Prior to transplanting, water the seedbed/seedling trays to facilitate pulling of seedlings and to minimize root damage. Pull seedlings carefully using a trowel or pointed stick. Do not wash or remove the soil adhering to the roots.

Plant in furrows during dry season and on ridges during the rainy season at a distance of 30 cm between hills.

Transplant during cloudy days or late in the afternoon to avoid wilting and for plant recovery.

## Fertilization

To achieve optimum yield, apply the right kind and amount of fertilizer at the right time. To determine this, have your soil analyzed at the Soil Laboratory nearest you. In the absence of soil analysis, follow this general recommendation for one hectare farm:



| Time of application | Kind of fertilizer           | Qty of Fertilizer | Stage of the crop |
|---------------------|------------------------------|-------------------|-------------------|
| Basal               | Complete (14-14-14)          | 4 bags per ha     |                   |
|                     | Ammonium Phosphate (16-20-0) | 4 bags per ha     |                   |
| Sidedress           | Ammonium Sul-fate (21-0-0)   | 2 bags per ha     | 10 DAT            |
|                     | Urea (46-0-0)                | 2 bags per ha     | 30 DAT            |
|                     | Muriate of Pot-ash (0-0-60)  | 2 bags per ha     |                   |
|                     | Urea (46-0-0)                | 2 bags per ha     | 50 DAT            |
|                     | Muriate of Pot-ash (0-0-60)  | 4 bags per ha     |                   |

As pepper plants develop, they need higher levels of Phosphorus and Potassium. Too much nitrogen can result to great looking, bushy, green plant, but few fruits.