

PRODUCTION GUIDE ON CORN – (OPV)

Corn of maize (*Zea mays* L.) is one of the important crops in the Philippines. About 20% of the population from Visayas and Mindanao consume corn as staple food in the form of white corn grits. It is the major source of income and employment of over a million farmers, majority of whom fall below the poverty line.

At least two-thirds of our corn supply is used for livestock and poultry feeds and as raw materials in the manufacture of starch, syrup, oil and other starch derivatives.

Corn can be grown as monocrop and/or as an intercrop under coconut trees, fruit trees and others.

OPEN-POLLINATED VARIETY (OPV)

PACKAGE OF TECHNOLOGY

STEP 1 Securing certified seeds to plant

Secure certified seeds of any of the following improved varieties:

IPB Var 1	Improved Tiniguib	Super Sweet Corn
IPB var 2	IES	Sweet Corn
USMARC 2 Var 1		Glutinous Corn

Note: use good seeds only selected from disease and insect-free ears of the farmer's previous corn crop and have at least 95% germination.

STEP 2 Soil Testing

To determine specific fertilizer requirements, it is best to submit soil samples for analysis to the nearest DA soils laboratory. A quick analysis can be done right in the farmer's field by means of soil test kit (STK).

Soil Test also determines soil acidity. If pH is less than 5.3 liming should be done to correct pH. Depending on the type of soil, apply calcium carbonate (CaCO_3) at the rate of 0.4 to 1.2 tons per 0.1 pH unit below 5.3. Apply lime 30 days before planting. The required amount is broadcast and harrowed in.

STEP 3 Land Preparation (30 days before planting)

If your soil is poor, apply 5-10 tons compost per hectare before plowing. Plow the soil at least 16 centimeters (cm) deep to provide good soil condition and tilt for root development. It also minimize weed problem. Plow once and harrow once.

STEP 4 Preparation Furrows (1 day before planting)

Make furrows at 75 cm spacing and about 8 cm depth

STEP 5 Application of basal fertilizer (day of planting)

Apply basal fertilizer in the furrows at the rate of 4 bags of complete fertilizer (14-14-14) per hectare. This provides 28 Kgs each Nitrogen (N), Phosphorous (P205) and Potassium (K2). Cover fertilizer with soil to avoid contact with seed. When using organic fertilizer, provide equivalent amount of nutrient. (Note that actual rate of fertilizer application should be initially based on soil analysis).

STEP 6 Planting
(day of planting)

Plant 3 seeds per hill, spaced 5 cm apart

STEP 7 Cultivation, weed Control and Thinning of Seedlings
(12 days after planting)

Undertake shallow cultivation and spot weeding to control weeds. Thin seedlings to 2 per hill. To further control weeds, another shallow cultivation can be done.

STEP 8 Sidedressing of Nitrogen Fertilizer
(25 days after planting)

Side-dress with 2 bags urea (45-0-0) per hectare

STEP 9 Pest Management
(Whorl Stage)

If available, first use *Trichogramma* biocontrol of corn borer. The first release is done at 40-50 cards per hectare, 20-30 days after planting. The second release at 40-50 cards per hectare is done 2 to 3 days after the first release if parasitism of corn borer egg masses is below 20%. Simply hang a Tricho card near the base of one of the fully expanded leaves of a plant. Hang cards on plants in strategic spots of cornfield. If *Trichogramma* are not available, control corn borer by means of chemical pesticides. At mid-whorl stage (25-35 days after planting), when 40-50% show infestation, apply carbofuran granules onto the whorl of affected plants; or spray any of the following insecticides: endosulfan, methomyl, monocrotophos or carbaryl. This can also control earworms and cutworms.

STEP 10 Pest Management
(Tasseling Stage)

When the corn borer infestation persists, employ a combination of detasseling and chemical control. Simply pull out the tassel (not break off) from the peduncle of plants of 3 rows for every 4 rows. Corn plant is ready for detasseling when one-half to three-fourth of the tassel (before pollen shedding) has emerged.

Note: Do not detassel all the plants; leave one row for every 4 rows with intact tassels.

Bring detached tassels out of the corn field, these may be used as cattle/Carabao feed if not sprayed with insecticides. If plants with tassels are heavily infested, spray with any of the recommended insecticides in Step 9.

STEP 11 Harvesting
(100-105 days after planting)

Corn crop is ready for harvest 100 days after planting during dry season and 105 days after planting during wet season. As a guide, corn can be harvested when corn kernels are glazed and black layer is formed. This can be determined by detaching a few corn kernels from the cob.