

CORN-POST PRODUCTION TECHNOLOGY

The following items are recommended for adoption by farmers regarding post-production handling and storage of corn (shelled or on cobs) to effectively minimize losses and avoid sub-standard grains.

HARVEST

- ITEM 1 Maturity is determined by the black layer formation from the 90th to 100th. For many varieties, harvesting corn is best at 100 days after planting during dry season and 105 days after planting during wet season. During this period, the moisture content (MC) of grains ranges from 35-40%. The following indices for maturity serve in attaining good harvest.
1. When leaves and/or husks are dried.
 2. Corn grains on cobs are hard and glossy
- ITEM 2 If weather permits, allow field drying of matured crops and take necessary precautions to avoid insect infestations, mold or fungal growth, possible germination of kernel right on the cob rodent attacks, and field losses.
- ITEM 3 Harvest the crop by handpicking by jerking and/or by cropping the whole ear from the standing stalk. One hectare of cornfield with 60,000 plants requires 50-80 man-hours to hand-pick. If removal of husks is included, it requires 100-120 man-hours.
- ITEM 4 Dry husked corn to 18-21% moisture content (MC) when corn grain on the cobs are hard and tough to resist mechanical damage injury shelling. A corn crib is usually used for this purpose (item 13). Sundry cogen on the cobs by spreading evenly on cemented floors, sawali or canvas.

SHELLING

- ITEM 5 Shelling is best done when corn kernels are hard with 18-21% MC. Corn can be shelled either by manual or mechanical means.
- ITEM 6 Mechanical corn shellers are advisable to use for hi-yielding varieties (hybrids) to reduce losses. This type of sheller practice is practical to use for corn farm 4 hectares and above. MC of corn on the cob must be at safe level (item 4), to avoid or minimize injuries and cracks on grains as these serve as entry points for microorganisms and insects during storage.

CLEANING

- ITEM 5 For shellers without blowers, clean grains thoroughly using "bilao" for winnowing. Separate trashes from the grains. When using mechanical shellers, the cleaning device is already attached to the facility Adjust the blower whenever impurities/dirts flow along with grains in the discharge outlet.

SHELLED CORN DRYING

- ITEM 8 To prevent growth of molds (amag) and damages caused by microorganism during storage, dry corn grains immediately down to 13-14% MC.
- ITEM 9 Two Methods of Drying:
1. Sun Drying: Distribute corn grains evenly (5-10 cm thick on flat Outdoor cemented floor or sawali/bamboo mat.
 2. If sun drying is not possible, use mechanical dryer.
- ITEM 10 Store dried corn grains (13-14% MC) in plastic bags or jute sacks or in bulk. Keep grains in a cool dry place, preferably well-ventilated and a crated. Under such temperature, corn grains with 13-14% MC will be safe for 6 months storage.
- ITEM 11 When filling bags of corn grains, allow air to enter between rows. Provide spaces between rows or piles to allow easy inspection.
- ITEM 12 Farm bulk storage include "matong" and wooden bins. Be sure that grains and facilities are not contaminated or infected with insects and microorganisms. The cheaper way to prevent insects and pests from damaging your stock is strict observance of sanitation within and around the storage facilities.
- ITEM 13 Another farm level storage is the corncrib used for temporary storage before marketing the crop. It is also used to dry corn. It is also used to dry corn in cobs

gradually for 1-2 months down to 15% MC before shelling. Provide post of corncrib with rat guards made of tin sheets fastened around each post.

ITEM 14 Corn grains with 14% MC, 97% purity, 3% immature seeds, and not more than 5% damage are considered of good quality and command a high price.

**ESTIMATED COST AND RETURN
FOR CORN PRODUCTION**

ACTIVITIES	TOTAL NUMBER (1 HA.)		AMOUNT (P)	
	MD	MAD	1 ha	½ Ha.
A. LABOR INPUTS		12	P3,600.00	P1,800.00
Plowing (2x)				
Harrowing (2x)		10	3,000.00	1,500.00
Furrowing		5	1,500.00	750.00
Basal Fertilization	5		750.00	375.00
Planting	5		750.00	375.00
Thinning/Weeding	5		750.00	375.00
Side dress	3		450.00	225.00
Hilling up	5		750.00	375.00
Tricho cards placement	1		150.00	75.00
Harvesting	5		750.00	375.00
Dehusking	5		750.00	375.00
Shelling	15		1,500.00	750.00
Drying			600.00	300.00
Hauling			600.00	300.00
Sub-total			P15,900.00	P7,950.00

B. Material Inputs		
1 bag seeds @ P2,500.00/bag	P2,500.00	P1,250.00
4 bags complete fertilizer @ P850/bag	3,400.00	1,700.00
3 bags Urea @ P910.00	2,730.00	1,365.00
20 bags Organic Fertilizer @ P110.00/bag	2,200.00	1,100.00
100 cards trichoderma @ P5.00/card	500.00	250.00
1 liter chemical @ P1,000.00	1,000.00	500.00
Sub-Total	P12,330.00	P6,165.00

C. Fixed Cost	
Interest on capital, 10% per annum (3.5% for 4 months)	P988.00
D. Total Costs (for ½ ha. Only)	P15,103.05
E. Gross Income (for ½ ha. Only)	
3,000.00 kgs x P7.50/kg	P22,500.00
F. Net Income	P7,396.95
G. Return on Investment (ROI)	48.75%

ASSUMPTIONS: (For Corn)

1. MD rate is P150.00
2. MAD rate is P300.00
3. Seeds used-hybrid
4. Area planted less the area of Lanzones is approximately 0.5 hectare
5. Planted in between rows of Lanzones at 2m away from the hills
6. Production cost shall increase at 5% per year