

Ampalaya

Protected Cropping

Crop group: Cucurbit (ampalaya, melon, cucumber)

Crop Rotation

Follow this crop with leafy vegetables, tomato, eggplant, brassicas, sweet pepper or sweet corn. It is also advisable to rotate leguminous crops such as mungbean and peanut. Avoid following with melon or cucumber.

Climate & Soil

Ampalaya is a summer crop that prefers a warm humid climate with temperatures ranging from 20–35°C. It grows in most areas up to 1000m altitude. Excessive rain during its production promotes soil-borne diseases and susceptibility to rotting in waterlogged areas. It thrives in a well-drained sandy loam, rich in organic matter soil.

Protective Structures

The house-type protective structure roofed with UV-treated plastic is effective in giving protection from strong rain and excessive moisture. The frame is made of bamboo and has a lifespan of 3–5 years.

Yield of ampalaya under protected cropping is twice that achieved in the open field, due to increased harvesting and longer productivity.

For more details on how to build structures for growing vegetables in the Philippines, refer to a separate fact sheet in this series.

Land preparation

Plow and harrow a 200m² area (protective structure) twice at weekly intervals to break down soil clods, level the area and remove the weeds.

Prepare raised beds 1m wide and 2.5m apart. Make a drainage canal along the sides of the protective structure.

Seedling management

Pre-germinate seeds using the rolled towel method. Sow seedlings individually at radicle break in the seedling tray filled with 2:1:1 sterilized garden soil, carbonized rice hull



Plowing the soil under the protective structure.



Ampalaya seedlings ready for transplanting.

and vermicast and place under shade. Apply starter solution using calcium nitrate (15.5%N & 19%Ca) at a rate of 2.5g/liter of water one week before transplanting. Harden seedlings by reducing water to temporary wilting and gradual exposure to full sunlight 1 week before transplanting.



Protected cropping structure showing trellising.

Transplanting

Transplant the 10–15-day-old ampalaya seedlings into the holes, avoiding the roots so they do not come in contact with the applied inorganic fertilizers. Transplanting late in the afternoon (from 3pm onwards) minimizes shock from intense sunlight and high temperatures. Water immediately after transplanting.

Trellising

Tie or nail bamboo poles 6m long into each opposite post of the protective structure. Beside each plant spaced 1m between hills, install two 12-inch bamboo sticks on both sides. Securely attach straws going upward and tie another straw in zigzag position that will serve as support for the growing vines. Install trellising net on top to support spreading of vines.

Pruning

Pruning removes lateral shoots starting about 2 weeks after transplanting. All laterals below 1.5m length of vine must be removed using pruning shears or any sharp cutters. Pruning operations should be hygienic and avoid all sources of infection or contamination. The cutting tool should be dipped in 70% ethyl alcohol after cutting. Re-pruning will be done as new lateral shoots arise.

Fruit Bagging

Bagging of newly formed fruits must be done after fruit setting to prevent fruit fly infestation. Individually wrap the fruits when petals become pale yellow (indicating successful fertilization) using 10cm x 16cm cellophane or any wrapping materials.

Harvesting

Marketable fruit can be harvested at around 45–50 days after sowing. Fully developed and therefore marketable



Bagging ampalaya fruit is done to stop fruit flies getting to it.



Harvestable size fruits.

fruit is thick, green and juicy. Cut the peduncle using a sharp knife or scissors. It is best to harvest the fruit early in the morning to have heavier fruit than in late afternoon. Harvest frequently with an interval of 2–4 days because the fruit ripens easily. Apply 5g of complete fertilizer and 5g muriate of potash at 2 week intervals.






Postharvest Handling

Harvested fruit should be placed directly in a cool, dry and shady place to minimize field heat which is responsible for faster respiration rate. Transport the fruit in well cushioned boxes or crates using banana leaves as the cushioning. Avoid overpacking to avoid damage and losses.

Follow up

The finished crop should immediately be removed and destroyed, and the ground ploughed to prevent pest and disease populations spreading to other crops. This is extremely important!

Fertilizer, irrigation, pest and disease management

Ampalaya growth stages					
	Pre plant	Transplant / Establishment	Vegetative	Flowering/ fruit development	Maturity
					
Fertilizer	Before planting, apply fertilizer into each planting hole and mix in with soil. During plant growth, apply fertilizer to each plant an inch away from the base of the plant. Ensure no fertilizer touches the leaf of the plant to avoid leaf burning. Additional application can be applied at a 2 week interval during fruit development and harvest. Use the following fertilisers and rates per plant.				
Timing	At transplanting	2 weeks after transplanting	4 weeks after transplanting	6 weeks after transplanting	Additional applications
Rate	500g compost or dried manure and 10g complete (16-16-16 N, P ₂ O ₅ & K ₂ O) fertilizer per plant.	5g urea (45%N) and 5g of complete fertilizer per plant by side dressing. Cultivate or water in as soon as possible.	5g complete fertilizer and 5g muriate of potash (0-0-60) per plant. Cultivate or water in.	5g complete fertilizer and 5g muriate of potash (0-0-60) per plant. Cultivate or water in.	5g complete fertilizer and 5g muriate of potash (0-0-60) per plant. Cultivate or water in.
Irrigation	Lay out trickle irrigation drip hose along the beds. Use one hose along each planting row. The spacing of drippers in the hose should be about 25cm or closer. The best strategy is to fully wet the soil profile and encourage rooting. To prevent the rapid spread of fungal diseases, water only in the morning, not in the afternoon.				
		Water every 2–3 days for 4–6 hours or until soil is fully wet	Water every 2–3 days for 4–6 hours or until soil is fully wet	Water every 1-2 days for 2-3 hours or until soil is fully wet. Do not under or over water plants.	Water every 1-2 days for 2-3 hours or until soil is fully wet. Do not under or over water plants.
Pests	Monitor the crop regularly for pest infestations, look in growing points and on underside of leaves. Approved insecticide should be used as indicated on product labels. Avoid spraying broad spectrum insecticides to prevent killing pollinating bees. Where possible squash eggs and young larvae, prune leaf miner infested leaves and remove caterpillar infested fruit. Bury or bag pruned leaves and removed fruit. Avoid moving from a mite-infested crop into an uninfested crop.				
			Squash and flea beetles, Aphids, white flies, and leaf folder	Fruit worm, aphids, white fly, mites, mirids and leaf miner, fruit fly	Fruit worm, aphids, white fly and leaf miner, fruit fly
Diseases	Monitor the crop regularly for early disease symptoms. Rogue infected plants showing systemic symptoms and carefully prune away infected parts for localized diseases. If pruning needs to be done, disinfect pruning tools after use on every plant. Bacterial wilt and blight can be transmitted via pruning tools. Preferably carry a container for pruned plant materials (e.g. a plastic bag) during pruning and immediately place the pruned diseased or infested plant parts inside the bag to minimize dispersal of inoculum to healthy plants. Approved fungicides should be used as indicated on product labels.				
			Bacterial wilt, Cercospora, downy mildew, and Namamarako	Bacterial wilt, Cercospora, downy mildew, and Namamarako	Bacterial wilt, Cercospora, downy mildew, little leaf and Namamarako



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