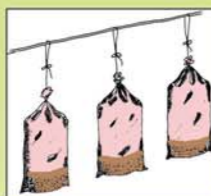


- Mash or rub the seeds unto a sturdy screen under running water to remove the red mucilaginous seed coat.
- Put clean seeds in a pail of water and allow the white, unfilled immature seeds to float.
- Pour the water together with the immature seeds, leaving normal seeds at the bottom of the pail. Repeat this process until seeds are free of mucilaginous coating and immature seeds.
- Air-dry the seeds for 2–3 days.
- Sundry the seeds gradually for 4–5 days.
- Seed yield: 100–300 kg/ha



Packaging/Storage

- For home use, pack the seeds in thick plastic or paper envelopes and place them in large aluminum cans or large-mouth jars lined at the bottom with charcoal, lime, or silica gel.
- Seal the package well.
- Place the seeds in a cool, dry place.
- For large volume, pack the seeds in thick plastic or aluminum foil containers and seal tight.
- Keep in a cool, dry place or storage area. The drier the stored seeds and the cooler the storage area, the longer the life of the seeds.



COST AND RETURN ANALYSIS

	Man Days (MD)	Unit Cost ^{1/}	Total Cost
I. Labor Cost			
a. Land Preparation (mechanized)			
1. Mowing		2,164	2,164
2. Disking		1,640	1,640
3. Harrowing (2x)		2,164	4,328
4. Rotavation		3,001	3,001
5. Furrowing		1,640	1,640
b. Planting/basal fertilization	5	210	1,050
c. Hilling-up		2,350	2,350
d. Field maintenance			

1. Irrigation (Furrow-10x)			
2 MD/Irrigation	20	210	4,200
2. Side dressing- (4x)	8	210	1,680
3. Weeding - (3x)		3,000	9,000
4. Spraying - (8x)	16	210	3,360
5. Vine pruning	25	210	5,250
6. Pollination-2 hours/day for 20 days	5	210	1,050
f. Trellising			
1. Posting	10	210	2,100
2. Wiring and netting	30	210	6,300
3. Vine training- (3x)	20	210	4,200
g. Roguing	2	210	420
h. Harvesting/Hauling	50	210	10,500
1. Seed extraction/cleaning/drying	50	210	10,500
j. Seed treatment	1	210	210
		Sub-total	74,943.30

II. Supplies and Materials	Quantity		
a. Seeds	4 kg	3,125	12,500
b. Fertilizers			
Complete	3 sacks	1900	5,700
Urea	8 sacks	1780	14,240
Muriate of Potash	3	2200	
c. Fungicide			1,500
d. Insecticide			5,000
e. Trellising materials			
1. Ipil-pil poles ^{2/}	1200	7	4,200
2. GI Wire # 16 ^{3/}	600kg	65	9,750
3. Twisted synthetic rope	20 rolls	120/roll	2,400
4. Jute sacks	30 pcs.	12	360
5. Net bag - (12x15 in)	40 pcs	10	400
		Sub-total	56,050
		Grand Total	130,993.30

III. Seed Store Economics			
A. Cost of production			130,993.30
B. Seed yield-kg/ha	Low	Medium	High
	100	200	300
C. Gross Income- P2,500/kg	250,000	500,000	750,000
D. Net Income	119,006.70	369,006.70	619,006.70
E. ROI (%)	90.84	282.00	472.55

¹ Based on prevailing prices of labor and supplies as of July, 2008

² Poles for trellis will be used for two seasons, hence cost is divided by two.

³ Wires to be used for four seasons hence, cost divided by four.

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Seed Production of AMPALAYA

VARIETY DESCRIPTION (Fresh)

Sta. Rita

- open-pollinated variety
- yield: 39 tons/hectare (t/ha)
- harvest maturity: 70 days from planting
- fruit is 30 cm long, weighs 200 g, green, straight, thin, shiny
- resistant to downy mildew
- IPB selection

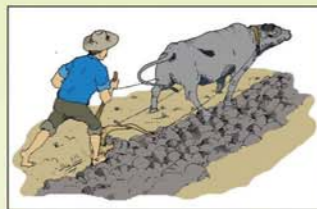
ENVIRONMENTAL REQUIREMENTS

- Suited to the tropics and grows well in temperatures between 20°C–35°C.
- Low temperature, low relative humidity, and high nitrogen stimulate the development of more female flowers.
- Can be grown all year round but is susceptible to waterlogging and drought which reducing yield considerably.
- Can be grown to any type of soil with pH ranging from 5.2 to 6.8. Do not plant in areas that infected with bacterial wilt and nematodes.

CULTURAL MANAGEMENT

Land Preparation

- Prepare land thoroughly by mechanical means or with the use of animal-drawn implements.
- Make sure to break big clods.
- Space the furrows 75 cm apart.



Planting

For direct seeding

- Soak seeds in water overnight or wrap them in a moist cloth for faster and more uniform germination.
- Sow two seeds per hill spaced at 40–50 cm apart along the rows and 2.25 m in-between rows.
- Cover the seeds with a thin layer of soil and water immediately.



For transplanting

- Hybrid seeds are expensive, hence, they are grown as seedlings first to avoid seed wastage
- Sow 1 seed per hole in seedling trays with a mixture of 1:1 garden soil and coir dust or 2:1:1 garden soil, rice hull, and compost. Water the tray.
- A week after sowing, apply starter solution 1 tbsp Urea (46-0-0) dissolved in 1 gal of water.
- Condition seedlings for transplanting by gradually exposing the seedlings to sunlight and reducing frequency of watering a week before transplanting.
- Seedlings are ready for transplanting 3 weeks from sowing.
- Avoid transplanting during the hot part of the day to avoid wilting.



Fertilization

- Before planting, apply 1 tbsp 14-14-14 per hill as basal application. Apply about 250 g or a handful of dried animal manure per hill.
- Thirty days after planting or if the seedlings have produced branches, apply 1 tbsp Urea (46-0-0) per hill 10 cm away from the seedlings.
- At flowering, apply 1 tbsp of a mixture of 1 part Urea and 1 part Muriate of Potash (0-0-60) per hill and every 3 weeks thereafter.
- Always cover the fertilizer with soil.



Irrigation

- During the dry season, furrow irrigate every 10 days. During the wet season, irrigate only when necessary.
- Because ampalaya is vulnerable to water-logging, construct drainage canals to avoid flooding especially during the rainy season.

Trellising

- Before the vines creep, construct vertical and overhead trellis.
- Layout the poles (2.5 m long and 2.25 inches in diameter) along the rows 4–5 m apart.
- Connect the poles within and between the rows by wire (#16) at

the top of the trellis. Tie the top wire to a stake at the end of the rows to stabilize the construction.

- Connect the poles horizontally at the middle and bottom portion of the trellis along the row with GI wire.
- Intertwine synthetic straw or abaca twine vertically from top to bottom wire. Allow one plant to climb up around a vertical string.
- Construct the overhead trellis by alternately running wires and straws lengthwise and crosswise at the top of trellis.



Vine Training

- Train vines to spread evenly across trellis to avoid dense spots. Repeat training the vines as they grow until they reach the top of the trellis.

Pruning

- Cut off lower lateral branches to encourage growth of the main branch towards the overhead trellis

Weed control

- Do a thorough weeding around the planted rows, and under brushing in large spaces in-between rows.



Mulching

- Mulch with rice straws or black plastic sheet to control weeds and conserve moisture. Layout the plastic mulch in the soil before planting.

Insect Pest Management

- Fruitfly is the most destructive pest. Adult fruitfly lay eggs which hatch to larvae inside the fruit. The larvae feed on the inside flesh of the fruit causing premature yellowing of fruit.
- To control fruitfly, remove all infested fruits and bury. Do preventive spraying or use of attractant to kill adults. Wrap fruits with paper or net bags. This method is laborious but effective.



Disease Management

- Ampalaya is susceptible to foliage diseases such as powdery and downy mildew. Control these diseases fungicides.
- Remove plants that are infected with virus, nematode, and bacterial wilt to avoid further contamination in the field.

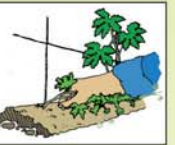
Pollination/Isolation

- Bees are the main pollinators of ampalaya and are important for increasing seed yield. If the bee population is low, employ hand pollination during early flowering to ensure adequate pollination.
- Due to the highly-crossed pollinated nature of ampalaya, an isolation distance of 500 m radius for certified seed production and 1,200 m for foundation seeds.



Roguing/Field Inspection

- Remove off-types.
- Conduct field inspection at early vegetative stage, flowering stage, and fruiting stage.
- At vegetative stage, check the leaf size, shape, color, vigor, and vine trailing habit.
- At flowering and early fruit development, observe for shape and color of the ovaries, shape and color of fruits, and general appearance.
- Do the final roguing when fruits are maturing for fruit shape and color.



Harvesting

- Harvest when fruits have turned yellow-orange in color or when portions of fruit have yellow streaks, which is about 23–25 days from flower opening.



POSTHARVEST HANDLING

Seed Processing

- Cut off the apical portion or peduncle end of the fruit and split open the fruit to scoop out the seeds.