

Pechay

Open Field Production

Crop group: Brassica (cabbage family) – cabbage, broccoli, cauliflower

Crop Rotation

Follow this crop with cucurbits, lettuce, sweet pepper, tomato, eggplant or sweet corn. Avoid following with cabbage, broccoli or cauliflower.

Climate & Soil

The optimum temperatures for growth and development are from 18 to 20 °C. Pechay thrives in well-drained, moisture-retentive, loamy soils well supplied with organic matter. It does not grow well in highly acidic soil. The ideal soil pH ranges from 5.5 to 6.5 and it should not be allowed to drop below 4.5.

Land preparation

Plow and harrow twice, one week apart, to break down soil clods, level the area and remove weeds.

Prepare 1m wide raised beds, leaving about 0.5m between beds. In low and mid-elevations, the beds should be 0.5m wide and 20–30cm high. Create drainage canals along the sides of the area.

Apply compost and fertilizer as per the agronomy table, and water the beds well enough to moisten the soil in preparation for transplanting. Level the bed with rake, ready for planting. With two rows per bed, dig planting holes equal to the depth of the seedling at a spacing of 25cm between plants.

Transplanting

Hardened seedlings are ready to transplant when they are 3–4 true leaves (usually 2–3 weeks old from sowing). Water the seedlings well before removing from the tray. Water the beds well enough to moisten the soil in preparation for transplanting. In low and mid-elevations, plant cabbage seedlings on the 0.5m wide beds in two rows with 35–40cm spacing between the plants.

In high elevations, plant the cabbage seedlings 35–40 cm apart in three rows on the 0.75–1m wide beds. Create drainage canals along the sides of the area.



Land preparation of the field using tractor to cultivate the soil.

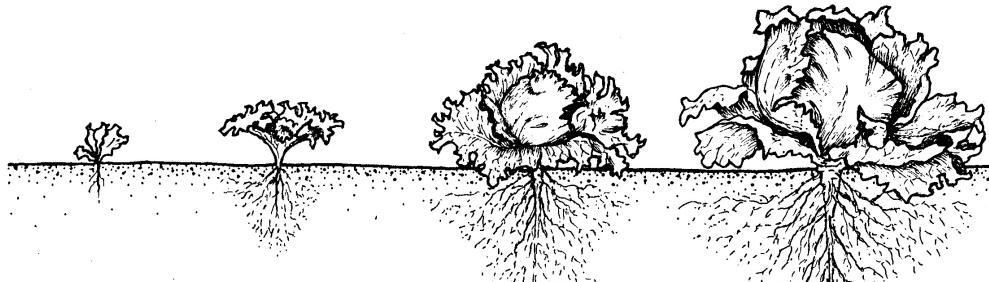
Transplant late in the afternoon, or morning – if it's cloudy. Dig planting holes equal to the depth of the seedling tray, add fertilizer to the hole and mix it in so that raw fertilizer will not touch the seedling roots, and gently put seedlings in the hole. Gather the soil around the seedlings and tamp gently to keep them secure and even with the soil surface.

Water immediately to establish good root-soil contact. Drench around the plants with fungicide as needed.

Weeding

- Maintain the field free of weeds, especially in the seedling stage of the crop.
- Also apply mulching materials from farm wastes or plastic mulch to suppress weed growth and to conserve moisture in the soil.

Fertilizer, irrigation, pest and disease management

Pechay growth stages					
	Pre plant	Transplant / Establishment	Vegetative	Vegetative-maturing	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 2 weeks apart during final development and harvest. Use the following rates per plant:				
Timing	At transplanting	1 week after transplanting	2 weeks after transplanting	3 weeks after transplanting	Additional applications
Rate	Apply compost at a rate of 500g/m ² . One tablespoon (10 g) 14-14-14 (NPK) per plant	75g Calcium nitrate (19% Ca & 15.5% NO ₃) per 16 liters of water Drench 150mL per hill	150g Calcium nitrate (19% Ca & 15.5% NO ₃) per 16 liters of water Drench 150mL per hill	225g Calcium nitrate (19% Ca & 15.5% NO ₃) per 16 liters of water Drench 150mL per hill	Repeat application further if needed.
Irrigation	Lay out trickle irrigation drip tube along the beds. Use one tube along each planting row. The spacing of drippers in the tube should be about 25cm or closer. The best strategy is to fully wet the soil profile and encourage roots to grow out into the moist soil. Pechay does not tolerate drought conditions. To prevent rapid spread of fungal diseases, water only in the morning, not in the afternoon.				
		Water 300mL per plant per day on water deficit period	Water every 3-4 days for 4-6 hours or until soil is fully wet	Water every 3-4 days for 4-6 hours or until soil is fully wet. Do not under or over water plants.	
Insect 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. Where possible squash eggs and young larvae, prune leaf miner infested leaves. Bury or bag pruned leaves. Avoid moving from a mite-infested crop into an un-infested crop.				
			Diamond back moth, caterpillars, flea beetle, silver leaf whitefly, aphids	Diamond back moth, caterpillars, flea beetle, silver leaf whitefly, aphids	Diamond back moth, caterpillars, flea beetle, silver leaf whitefly, aphids
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, such as a plastic bag, for pruned plant materials 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.				
			White leaf spot; white blister; downy mildew; alternaria leaf spots; damping-off; black leg; phoma leaf spot; clubroot; root rot; mosaic virus; bacterial leaf spots; bacterial soft rot; black rot.	White leaf spot; white blister; downy mildew; alternaria leaf spots; damping-off; black leg; phoma leaf spot; clubroot; root rot; mosaic virus; bacterial leaf spots; bacterial soft rot; black rot.	White leaf spot; white blister; downy mildew; alternaria leaf spots; damping-off; black leg; phoma leaf spot; clubroot; root rot; mosaic virus; bacterial leaf spots; bacterial soft rot; black rot.

Harvesting

Harvest as early as three weeks after planting or 30–40 days after sowing. Wash harvested plants, trim unwanted leaves. Sort harvested plants according to size and pack the harvested plants in strong rigid containers with holes at the sides to allow aeration.

Postharvest Handling

Pechay is very susceptible to deterioration, so, upon harvesting follow these procedures:

1. **Harvest** in the cooler part of the day – early morning or late afternoon.
2. **Place** the harvested product in a cool place and keep away from the sun as soon as possible after harvest.
3. **Remove** any damaged, infested and loosed leaves as it affects the freshness of the produce.
4. **Grade** the heads into size grades. Keep a premium grade which is the correct size for your market. Grade into small, medium and large, and pack separately.
5. **Pack** the pechay carefully in perforated cartons and plastic crates if possible, in a way that will minimize damage and maintain the freshness. Storage could reduce shelf life and quality.
6. **Deliver** the product to the market as soon as possible after harvesting.
7. **Monitor:** find out how the produce arrived at the market. Continuously improve the quality of your product at the market.

Follow up in the field

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

ACKNOWLEDGEMENT: Some information was sourced from East-West Seed Philippines www.eastwestseed.com



Pechay seedlings planted in open field.



Harvesting pechay in the field.



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