



Package of Practice

Watercress Farming



**ADVANCING
NORTH EAST**

An Initiative of North Eastern Council (NEC)

Implemented by North Eastern Development Finance Corporation Limited (NEDFi)

Watercress
Nasturtium officinale
Cruciferae

Watercress is a native water or semiaquatic plant that has a high nutrient density. It is a popular leafy green vegetable which is traditionally served cooked although it is increasingly being consumed raw in salads, sandwiches or as a garnish. Watercress is a perennial aquatic or semi-aquatic plant species native to Europe and Asia. Watercress grows in nutrient-rich, streaming freshwater. Watercress is traditionally used as winter salad as it grows in flowing water even at cool temperatures as long as the water is not frozen. Usually, watercress is cultivated in sophisticated held back streaming waters, but also grows well in moist soil or hydroponic cultures.

Climate and Soil: Water cress grows as a cool season crop. The ideal temperature for growth is 13-24°C. The crop can be grown in all types of soil, with clay soils being generally suitable. Soils with a high percentage of organic matter are preferred. The optimum pH range for growth is 6.5-7.5.

Varieties: Green Water cress, Brown water cress, Garden Cress, Curly Cress or Peppergrass, Biennial Winter cress, Big Leaf Cress

Propagation: Watercress is easily propagated by stem cuttings or from seeds.

Nursery raising and Planting: Semi aquatic culture is practiced on raised beds (about 20cm high) spaced about 1m apart. The beds are manures with FYM@2-2.5kg/m². Seeds should be sown just below the soil surface, about ¼ inch deep.

Seed rate: 8-15kg/ha.

Spacing: 30 cm X 10cm

Planting season: Water cress can be grown throughout the year in tropical areas. But generally the summer season (April-May) is the best time for growing watercress.

Manures and Fertilizers: Well rotten FYM@25tonnes/ha is incorporated into soil at the time of land preparation. About 150kg N, 60kg P₂O₅ and 40kg K₂O per hectare is gives better yield.

Weed Management: Application of Butachlor (@1.0kg/ha) pre-emergence as part of an integrated approach for controlling grass weeds, sedges and broadleaved weeds.

Water Management: Watercress is an aquatic plant that grows best in submerged or shallow moving water. Field is flooded after planting. Water level is adjusted from initial 3-5 cm and increases as plant growth to 15-20cm.

Harvesting and Yield: Harvestable watercress plants can be produced in about 35 days from sowing. Harvest the dark green leaves at any time during the year. Leaves and young stems taste best if harvested before watercress flowers. Normally the plants are harvested when they reach a height of 17.8 cm (7 inches) and subsequent harvesting is done at 15days intervals. The average annual yield of watercress is 6-8tonnes/ha.

Post Harvest Management: Water cress requires rapid and careful post-harvest handling to maintain quality. For best quality maintenance watercress should be kept at 0°C and 95% relative humidity (RH) or above throughout storage and marketing. Watercress bunched in polyethylene bags and at 0°C and 95% RH remained marketable for up to 4 weeks.

Plant Protection Measures:

Leaf Spot: Three spraying at 15 days interval commencing from disease appearance with Zineb @ 0.25% or Mancozeb @ 0.25% control the disease.



White rust: White rust can be controlled by spraying Mancozeb 2 g/lit or Copper oxychloride 2 g/lit.



Aphids: It can be controlled by spraying Malathion 50 EC 1 ml/lit twice or thrice at 10 days intervals.



Cost and Returns of Watercress (Rs/ ha.)

Particulars	Approx. amount of Cost/Returns (Rs)
Land Preparation	10000
Planting material / Nursery and planting cost	9000
Transplanting Cost	5000
Manures and Fertilizers cost	14500
Labour cost (Intercultural operations)	15200
Plant Protection Cost	12000
Irrigation cost	5800
Equipment and farm machinery cost	3500
Rental cost of land	24000
Cost of Harvesting	5000
Cost of marketing	5000
Miscl. Expenditure	3000
Total Cost of Cultivation	112000
Yield	6 tonnes/ha
Average selling price of Watercress	Rs.50/kg
Total Income / Return	300000
Net Income	188000
