



COWPEA



Cowpea is a versatile legume with high nutritional value and adaptability to various agro-climatic conditions. Cowpea is an

important crop in many arid and semi-arid regions because of its tolerance of drought.

Nutritional value of cowpea

Cowpea is a good source of carbohydrate, protein (22-23%), thiamine (vitamin B1), riboflavin (vitamin B2), and niacin (vitamin B3). The leaves provide a significant amount

of ascorbic acid (vitamin C) and β -carotene. The aerial parts can be used to support livestock production. Its roots are important in symbiotic relationships with soil bacteria that help in nitrogen fixation.

Crop requirements

Variety selection

Choose a cowpea variety that suits your specific growing conditions, considering factors such as yield, resistance to pests and diseases, and market demand.

Climate and soil preparation

Cowpea grows well in a range of soil types but prefers well-drained soils, where soil pH is in the range of 5.5-6.5. Ensure proper soil preparation through plowing or tilling to create a loose and friable seedbed, which thrives from 20 to 35 °C but not lower than 15 °C. Cowpea tolerates heat and dry conditions. However, temperatures above 38 °C can adversely affect fertilization and pod-set.

Crop cultivation and management

Planting

Plant cowpea seeds directly into the soil at the recommended depth (2-4 cm). Space rows adequately to allow for proper air circulation and ease of management.

Isolation

Cowpea is a self-pollinated crop and hence less isolation (3 m) is required to keep the genetic purity of varieties.

Water management

Cowpea is drought-tolerant but benefits from consistent moisture, especially during flowering and pod development. Irrigate as needed, avoiding waterlogging.

Fertilization

Conduct a soil test to determine nutrient levels. Cowpea generally has low to moderate nutrient requirements. Apply a balanced fertilizer before planting and consider additional fertilization during the growing season if necessary.

Weed control

Implement effective weed control measures, particularly during the early stages of growth. Mulching can help suppress weeds and conserve soil moisture.

Pest and disease management

Monitor for pests such as aphids, thrips, and pod borers. Employ integrated pest management practices. Common diseases include rust and powdery mildew. Choose disease-resistant varieties and practice crop rotation.



Harvest, postharvest, and storage

Harvesting

Harvest cowpea when pods have reached maturity and seeds are fully developed but still tender. Regular harvesting encourages continuous pod development. Average seed yield varies from 1.5 to 2.0 t/ha.

Threshing and cleaning

Thresh harvested cowpea pods to separate seeds from plant material. Clean seeds thoroughly to remove debris and any remaining plant material.


Storage


Store cowpea seeds in a cool, dry place to prevent mold and insect infestations. Seed requires drying if the moisture content is above 13%. This can be done on a drying floor. The air temperature should not exceed 35 °C when seed is artificially dried. Use appropriate containers or bags for storage.


For details, please refer to the quality seed production manual (resade.biosaline.org/sites/default/files/2021-06/Quality_Seed_Production_Manual_RESADE.pdf).




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