DEPARTMENT OF AGRICULTURE
Regional Field Office No. 02
Tuguegarao City, Cagayan

OKRA

PRODUCTION GUIDE

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This Publication is a project of the **Department of Agriculture, Regional Field Office No. 02, High Value Crops Development Program.** It contains the most recently available and locally adaptable technical information on **Okra Production** in Region 02.

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INTRODUCTION

Okra *(Hibiscus esculentus* L.*)* is a tall growing, warm season and annual vegetable crop. It is a popular and profitable vegetable in the country. The young and tender fruits can be prepared as salad, boiled, broiled or fried and can be mixed in many meat and fish dishes. It is also an important vegetable mix of the famous Ilocano dish, pinakbet. Okra is rich in vitamins A, C and B complex, protein, calcium, fats, potassium, phosphorus, iron and carbohydrates.

Aside from its nutritional value, okra is used as traditional medicine for the treatment of stomach ulcer, inflammation of the lungs, diabetes, asthma, colitis, sore throat and constipation. Nearly half of the fruit is soluble fiber in the form of gums and pectins. Soluble fiber helps lower serum cholesterol and reduces the risk of heart disease. The other half of the fruit is insoluble fiber which helps keep the intestinal tract healthy decreasing the risk of some forms of cancer, especially colorectal cancer. Nearly 10% of the recommended levels of vitamin B6 and folic acid are also present in a half cup of cooked okra.

Generally, okra is planted for home consumption. But planting this crop extensively can give a year-round income for a farm family.

ADAPTATION

Soil and Climatic Requirements

Okra can tolerate a wide range of soil types but for better yield, plant in silty to sandy loam soils that are well-drained and with adequate organic matter. Okra seeds germinate in relatively warm soils and do not germinate below 16°C.

Okra thrives best in a long, warm growing season. A monthly average temperature of 20-30°C favors growth, flowering and fruit development.

Varietal Selection

Choose varieties that are adapted to local condition, resistant to pests and diseases and preferred in the local market. Please refer to Table 1 for the varieties of okra suited to Region 02 condition.

Table 1. Varieties of Okra Adapted to Region 02 condition

Variety	Maturity (DAT)	Fruit Type		Features
		Color	Shape	
Smooth Green	55-60	Dark Green	Tapered round slender	All season
Smooth Green Ew	50	Bright Green	Slender Round	Year round; lowland

CULTURAL MANAGEMENT PRACTICES

Land Preparation

Prepare the field thoroughly to obtain good crop stand and optimum yield. Plow the field 2 to 3 times at one week interval to prevent growth of weeds. Plow at a depth or 15-20 cm for better root penetration. Harrow every after plowing to pulverize and level the field. A well-pulverized soil promotes good soil aeration and enhances root formation. Prepare furrows after the last harrowing at a distance of 100 cm between rows.

Fertilizer Application

It is necessary to apply fertilizers based on soil analysis to determine the right kind and amount of fertilizers to use. Submit soil samples for analysis at the RCagayan Valley Integrated Agricultural Laboratory (CVIAL), Department of Agriculture, RFO 02, Carig

Sur, Tuguegarao City, Cagayan or Ilagan Soils Laboratory, Ilagan City, Isabela to determine the kind and amount of fertilizer to apply. However, in the absence of soil analysis, follow the following recommendations:

- Apply 2-3 bags of complete fertilizer (14-14-14) and 20 bags of organic fertilizer per hectare. Apply the fertilizer within the furrows and cover with fine soil before planting.
- Side-dress urea (46-0-0) 30 days after planting (DAP) at a rate of 10 grams or one (1) tbsp per hill.

Planting

Okra is commonly planted directly in the field. It requires five (5) kg of okra seeds to plant a hectare. To attain uniform germination, soak the seeds with water overnight before planting.

Plant okra seeds in slightly moist soil at a rate of 2-3 seeds per hill at a distance of 30 cm and 2-5 cm deep. Replant missing hills three (3) days after emergence (DAE).

Irrigation

Water is a limiting factor in crop production. Irrigate or water the plants regularly. Use furrow irrigation if available every 7 to 14 days depending on the season and soil type. Thin the plants to two (2) seedlings per hill 15 DAP. Remove stunted and sickly seedlings leaving only the healthy ones.

Cultivation and Weeding

Weeding is necessary especially during the early growth stage of the crop. Off-bar the plants at 15 DAE to minimize the growth of weeds. Cultivate 10 cm away from the base of the plants to avoid disturbing the roots.

Hill-up one month after emergence or 15 days after off-barring to cover the base of the plants. Hand-pull the remaining weeds between plants.

Pests Management

Okra is usually resistant to insect pests and diseases. However, it is necessary to observe the field to make sure that the plants are free from pests. The most important pests of okra are cotton stainer and stink bug. The most serious fungal diseases are cercospora blight, powdery mildew, fruit rot and root knot nematode.

Prevent the occurence of pests by practicing field sanitation, plant resistant varieties, crop rotation. As last recource spray pesticide following manufacturers recommended dosage.

Ratooning (Optional)

Ratooning is a practice in which the stems of old plant are cut to induce branching and emergence of new shoots. Okra can be ratooned to reduce cost of production. After harvesting, cut the stems leaving about one foot from the ground. Shallow cultivate in between rows using plow. Side-dress 10 g of urea per hill to induce shoot emergence. Hilling-up is necessary to cover the applied fertilizer. Irrigate through the furrows if moisture is not sufficient.

Harvesting and Postharvest Operations

Okra starts to flower 40 to 75 DAP. Young and tender fruits are harvested 4-6 days from flowering. Immature fruits are more acceptable for table consumption. Harvest only fruits which measure 3 to 4 inches at 2-3 days interval. Harvest in the morning or late in the afternoon to maintain the freshness of the fruits. A hectare of okra production yields about 18 to 25 MT of marketable fruits.

High quality produce demands better price in the market. Sort and discard malformed and diseased fruits. Pack okra fruits in woven basket, polyethylene bags, box or wooden crates lined with banana leaves or old newspapers to prevent from bruising. Do not overload the containers to prevent compaction of the produce.

COST AND RETURN ANALYSIS FOR ONE HECTARE OKRA PRODUCTION

A . Labor Inputs

PARTICULARS	NUMBER 1/		VALUE IN PESO (P)
	Man-days	Man-Animal-days	
1. Land Preparation			-
a. 1st Plowing		8	2,400.00
b. 1st Harrowing		4	1,200.00
c. 2nd Plowing		5	1,500.00
d. 2nd Harrowing		3	900.00
e. Furrowing		2	600.00
2. Planting	15		2,250.00
3. Basal Fertilization	5		750.00
4. Thinning	10		1,500.00
5. Care of the Plants			-
a. Irrigation (2x a week for 1 month)	18		2,700.00
b. Weeding and cultivation (3x)	15		2,250.00
c. Sidedressing of fertilizer	8		800.00

d. Hilling up		5	1,500.00
e. Control of pest and diseases (3x)	9		1,350.00
6. Harvesting (8 primings)	50		7,500.00
7. Packing	15		2,250.00
8. Hauling	4		600.00
Sub-Total			**30,050.00**

B. Material Inputs

Materials	Quantity	Unit Cost (P) 2/	Amount (P)
1. Seeds (OPV)	7 kg	350.00	2,450.00
2. Fertilizer			-
- Complete (14-14-14)	2 bags	1,800.00	3,600.00
- Organic Fertilizer	20 bags	200.00	4,000.00
3. Insecticides	4 liters	850.00	3,400.00
4. Polyethylene	100 pieces	60.00	6,000.00
5. Fuel	40 liters	50.00	2,000.00

6. Miscellaneous			1,500.00
Sub-Total			22,950.00
Sub-Total (A&B)			**53,000.00**
Sub-Total (A&B)			**56,260.00**
GRAND TOTAL			**60,950.00**
Yield /ha (kg)	20,000	3/	
Gross Income (15.00/kg)		15.00/kg	300,000.00
Net Income			239,050.00
Return on Investment (ROI)			392.21

1/ Man-days = P250
MAD = P400
2/ Cost of items as of December 2015
3/ Farm gate Price

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