

kill infected plants by puncturing with sticks previously dipped in herbicides like Dicamba, Glyphosate or by applying 2, 4-D amine (2.5% active ingredient).

● **Bract Mosaic**-another viral disease caused by a potyvirus similar to banana bract mosaic virus (BBrMV). This disease is characterized by distinctive dark reddish brown mosaic patterns on the bracts of the inflorescence. The symptoms are somewhat similar to those of Abaca Mosaic Disease (AMD). Infected plant parts are chopped into pieces, sprayed with herbicide and buried.

MATURITY AND HARVESTING

Abaca reaches its maturity 18 to 24 months after planting under normal conditions or upon the appearance of the flag leaf. Subsequent harvest is done at 3-4 months interval.

METHODS OF EXTRACTION

● **Hand Stripping** - A process of extracting fiber in which the narrow strip of abaca leaf sheath (tuxy) is placed under smooth or serrated knife with pressure. The extraction is done by pulling the leaf sheath. Output ranges from 15-25 kg fiber per day.



● **Spindle-Stripping** - A semi-mechanized process of extracting fiber. The tuxy is fed into the stripping knife of the machine and extraction is done by a spindle rotated by a motor. Output is between 80-120 kg of fiber per day.



● **Decortication** - Mechanized process of fiber extraction where leaf sheaths are scraped by a machine with revolving wheels with knives.



OFFICIAL STANDARD GRADES

Hand Cleaned

Designations	Names
Normal Grades	
S2	Streaky Two
S3	Streaky Three
I	Current
G	Soft Seconds
H	Soft Brown
JK	Seconds
M1	Medium Brown
Residual Grades	
Y	Damaged
OT	String/Tow

Machine Cleaned

Designations	Names
Normal Grades	
S-S2	Streaky Two
S-S3	Streaky Three
S-1	Current
S-G	Soft Seconds
S-H	Soft Brown
S-JK	Seconds
S-M1	Medium Brown
Residual Grades	
S-Y	Damaged
S-OT	String/Tow

PRINCIPAL USES

1. Pulp and Paper
2. Cordage and Twine
3. Fiber Crafts
4. Textile/Fabrics
5. Furniture
6. Composites and Construction Materials

ABACA TECHNOGUIDE



Musa textilis Nee

CONTENTS:

- Botanical Description
- Recommended Varieties and Potential Yield per Hectare
- Cultural Management
- Pest and Disease Control
- Official Standard Grades
- Principal Uses
- Maturity and Harvesting
- Methods of Extraction

2021 EDITION



Republic of the Philippines
Department of Agriculture

PHILIPPINE FIBER INDUSTRY DEVELOPMENT AUTHORITY

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BOTANICAL DESCRIPTION

Abaca (*Musa textilis*

Nee) is a member of the Musaceae family to which the banana also belongs. Although the resemblance of the abaca to banana is close, there are basic differences. Abaca stalks are more slender, the leaves are smaller, narrower and more pointed than those of the banana. A distinguishing dark line on the right hand side of the upper surface of the leaf blade is pronounced in abaca. The fruit of abaca is smaller, non-edible and contains many seeds.



RECOMMENDED VARIETIES AND POTENTIAL YIELD PER HECTARE PER YEAR

For Bicol

- Musa Tex 51 2,084 kg
- Abuab 1,723 kg
- Tinawagan Puti 1,607 kg

For Visayas

- Linawaan 1,320 kg
- Inosa 1,270 kg
- Laylay 1,090 kg

For Mindanao

- Maguindanao 2,100 kg
- Bongolanon 1,720 kg
- Tangongan 1,590 kg

CULTURAL MANAGEMENT

Soil Requirement

Abaca grows in clay loam and sandy clay loam types of soil, rich in organic matter, loose, friable and well-drained. The water table is preferably 80 cm with 60%-80% saturation. The soil has pH level of 6.0-7.0 and elevation of less than 1,000 m above sea level.

Climatic Requirement

The optimum temperature requirement for abaca has not been fully determined, but it grows in areas with temperatures of 20°C during cool months and 25°C during warm months. A relative humidity of 78% to 85% and evenly distributed rainfall throughout the year are conditions conducive to good growth.

Methods of Propagation

- Seedpieces (corms)
- Suckers
- Tissue Culture
- Seeds



Tissue Cultured Abaca



Seeds

Planting Season

Planting abaca at the start of the rainy season is preferable.

Distance of Planting/Population/Population Density

- 2m x 2m - for ordinary size varieties (ex. Bicol varieties) (2,500 hills/hectare)
- 3m x 3m - for big size varieties (ex. Mindanao varieties) (1,100-1,600 hills/hectare)
- 1m x 1m - for nursery purposes

Rate of Fertilization

- Two (2) bags Ammonium Sulfate at the time of the planting.
- Four (4) bags Ammonium Sulfate eight (8) months after planting.
- Four (4) bags complete fertilizer 21 months after planting.

● For established plantain, apply complete fertilization once, before or after the rainy season, at the rate of 1/4 kg per clump/hill or 12 bags/hectare per year.

PEST AND DISEASE CONTROL

Some Major Pests and Their Control

● **Brown Aphid** (*Pentalonia nigronervosa* Coq.) directly feeds on abaca plant and acts as vector of bunchy top and mosaic diseases. Spray systemic insecticides with appropriate contact.

● **Root or Corm Weevil** (*Cosmopolites sordidus* Germar) directly feeds on corms. Keep plantation clean and soak abaca seedpieces with the recommended insecticide before planting.

● **Slug Caterpillar** (*Thosesa sinensis* Walker) feeds directly on leaves. Spray with recommended insecticides.



Brown Aphid



Corm Weevil



Slug Caterpillar

Some Major Diseases and Their Control

● **Abaca Mosaic** is caused by abaca mosaic potyvirus. This disease causes leaf mottling found in the petiole, pseudostem, flower bracts and fruits. Formation of irregular, pale green or yellowish streaks on the leaves can be seen extending from midrib to the leaf margin. Spray insecticides to vectors and infected plants including the surrounding weeds before rouging and burning the infested plants.

● **Abaca Bunchy Top** is caused by a persistent type of virus. There are chlorotic areas on young leaves and the damage is characterized by stunted and bunchy growth of the plant forming a rosette with bladeless leaves. The leaves become stiff and brittle with tear along the margin and curled upward and dry up. Spray Infected plants with insecticides to kill vectors; Undertake rouging and burning of diseased plants;

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