

■ Cassava Disease Detection Report

Report Generated: November 18, 2025 at 06:43 PM

Detected Disease: Cassava Brown Streak Disease (CBSD)

Detection Confidence: 97.5%

1. Disease Analysis - How the Model Detected the Disease

Our AI model detected **Cassava Brown Streak Disease (CBSD)** with 97.5% confidence by analyzing multiple visual features from your leaf image:

Visual Symptoms Identified:

- Brown necrotic streaks on stems
- Chlorotic leaf patches
- Root discoloration patterns

How the Analysis Works:

Our model uses advanced image processing (DCT, STFT, Wavelet transforms) combined with deep learning to detect subtle patterns invisible to the human eye. It compares your image against thousands of labeled disease samples to identify characteristic symptoms.

2. Disease Summary

Disease Name: Cassava Brown Streak Disease (CBSD)

Scientific Cause: Cassava brown streak virus (CBSV) transmitted by whiteflies

CBSD is a viral disease causing brown streaks on stems and roots, leading to root necrosis and making cassava unmarketable. It's transmitted by whiteflies and through infected planting material.

3. Symptoms & Identification

Early Stage Symptoms:

- Yellow chlorotic blotches on young leaves
- Faint brown streaks on stems

Mid Stage Symptoms:

- Brown necrotic streaks on stems become prominent
- Leaf yellowing spreads
- Root discoloration begins

Advanced Stage Symptoms:

- Severe root necrosis with brown/black rot
- Unmarketable roots
- Plant stunting

4. Recommended Medicines

| Medicine Name | Type | Dosage | Application | Safety Notes |
|------------------------|--------------------------------|-----------|----------------------------|-------------------------------|
| Imidacloprid | Insecticide (Whitefly control) | 0.5 ml/L | Foliar spray every 10 days | Toxic to bees - spray evening |
| Thiamethoxam | Systemic Insecticide | 0.3 g/L | Soil drench or spray | Use protective equipment |
| Neem-based insecticide | Organic | 5-10 ml/L | Weekly spray | Safe for organic farming |

5. Prevention Methods

- Use virus-free planting material
- Control whitefly vectors
- Remove infected plants
- Plant resistant varieties

6. How to Avoid This Disease in Future

- Use certified clean planting material
- Implement whitefly monitoring
- Plant resistant varieties like Namikonga

7. Treatment Plan (7-Day Schedule)

| Day | Action | Spray | Time | Monitor | Avoid |
|---------|---------------------------|-----------------------------|---------|--------------------------|---|
| Day 1 | Remove infected plants | Imidacloprid for whiteflies | Evening | Mark infected areas | Don't replant in same spot |
| Day 2-7 | Continue whitefly control | Alternate insecticides | Evening | Check for new infections | Don't use same insecticide continuously |

8. Final Recommendation Summary

DO's:

- ✓ Act quickly - early treatment is most effective
- ✓ Follow the 7-day treatment schedule strictly
- ✓ Remove and destroy infected plant parts
- ✓ Monitor neighboring plants daily
- ✓ Keep records of treatments applied
- ✓ Consult local agricultural extension officers

DON'Ts:

- ✗ Don't delay treatment - diseases spread rapidly
- ✗ Don't reuse infected plant material
- ✗ Don't work in wet fields to avoid spreading disease
- ✗ Don't use the same chemical repeatedly
- ✗ Don't ignore safety precautions when spraying