KALRO
Kenya Agricultural & Livestock Research Organization

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STOP THE SPREAD OF NAPIER STUNT DISEASE

USING RECOMMENDED DISEASE MANAGEMENT PRACTICES

Introduction

- Napier stunt disease affects Napier grass mainly in western Kenya and is also spreading to other Napier growing areas in Kenya
- The disease was 1st reported in western Kenya in early 1990s
- The disease causes biomass yield loss of 40-90%, thereby affecting livestock productivity

Clean Napier field

Causes and mode of spread of the disease

- Napier stunt disease is caused by a small bacterium referred to as Phytoplasma 16Sr XII that is transmitted by leafhoppers

Maiestas (=Recilia) banda leafhopper

- The leafhoppers feed on young leaves by sucking the sap and carry the pathogen from one plant to another
- The disease is also spread through infected Napier grass canes and root splits
- Movement of contaminated materials may be a source of disease infection

Symptoms

- Stunted stools
- Yellowing of leaves
- Production of many thin tillers
- Stems with shortened internodes
- Low crop yields
- Infected stools dry up

A stool infected with stunt disease

Management of Napier stunt

- Plant tolerant varieties like South Africa and Ouma
- To ensure that the materials are free from the diseases, one can use either tissue-cultured plantlets or hot water treatment with guidance from KARI or frontline extension officers
- Plant healthy material with 1-2 bottle-tops per hole of TSP/DAP fertiliser or 1-2 handfuls of FYM per hole to reduce disease pressure
- Weed regularly and topdress with 2-3 bottle-tops of CAN per stool or FYM will sustain a healthy crop for along time
- Uproot diseased Napier grass from the field as they act as source of infection

Old field infected with stunt disease

- Minimise water stress through conservation tillage such as Tumbukiza and intercropping with forage legumes to reduce effects of the disease

Source of planting materials

- These varieties are available in KARI Centres (Kakamega, Kitale and Alupe), ICIPE (Mbita campus) and the Ministry of agriculture offices in western region Counties

Benefits of Napier grass

- Increased livestock feeds and hence high milk production
- Increased family income
- Reduced soil erosion