



*Effect of the disease on fodder yield 2009*

#### How is the disease spread?

- o Use of infected cuttings
- o Ignorance on symptoms and mode of transmission
- o Specific feeding insects, especially leaf hoppers and plant hoppers that feed on the sugar-rich sap in Napier phloem
- o Sale of Napier grass in market places
- o Movement of planting materials and fodder by farmers



#### Management of Napier stunt disease

- o Uproot and burn diseased plants and fill the gap with clean disease free planting materials
- o Plant disease free cuttings or splits
- o Use recommended agronomic practice (spacing; fertilizer application; proper cutting intervals and cutting heights)
- o Contact your extension staff or NARO researchers

#### For more information contact:

- o Director of Research, National Livestock Resources Research Institute, P.O. Box 96, Tororo, Uganda; Email: [nalirri@gmail.com](mailto:nalirri@gmail.com); Tel: + 256-454437297
- o Director of Research, National Crops Resources Research Institute, P.O. Box 7084, Kampala, Uganda' Email: [directornacri@yahoo.com](mailto:directornacri@yahoo.com); Tel: +256-414573016

***Produced and funded under "ASARECA Napier Stunt and Smut Resistance Project"***

## NAPIER STUNT DISEASE THREATENS LIVESTOCK PRODUCTION IN UGANDA



***Future farmers need future fodder***



**National Agricultural Research Organization (NARO)**



**National Livestock Resources Research Institute (NaLIRRI)**



**National Crops Resources Research Institute (NaCRRRI)**

## Introduction

Smallholder dairy cattle and goat production based on Napier grass (Elephant grass) fodder and improved breeds is a major source of milk, meat, income, manure for crop and fodder production and employment.

Napier grass produces high herbage yield (8-30 tons/ha/yr). The grass is used for soil and water conservation. It is an important tool in the integrated management of stem borers of maize and sorghum due to its importance as a trap crop for these pests. The fodder and milk are sources of income. The grass also serves as mulch in banana farming areas.

## Constraints to Napier grass production

Napier grass productivity is threatened by Napier Stunt disease which was first observed in Central region of Uganda in 2000. The disease is now spreading rapidly and currently present in over 30 districts and in all cattle corridor area

## Causes of Napier stunt disease

The disease is caused by phytoplasma which are primitive 'bacteria' without cell walls found in phloem cells of plants.

## Symptoms of the disease

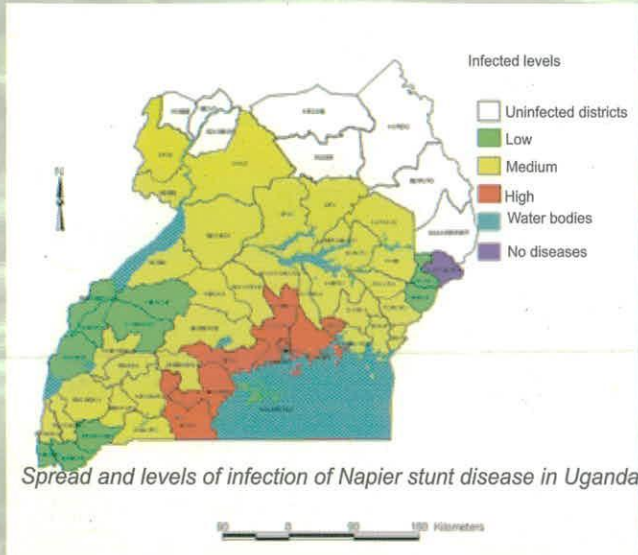
All Napier grass varieties grown in Uganda appear to be susceptible to the disease which usually becomes visible in re-growth after cutting or grazing.

- o Affected plants remain stunted, have short internodes, bunchy appearance and leaves turn thin and yellow.
- o Affected plants may lose most leaves leaving a short thickened stem
- o Eventually the stool may be completely destroyed.



## Effect of Napier stunt disease on fodder yield and animal production

- o Plant height of Napier grass is reduced from about 1.2 to 0.6 meters.
- o Herbage biomass yield is reduced from about 19 to 7.5 tons per hectare. While a healthy acre of Napier grass when properly supplemented should provide feed to sustain one.



Spread and levels of infection of Napier stunt disease in Uganda