GOING PUBLIC in Kenya

How to entertain and inform lots of people in a few days about* Napier Grass Stunt*, a new threat to dairy farmers in East Africa

13 events in 4 days with 4 instructors reaching 795 people

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QUICK SUMMARY

There are two parts to this brief account of activities and outcomes from a short but sharp *Going Public* campaign in west Kenya. The first summarises the questions asked by over 10% of the 800 people we addressed and gives preliminary insights. 'We' refers to KARI staff from Kitale and Kakamega and the Global Plant Clinic.

The second part describes the events themselves. Over four days we visited 13 different places, mostly along main roads, at junctions where people were waiting for transport or buying and trading goods. These were spontaneous meetings. There was no prior announcement or planning where exactly we would stop to talk about napier grass stunt. We improvised as we went along and improved our performance as we learnt how to put on a show. Crowd reaction is as good an indicator of success as anything.

We took with us only the simplest of props: examples of a healthy and diseased plant, photographs showing the key symptoms of the disease and a handout summarising immediate action to be taken to control and contain napier grass stunt.

Once Leba Adiru recognized the disease, she dug up the sick grass and got rid of it

The campaign mirrored a similar one held in Uganda in December 2004, where we talked to many people about banana bacterial wilt disease and also explained what to do about it. We briefly talked about the same disease in western Kenya since there is a threat that it will move here.

Going Public is one tool and one approach to extension. It cannot and does not aim to be the only 'method of mass instruction'. But there are not very many tools in the extension toolbox and GP has the advantage of being quick, cheap and cheerful. The last part of this sentence might at first appear strange but it was good to see the positive response from many people when they learn of simple steps they can take to minimize losses.

A sustained and long term programme of extension and research is needed to combat napier grass stunt. GP is but one facet of that programme. I hope this report illuminates in a way that encourages other to have a go in the dynamic style demonstrated by Drs Sam Ajanga and Margaret Mulaa of KARI. My thanks to their willingness to have a go.

Dr Eric Boa *Head of Global Plant Clinic*

22 July 2005 e.boa@cabi.org

Part 1

Napier Grass Stunt questions and comments from people attending *Going Public* events in Kenya

Introduction

This analysis and these data should be read in conjunction with the second part of this report. This provides a narrative for each of the 13 events held (GP1 etc.) , their operations and general circumstances. GP is a two-way process. It is not a lecture or short talk for farmers, however well intentioned.

These are the responses we received. They help us to plan publicity campaigns, actions to control and contain the disease and even suggest research topics. Whether the insights are new or expected, the data gathered adds reliability, rigour and confidence to our wider understanding of how to help farmers.

We had no shortage of questions and comments, as the individual remarks reveal. Most of these related to Napier Grass Stunt (NGS) but several were more general and revealed a much wider thirst for advice and other assistance. We received very few requests for 'free' things, such as planting material or 'medicine'. We were rarely accused of spreading the disease, a common point made by people when you use live material in public demonstrations.

Method

Margaret wrote the information down at all events except GP12 (where she was holding the *Zahanati ya Mimea* or mobile plant clinic – see separate reports). Information from GP13 has not been included but broadly repeats what was stated previously. EB has transcribed the questions and comments and sorted them into broad categories. The original remarks have been retained but since there is some repetition EB has written a summary for each of the categories, highlighting the main points to emerge.

Categories and summary

Cause (symptoms, recognizing the disease)

Occurrence

Control and disease

Replanting

Sensitization

Other Effects (on humans, livestock, other crops)

General

Cause of Napier Grass Stunt

The fundamental point of whether this is a disease or a problem related to poor growing conditions was often expressed. We tended not to say the disease was caused by a phytoplasma, though the remarks about viruses and 'chlorosis' indicates that at least some of our audience were *au fait* with technical terms. A more effective ploy was to draw analogies between malaria and napier grass stunt, as Sam Ajanga did on several occasions. This conveyed the idea both of an insect vector and something that gets inside the grass and is therefore persistent.

QUESTION/COMMENT
Yellowing plants could be due to swamp near napier grass and therefore water-logging. (*MM said* - if so all the napier would be yellow and not have patchy, stunted growth.) GP1
Is the disease airborne or soil borne. GP10
Where did the insect vector come from. GP10
Where did the disease come from before reaching Kenya. GP10
We used to think the symptoms of the diseased plants were caused by male rodent damage. GP10
Such disease symptoms seem to appear on napier which is not weeded or on old napier grass. GP11
When you look at the napier I am selling (in the roadside market), does it have any disease. GP11
Is the yellowing not caused by nutrient deficiency. GP2

QUESTION/COMMENT
Is it not a viral disease. GP2
We have been observing such symptoms but didn't know it was a disease. GP2
Can we call this chlorosis (looking at yellow leaves of diseased plant). GP2
I have seen such symptoms on maize, not napier. GP2
The plant is short because it has not been fertilized. GP3
The disease seems to be increasing. What causes it. GP8
What if I apply fertilizer to the diseased napier. Will it not improve and later recover from the disease. GP8
What type of insects transmit the disease. GP8
What is the real name of the disease. GP8

Occurrence

We did ask for a show of hands at a few GP events so that we could count how many people had seen the disease, or where it occurred (see also reports of disease below). It is important not to over-use this approach since it slows proceedings and it's difficult to be heard when posing the question. But we could have made more use of the 'hands in the air' method and this should be considered more carefully in future. Questionnaires are NOT a good idea at GP events. This is a slow and clumsy method of data gathering and raises the perennial issue of exactly what questions should be asked. 'What are the constraints to dairy production' is an example of a worthy but leaden question. Much better to stop and listen intelligently, interspersed with simple comments that elicit personal experiences and concerns.

QUESTION/COMMENT
Some farmers said they had seen the disease in their plots and those of neighbours. GP1
I have observed such a disease in napier growing near river banks. GP3

QUESTION/COMMENT
I observed the disease in Neso farm last year. GP4
We have not seen the disease. GP5
We have not seen the disease in our area. GP5

Control and Disease

The simplest question was 'is there medicine', but note the more sophisticated queries which show that people do absorb the information provided in GP events. Normally it is only a relatively few people who pursue more specific points, sometimes doggedly. We suspect these are the keenest farmers and we might expect (though have no proof as yet) that their learning via GP would be passed on to others. Everyone is alert to what the most successful farmers are doing. It is vital that you have something to give to people on control at a GP event, to reinforce the spoken messages. We had a simple printed statement of A5 size and this was eagerly sought. Whether the messages are absorbed and adopted is of course another matter that needs pursuit via farmer meetings and other similar events following and flowing from a GP programme.

QUESTION/COMMENT
How can you kill the insects to avoid spread of the disease. GP10
If you plant napier and later observe the disease, how long should you wait before uprooting. GP10
Is uprooting the only remedy for the disease. GP10
If the disease affects a large area, do you advise one to uproot the whole crop. GP10
Last two days I heard over the radio about a method used to control Striga and couch grass using napier and Desmodium. Can't the same method be used to control napier stunting disease. GP10
It would be good to teach us and other farmers how to control the disease. GP11
Is there a cure for the disease. GP11
It is expensive and labour intensive to uproot the diseased napier. Is there no insecticide to control the insects which transmit the disease. GP3
What do you do after uprooting diseased plants. GP3
How will uprooting prevent the insect from transmitting the disease. GP4

QUESTION/COMMENT
Up to now what have researchers done to prevent the spread of the disease. GP4
Where can we get clean planting material. GP4
Do you uproot the diseased plant with all the roots.
Do you uproot all napier once you observe disease. GP5
Can the uprooted and diseased napier be disposed off in the same shamba. GP5
What do you do about a mixture of diseased and healthy plants in the same hole. Do you uproot both. GP6
Is there any other control method apart from uprooting. GP7
If you uproot the diseased plant will it not have regrowth. GP8
Which varieties are high yielding and tolerant to the disease. GP1
Are there no resistant napier varieties to the stunting disease. GP10
Is the disease everywhere in the country. GP11

Replanting

Many of these queries are 'adopted' or 'borrowed' from other crop diseases. Telling people that they have to use clean material for replanting raises the question of how they will do this. That's one of the consequences of GP – you raise expectations and imply actions. It's important that you can deliver further help via extension or some other campaign for farmers in the near future.

QUESTION/COMMENT
Can you plant in the same hole where you have uprooted a diseased plant. GP3
If you plant another one in the hole where the diseased plant is uprooted, does it grow into a healthy plant. GP5
Can I uproot the same diseased plants and plant elsewhere. GP6

QUESTION/COMMENT
Supposing you plant napier canes, will it be better than splits in terms of disease incidence. GP8
Where can we get the clean planting material. GP9
You should have brought some clean planting materials to distribute to farmers as you sensitize (us). GP9

Other Effects

The questions raised by farmers reflect honest worries and might be skipped over or simply ignored by extension and research. EB and PJ can safely say that we have rarely if ever worried about touching diseased plants! As for palatability to humans and animals, this point rarely emerges with regard to diseased plant material. The farmer worries are of course genuine and fortunately can be answered using existing knowledge. There is no evidence to suggest that animal manure might transfer the disease – a point raised by farmers elsewhere in Kenya – or that the stunt affects other crops. A GP event quickly highlights issues that need to be more widely and generally addressed and here in Kenya farmers repeated similar queries to those expressed in 2004 in Uganda on banana bacterial wilt. This helps us to anticipate such concerns in future campaigns for other plant health problems.

QUESTION/COMMENT
Can the same disease attack other crops or does it only attack napier. GP10
Since the plant is diseased will it affect me if I touched it. GP2
If the cow feeds on diseased napier will it be affected e.g. will it get the disease. GP4
Does it kill livestock. GP5

QUESTION/COMMENT
Can you feed the diseased plants to animals and will they affect them. GP6
If the napier is diseased can you feed it to livestock. GP7
If you plant maize near the diseased napier will the maize not get diseased. GP8
Can the disease affect livestock. GP9

Sensitization

These are representative remarks. GP is a means to an end and helps to stimulate further consultations. Many people requested follow-up events, sometimes using the terms 'seminar' and 'field days'. You still have to find a suitable time and place for people to attend and it may well be out of normal office working hours. Remember that the spontaneity of GP is one of its biggest assets even though the venue and limited time available only allows short, simple messages. You can only hold the attention of a public audience for a short time and they can of course chose to leave. GP smoothes the way for more detailed consultations making it more likely, we suspect, that people would want to attend.

QUESTION/COMMENT
We have seen the disease increase in some places. We do not want it to spread in our area. Are you going to hold more seminars to sensitize people on how to manage the disease. GP10
Inform the agricultural extension officers to hold seminars on how to manage the disease. GP10
Some farmers who attended came from other districts and they said the disease was very serious in their districts. The requested a sensitization meeting to be held in their villages. GP6
Can you visit other locations to sensitize more farmers e.g. Mr Gregori Kusimbe at Buzembe Muteremuko; Emakhale village, Lusheye (can't read). Here there are a lot of farmers with 0.5 to 1 acre and 20% incidence. GP9

General

The questions fall into two main categories, the first seeking advice on how to manage napier, the second asking for broader information about varieties of napier grass, other fodder and so on. Many people commented on how useful they found our short GP events and a representative remark is included here.

QUESTION/COMMENT
Are you giving us messages only about napier? What about other crops. GP3
Can you bring your napier varieties here for us to test. GP11
How can we access more information on crop and napier production. GP3
Is the message you have only for napier – what about other crops. GP9
It would be advisable for the researchers to test the soils and find out if the nutrients are enough in those areas where the disease incidence is high. It is possible those areas are not suitable for napier. GP11
There are many napier varieties, some with large leaves others with small leaves. Which ones do you recommend and which ones are not attacked by the disease. GP3
Today you have told us about napier grass. How about other fodders and feeds e.g. Lucerne and Desmodium. Where can we get the seeds. GP10
We have different varieties of napier (small and large leaves). Which ones are better yielding. GP9

QUESTION/COMMENT
Where can we find you if we need more advice. GP10
Where can we get recommendations for growing napier. GP7
Which napier variety fattens the livestock. GP8
Which other grasses can we use for livestock feed apart from napier. GP3
Because of the small pieces of land and scarcity of napier people cut napier more frequently when it is less that one foot high. Does this affect the yield. GP10
How long can you keep napier after planting. GP10
What can you use at planting to improve napier yield. GP9
What is the best time to cut napier for livestock feed. GP10
You have helped us very much when we did not know whether it was a disease of something else. GP8

Reports of Napier Grass Stunt

EVENT	NAME	PLACE	COMMENT
GP1	Beatrice Nanyama	*Sabata Village, Kiminini Division*	Said she had the disease.
GP1	Zephania Ongo	*Kananachi Village*	Also observed in Ndalu and Lulu farm
GP6	Kelvinus Dibondo	*Eluhari location in Butula Division*	Disease serious; requests sensitization (GP) event. Best days Thursdays and Sundays during market days.
GP6	Samuel Oduori Odhiambo	*Belemia sublocation, Sangalo Bungoma district*	Disease serious; requests sensitization event
GP6	Andrew Wanyonyi	*Muribale/Funchani area*	Disease serious; requests sensitization event
GP6	Ogale Buhinna	*Lugulu market*	Disease serious; requests sensitization event
GP6	Sibale Environmental Programme (NGO)	*Sibale*	Not clear whether they had disease. Deal with zero grazing and other activities. Requested GP event.

Part 2

Summary of GP Events

A series of *Going Public* events were held in west Kenya from 11 – 14 July 2005 in an attempt to gain more information about the distribution of this devastating disease and to learn more about peoples' reactions to its occurrence. The GP events were carried out by a team of four people: Dr Sam Ajanga and Dr Margaret Mulaa from KARI (Kakamega and Kitale respectively) together with Dr Eric Boa and Professor Phil Jones of the Global Plant Clinic[1].

Day 1 *11 July 2005*

We were joined by Dr Francis Muyekho, Coordinator for Forage Research at Kitale. First session (GP1) was instigated by Eric Boa and then completed by Margaret Mulaa and Sam Ajanga. Sam led all other sessions with Margaret taking notes of what people said and questions they asked. Numbers attending are approximate. Each event lasted for approximately 20-30 minutes. From GP2 we had an example of a diseased plant but did not have a healthy sample for comparison on day 1. Otherwise all explanations of symptoms were carried out using photographs. We had few leaflets or printed material to hand out.

PLACE	NOTES
Forecourt, Dept. of Agriculture, Kiminini *Transnzoria district*	**GP1** We took advantage of people hanging outside the Extension Chief's office. They immediately came to listen and engaged enthusiastically in a general discussion about the disease. At least nine people recognized the symptoms though they were unaware of what to do and did not know the real cause. ► **30 people**.
Luhna- Ndalu road junction *Transnzoria district*	**GP2** Several people having lunch by the roadside, schoolchildren returning home. Few people asked questions though one person was particularly interested. He asked if the disease was caused by a virus and asked if the diseased leaves had 'chlorosis'. Little feedback from the audience though very quiet spot compared to all others. ► **45 people**

[1] EB – *Eric Boa* SA – *Sam Ajanga* MM – *Margaret Mulaa* PJ – *Phil Jones* GP – *Going Public* GPC – *Global Plant Clinic.*

PLACE	NOTES
Ndalu market, *Transnzoria district*	**GP3** Junction of four roads with bicycles waiting to transport people, market stalls and various people hanging around. All came quickly to listen to the talk and remained attentive for some time. SA used the malaria analogy to explain how the disease was spread. One person asked if crop rotation could help solve the problem. The diseased plant was held up high so that everyone could see it as SA talked about the problem. Several small groups developed afterwards in which people were able to ask for clarifications and to pose specific questions about control. People had seen the disease and recognized the symptoms. ► **80 people**
Big Tree market, *Transnzoria district*	**GP4** People sitting around by road and schoolchildren waiting to return to school. (The bell went soon after we started and parents told their children to return.) This time a local man held up the diseased clump while SA explained about the disease. Several questions from the audience showed that they had listened carefully. ► **65 people**
Wamuini *Transnzoria district*	**GP5** Area of keen dairy farmers. We stopped in an open area next to a tractor offloading fodder. The driver left as we started even though EB encouraged him to come and listen. The first lady we met called others to the meeting. Again good questions from the audience revealed a keen interest in the problem and desire to know more. Disease said not to occur in this area though we expected people to have a closer look when they returned to their farms. We asked them to report any disease to their local agricultural officer. ► **60 people**

Vital Statistics

Number of people who attended was around **280**.

Number of questions and comments: **28**

Some points to emerge from Day 1

1. Keep explanations short and prompt audience to ask questions.
2. Compare diseased and healthy growth using live samples.
3. Prepare short information to give to people. We did not have any pamphlets or printed material to hand out. This weakens the impact of what you say.
4. Consider how new information (for example confirmation that disease is present in an previously unreported area) will be fed back to key people. Are District Agricultural Officers aware of NGS? If not, they need to be alerted as a matter of urgency.
5. Local extension staff did not participate in these Going Public events. Are they the best people to hold them or should it be done by researchers?
6. Useful information needs to be documented after each event. Keep this short but make sure others get to know what farmers are saying and asking.
7. What can we do to follow-up on some of the practical suggestions for control? The idea of 'designated clean areas' is fine but needs to be organised by someone. Who?
8. Emphasise that the soil is not contaminated by the disease or spread by cutting tools.

Day 2 *12 July 2005*

We brought a diseased and healthy sample to show to people. The script and roles of individuals was clearer and that meant we delivered a sharper message to people. Some of the sites were difficult because of competing noise from music and traffic, but that is a fact of life with *Going Public*. As with Day 1, Margaret kept a separate register of who asked what. And today we had leaflets to hand out. This made a big difference.

PLACE	NOTES
Shibale *Butere-Mumias district*	**GP6** Crossroads. We found a shady spot under a tree and launched the show. Had several people who were from other places – another advantage of the GP event. You attract anyone at a site regardless of whether they live locally. Good discussions and we splintered into small groups to extend the message and show photos to individuals. ► **65 people**
Harambe market *Butere-Mumias district*	**GP7** Shade is good but sometimes there are other people there already. Fortunately one of the stallholders by the trunk was off elsewhere. Biggest audience to date and EB kicked off. ► **100+ people**
Kanduyi *Bungoma district*	**GP8** At a crossroads not far from Mumias sugar plant. ► **50 people**
Bukembe *Bungoma district*	**GP9** Amanasseh Shanzu (Joseph) the driver started this GP. Slightly taken aback to be asked by EB but quickly got into the swing of things. He was still talking at the end though it was more haranguing and giving a lecture that responding quietly but firmly to questions. ► **60 people**

Vital Statistics

Number of people who attended was around **275**.

Number of questions and comments: **29**

Day 3 *13 July 2005*

We spent less time on GP today since we wanted to try out the first *Zahanati ya Mimea* in Busia. We also saw less overt damage caused by the disease, perhaps because farmers had grubbed out the previous infected clumps and replaced them with supposedly healthy stock. Or it could have been that the new plants were still waiting to grow up and then reveal the disease once they were cut.

Margaret said that she was 'not very confident' when she started to do these *Going Public* and that her director had quizzed her about what GP would do. So there is personal tension and also pressure from work to show that the method is useful. Today she felt more at ease and it showed in the relaxed and confident way she worked.

PLACE	NOTES
Road junction by Bunyore Girls Secondary School *Emuhaya, Vihiga district*	**GP10** A splendid stone platform above the road, on a grass slope, gave an impressive place to hold this event. It was noisy because of traffic passing by but not too much. Schoolchildren momentarily flocked to the event but did not stay long. Several adults were very interested in the disease and one extended the discussion to include agronomic practices and other suitable fodder plants. GP can lead you into unexpected areas and you have to be prepared to comment on wider issues other than that you have presented. ► **45 people**
Luanda market *Vihiga district*	**GP11** The napier grass market turned out to be quite small. There were only a few clumps of grass for sale, alongside another grass and maize stalks. A fresh supply of napier was carted in as we left. Sam was shocked by the price of a bundle and the cost of having to buy fodder. There was no vantage point where Sam could stand above the crowd. Smoke behind us and traffic passing by on the main road made this a difficult place to talk. The audience was however attentive from the beginning and intelligent arguing against our script provided some of the drama that is necessary to hold the attention of an audience in a public place. Remember that they can leave at any time. New people arriving wanted the leaflet without listening and EB suggested they do this first before they got the information. ► **30 people**
Busia market	**GP12** Phil did an impromptu GP to small groups of people while the *Zahanati ya Mimea* was being held behind him. Although this wasn't an 'official' GP it counts as such, since he showed the plants, listened to questions and responded to people. He handed out leaflets. ► **15 people**

Vital Statistics

Number of people who attended was around **90**

Number of questions and comments: **25**

Here are a few of the points raised:

What insects transmit the disease?

Does the disease also affect maize?

Can it be transferred on canes?

What happens if I add fertilizer or manure – will the plants recover or get worse?

Day 4 *14 July 2005*

GP12 was held prior to establishing a *Zahanati ya Mimea* at the cattle market, Lubao. This is a short distance from Kakamega and is one of the largest markets in the area, with traders coming from far and wide. People selling and buying cattle are not always easily distracted, even by the arrival of foreigners. The area was busy until around noon, when trade eased off and people started to disperse. Despite the potential conflict between trading and the GP event, we quickly gathered a large crowd.

PLACE	NOTES
Cattle market, Lubao *Kakamega*	**GP13** A small stool was borrowed from a nearby restaurant and EB started by giving a quick explanation of the disease. Many understood though someone asked if it could also be explained in Swahili. SA took over and repeated the earlier message; there is no harm in doing this as long as the event doesn't descend into an extended lecture. By now we had a well-rehearsed routine. MM stood by to note the questions people were asking; PJ moved around with the large notice saying 'Napier Grass Stunt' while EB retreated to the outskirts to take photos as unobtrusively as possible. It's very important that others later can see what takes place so that they can visualize *Going Public* for themselves, whether for napier grass or other problem. Joseph the driver was once again active in explaining to small groups of people what was happening and providing them with information on NGS. The NGS leaflet is handed out once the verbal message has been given. Many eager hands sought a copy as EB struggled to separate the sheets. Eventually I touched the hand of the next person to get the leaflet and this stopped people grabbing for the next released leaflet. Sometimes people just want a leaflet and I wonder if they are genuinely interested in napier grass, but that should only be a concern if there are not enough leaflets to go around. Come prepared for this! Once the GP event was over, PJ and EB headed down the slope to a point where we gave another presentation lasting around 15 minutes. Most people understood English. Where there was poor comprehension one person in the group translated what we had said and passed on the relevant information to the others. Crowds help themselves. . ► **100+50 people**

Vital statistics

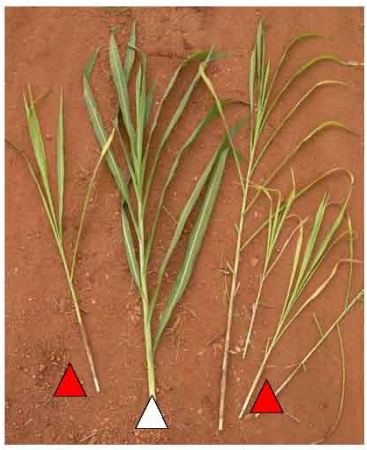
Number of people who attended was around 150. **Four day total: 795 people.**

Number of questions and comments estimated at **15**. **Four day total: 97.**

Some people asked more than one question, but it would be fair to say that around 10% of those attending the events actively participated in discussions after the initial presentation.

Photos used in GP events

Napier Grass Stunt ▶ How to tell the difference



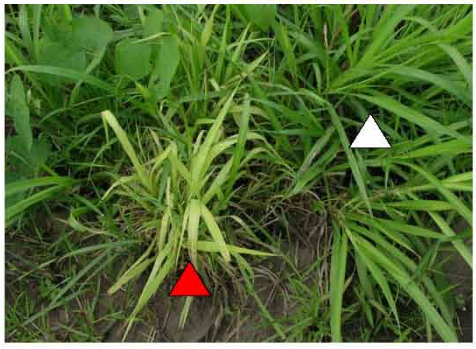
Compare unaffected and diseased plant parts; this is very important in making a field diagnosis.

Left: the unaffected, sturdy shoot is greener than the yellow, thin diseased shoots either side.

Right: the vigorous young shoots are more robust than the weedy shoots that proliferate at the base of diseased clumps. Contrast **bottom left**, diseased, with **bottom right**, unaffected.

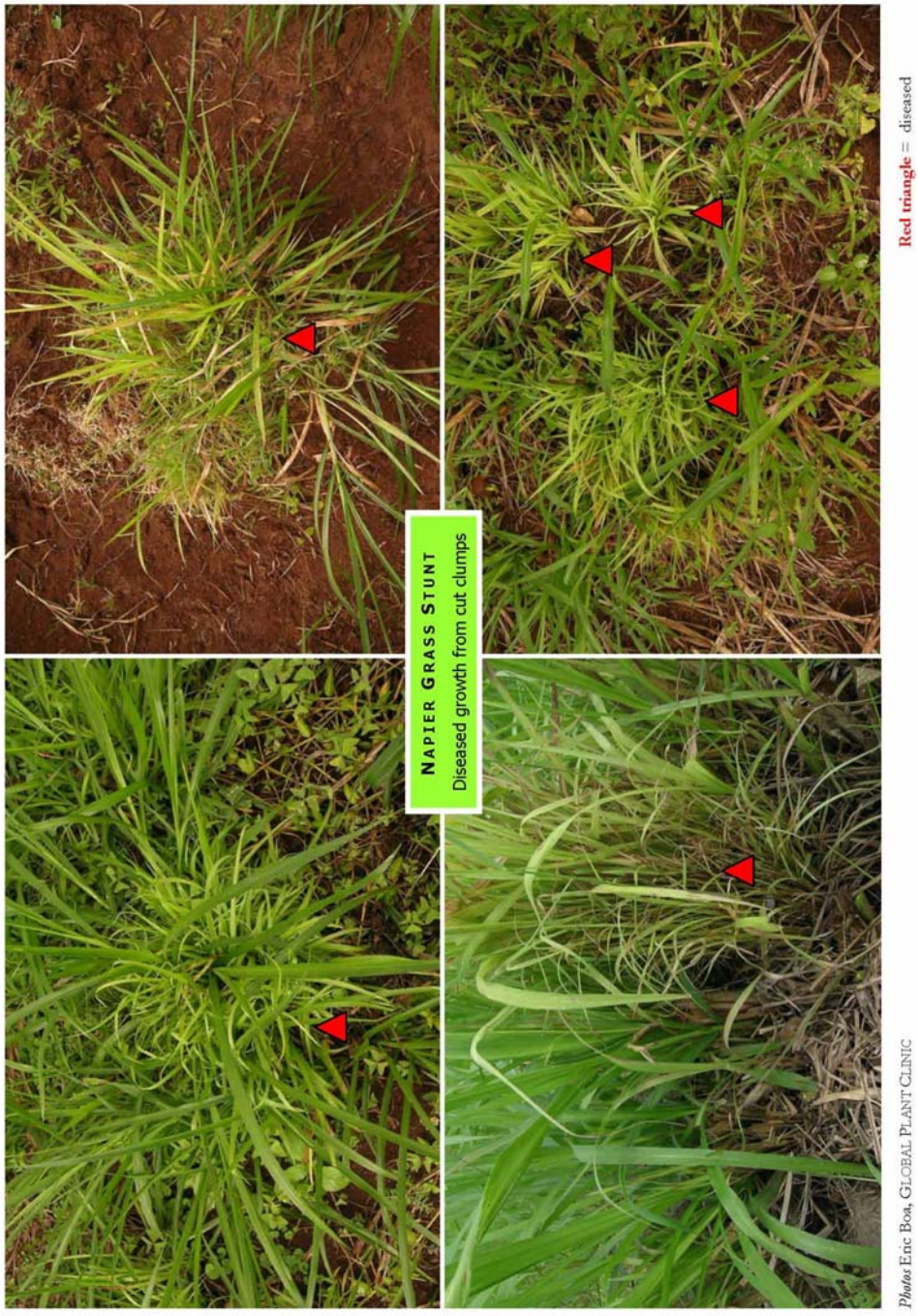
Below: The leaves on the right are similar in size and form to the unaffected, green leaves, but the yellow colour suggests they are infected.

We say 'unaffected' rather than 'healthy' since the phytoplasma can be present without symptom expression.



Red triangle: diseased. **White triangle**: unaffected. We gratefully acknowledge the assistance of Namulonge Research Institute, Uganda in obtaining these photographs. Napier grass is also known as elephant grass.

TEXT: Eric Boa and Phil Jones. PHOTOS: Eric Boa. GLOBAL PLANT CLINIC [www.globalplantclinic.org] 6 July 2005


NAPIER GRASS STUNT
Diseased growth from cut clumps
Red triangle = diseased
Photos Eric Boa, GLOBAL PLANT CLINIC