SPHI Seed System Community of Practice

Summary of Discussion Topic

Title: TOPIC7-Alternative materials & sourcing for aphid proof nets

1. Summary of participation statistics

Table 1 shows the summary of participation statistics under this topic.

Duration	Lead discussant; institution & country	No. of contributions	No. of unique respondents(M/F)	No. & type of institutions	No. of countries
20 days 26th Aug-16th Sept 2015	Jude Njoku-NRCRI, Umudike, Nigeria	21	12 (8 males, 4 female)	NARI (2), CIP (9), Private sector (1)	8

2. Introduction

Through this discussion topic, members sought to determine alternative materials and sourcing for aphid proof nets (net tunnels). It was to provide a way whereby they could proactively fashion out a more sustainable net tunnel technology, which would affordably and readily available to farmers. This would make the net tunnel technology appropriate & suitable at farmers' level, and in turn enhance the generation of quality sweetpotato planting materials and improvement on the seed systems. Four questions probing the suitability and effectiveness of mosquito nets as alternative materials for aphid nets were put across following a suggestion of using them in Nigeria. The questions read: 1) will the adoption of locally sourced mosquito treated nets affect malaria control efforts of the government? (2) How effective will it screen off pests from the vines? (3) Any unforeseen effect on the insolation and dispersion of solar radiation build-up of heat within the tunnel, water/rain penetration etc.; (4) What other sources of netting materials that can be sourced locally? However, as has happened with other topics, contributions were not structured according to the questions. Rather, contributors either raised concerns about the mosquito nets, or suggested alternative materials, while others either concurred with or had different views. The lead discussant was Dr. Jude Njoku from Nigeria. The topic attracted 21 contributions from 12 unique respondents. This summary highlights the key points, any areas of consensus or disagreement, and any ideas suggested that members could consider to try/test in their work to further learning and inform development /practice in sweetpotato seed system.

3. Key points and areas of consensus/disagreement.

Although there was no outright disagreement about using mosquito nets as alternative material for making aphid proof nets, several reservations about their suitability and other social concerns were raised:

- Concern about their effectiveness and durability of the materials in the open field. It was suggested that double layering of the materials could increase durability.
- A concern that farmers might use their bed nets, which are treated against malaria causing mosquitoes as alternative netting for aphid proof nets. Though farmers seemed to appreciate mosquito net for use as alternative aphid proof net, they should not be encouraged to use treated bed nets for this purpose.

A key point that emerged in the discussion was the view that the sourcing of alternative material was not a major problem in net tunnel technology, but rather the stability of agricultural plastics currently in use such as UV in sunlight. The view is that Optinet 50 and other comparable product is readily available in Kenya because of the horticultural industry and can last for probably up to 4 years before it breaks down. In addition, the shade qualities of the product have some effects with reflectance supposed to able to confuse vectors so that they do not penetrate the nets. Rather the problem is rather thought to be about weaker supply chain, which could be strengthened by vigorous sensitization to increase demand for the net tunnel technology.

Not everyone agreed that availability of Optinet 50 was not a problem in all countries. Instead there was a view that there are various aphid proof nets within horticulture sectors, for example, Agronet-Tomato 0.04mm ULV in Tanzania, which are worth looking into. Other discussants concurred that these alternative net materials exist and are used mostly in horticulture where there is a huge demand for them.

Other alternative material and way of protecting sweetpotato vines was proposed: agricultural fleece, which is used widely in Europe to keep off carrot flies from the carrot crops. It is a glass fiber material, which is spread over the crop (usually large) area and might be cheaper than netting. A link to a possible source and to see images of its application was shared: hhp://www.agryl.com.

Besides sourcing aphid proof materials, other issues came up in the discussion:

- Alternative material to replace wires currently being used in net tunnel, which tend to rust and damage the net. The alternative suggested is high strength synthetic plastic that does not rust. The new materials generated a lot of interest from colleagues, e.g. from Mozambique, Tanzania and Nigeria, and were advised to contact the member with information about where it can be obtained (Kirimi Sindi). However, this alternative might not be practical in countries such as Rwanda, which have a low tolerance for plastics.
- Part of netting material that is buried in the soil tending to deteriorate over time (reported in some countries, e.g., Uganda and Nigeria). However, unless the net tunnel is relocated, it does not seem to have a significant effect on effectiveness over time.
- Insects gaining entry into the nets even without opening the nets. Various theories were offered e.g. insects laying eggs on the net and the hatched larvae entering the nets, the eggs (which are smaller and can easily enter holes) are washed down through the nets before they hatch.

4. Status on suggested follow up actions on emerged ideas or techniques (to updated at CoP meeting)

No ideas for further reach or testing in people's country emerge from the discussions. Follow up will be done at the CoP meeting to identify any actions that arose from the topic.

Table 2: status of suggested follow up actions on ideas or techniques

Suggested idea for action	Follow up action taken	Where (country) & institution	Feedback to CoP