SUB-GROUP: EFFICACY OF BIOLOGICAL AND ECO-FRIENDLY CPAs

VICTORIA FALLS, ZIMBABWE

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RHODA MAVUKA

Outline

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Background

- Compliance to global requirements in CPA usage especially in tobacco production has become of paramount importance as the need to continuously go greener gains momentum globally

- Over the years there has been an increasing shortage of conventional CPAs due to withdrawals and bans and the reduced number of registered CPAs for use in tobacco production.

Sub-group Objectives

1. To test biological and eco-friendly CPAs as alternatives to traditional CPAs.
2. To produce a formal protocol for trial and testing procedures.
3. To collate results of trials done under the formal protocol and make them available to ACAC.
4. To harness global participation.

Participation is voluntary and is according to interest and involvement in the target biological and eco-friendly CPA.

Definition of Terms

- **BIOLOGICAL CONTROL is a method of controlling pests (including insects, mites, weeds and plant diseases) using other living organisms.**

- **It relies on predation, parasitism, herbivory, or other natural mechanisms such as the use of pheromones.**

Definition of Terms

- **ECO-FRIENDLY** CPAs are pesticides that are derived from plants, plant extracts and natural products and include CPAs such as garlic, ginger, neem and fermentation products such as spinosad.

- **SUSTAINABILITY:** Low toxicity CPAs, Environmental and human health

Activities (Oct - Dec 2018)

- ✓ **Survey questionnaire on the extent of use and registration of biological and eco-friendly CPAs in tobacco production**

- ✓ **Compilation of biological and ecofriendly CPAs being used on tobacco globally**

Activities (Jan – Oct 2019)

- ✓ Formulation of the Sub-group website page text
- ✓ Standardisation of protocols (5) to enable efficacy trials to be carried out
- ✓ Efficacy trials

Survey Questionnaire

	FUNGICIDES	INSECTICIDES	SUCKERCIDES	TOTAL
China	31	10	-	41
France & Hungary	6	7	1	14
India, Phillipines	1	4	1	6
Italy	3	5	1	9
Japan	5	2	-	7

Survey Questionnaire

	FUNGICIDES	INSECTICIDES	SUCKERCIDES	TOTAL
Poland	1	1	2	4
Dominican Republic	1	7	-	8
Spain	1	4	2	7
Paraquay	-	3	-	3
Brazil	7	7	2	16

Survey Questionnaire

	FUNGICIDES	INSECTICIDES	SUCKERCIDES	TOTAL
USA	-	7	2	9
Malawi	1	7	-	8
Zimbabwe	10	25	2	37
Mexico	4	8	3	15
Guatemala	4	9	1	14
Macedonia	3	-	-	3
Turkey	1	4	-	5

Common CPAs

Biological and/ or Eco-friendly pesticide	Pest/s
Beauveria bassiana	Aphids
Azadiractin (Neem)	Aphids, Budworm, Whitefly
Spinosad	Lepidopterous pests
Limocide (essential oil sweet orange)	Insecticide / fungicide
Bacillus thuringiensis	Budworn/ Hornworm
Bacillus firmus	Root-knot nematode
Verticillium chlamydosporium	Root-knot nematode

Common CPAs

Biological and/ or Eco-friendly pesticide	Pest/s
Pelargonic Acid	Suckercide
Grape organic oil / Soybean organic oil	Organic suckercide
Trichoderma spp.	Fusarium, Phytium,Phytoptora, Rhizoctonia, Sclerotium
Bacillus subtilis	Rizoctonia, Pythium, Alternaria and Phytophtora and Nematode

CPA Selection

Biological and/ or Eco-friendly pesticide	Target Pest/s
Trichoderma spp.	*Fusarium/ Pythium / Sclerotium*
Bacillus subtilis	*Rhizoctonia / Pythium*
Beauveria bassiana	Aphids
Azadiractin (Neem)	Aphids
Bacillus firmus	Root-knot nematode
Pelargonic Acid	Suckercide/Herbicide

Participants

Next Steps

1. Finalisation of 5 efficacy protocols
2. Implementation of efficacy trials
3. Data analysis
4. Submission of data to ACAC

Acknowledgements

- ACAC
- Participants

THANK YOU