



**AGRICULTURAL RESEARCH AND EXTENSION TRUST**

**DR ALBERT CHANGAYA**

**MALAWI VISION TOWARDS SUSTAINABILITY**

# INTRODUCTION

- Compliance issues have become very critical in the global tobacco industry.
- Environmental sustainability, Human rights, Agricultural Labour practices (ALP), Elimination of Child Labour and Governance are key issues for sustainability of the tobacco industry.

# MALAWI RESPONSE TO COMPLIANCE ISSUES

- Till early 2000, Malawi had only one tobacco production and marketing system.
  - Growers using their own inputs and sale tobacco on Auction (Non-contracted).
- In 2012 Malawi adopted the Tobacco Integrated Production System (IPS),
  - Contracting farming (contracted),
  - Contracting marketing (contracted).

# MALAWI RESPONSE TO COMPLIANCE ISSUES

- IPS was introduced to address issues of;
  - Grower traceability.
  - Foster Environmental, Social and Governance (ESG) for the sustainability of the industry.
- Non-contracted were left out on issues of compliance.

# The legal Instruments

- In 2014 Ministry of Agriculture gazetted Tobacco (Integrated Production System) regulations.
- The Tobacco Act of 2019 provides the legal framework of the industry with much focus on sustainability of the industry.

# The legal Instruments

- In 2020 ARET presented a proposal to the Tobacco Industry Conference on *“Making Malawi Tobacco Compliant for the Sustainability of the Industry”*.
- The resolution was made to have a taskforce to develop the compliance strategy and Tobacco Commission was the secretariat.
- This led to the development of Malawi Tobacco Industry Compliance Strategy Paper (MTICS) in draft

# Table 1: Summary of MTICS

Pillar 1	Strategic issues	Strategies
Environmental	1. Sustainable agriculture	1. Eliminate use of uncertified seed
		2. Improve field sanitation
		3. Promote sustainable use of forestry resources
		4. Promote soil and water conservation
		5. Promote sustainable waste and NTRM management
		6. Promote use of recommended CPAs
Pillar 2	Strategic issues	Strategies
Social	1. Agricultural labour Practices	1. Eliminate child labor
		2. Eliminate forced labor
		3. Avoid hazardous tasks
		4. Provide farmer-worker contracts
		5. Promote provision of safe worker accommodation
		6. Promote provision of minimum wage
		7. Promote use of PPES

Table1: Summary of MTICS Conti...d

Pillar 2	Strategic issues	Strategies
Social	2. Corporate Social Responsibility (CSR)	1. Promote the implementation of need-based CSR programs
Pillar 3	Strategic issues	Strategies
Governance	1. Code of business conduct	1. Eliminate fraud and corruption
	2. Grower traceability	1. Conduct comprehensive farmer registration
	3. Human resource	1. Enhance extension services on GAP
	4. Information management	1. Develop database 2. Develop/acquire robust information management tools 3. Enhance communication (EIM)



# Strides made to date

Pillar	Strategic issue	Strategies	Progress
1. Environment	Sustainable Agriculture	Eliminate use of uncertified seed	<ol style="list-style-type: none"> <li>1. All tobacco seeds on the market are male sterile. From 2016 to date.</li> <li>2. Documentation of all seed sales and upload the data into Tobacco Information Management System (TIMS). This depicts all details of the growers. This started in 2022.</li> <li>3. Rejection of tobacco at the market from local varieties</li> </ol>
		Improve field sanitation	<ol style="list-style-type: none"> <li>1. All tobacco field of both contracted and non contracted growers have stalks uprooted and tobacco nurseries destroyed as stipulated in the TIA.</li> </ol>
		Sustainable use of forestry resources	<ol style="list-style-type: none"> <li>1. Promote use of live barn</li> <li>2. In 2021 ARET distributed 60,000 polythene tubes and tree seeds to 60 contact groups</li> <li>3. 345 live barns were established</li> <li>4. 10,112m long with 16,690 trees</li> <li>5. In 2022 ARET has distributed 100,000 polythene tubes and tree seeds to 60 contact groups</li> <li>6. Training on tree nursery management to growers.</li> <li>7. Goal is to have all burley tobacco cured using live barns by 2027</li> </ol>
		Promote soil and water conservation	<ol style="list-style-type: none"> <li>1. Trained and will continue training tobacco growers both contracted and non-contracted growers</li> </ol>

# Strides made to date

Pillar	Strategic issue	Strategies	Progress
1. Environment	1. Sustainable agriculture	Promote sustainable waste and NTRM management	<ol style="list-style-type: none"> <li>1. Training in waste management and NTRM</li> <li>2. Rejection of tobacco with NTRM on the market</li> </ol>
		Promote use of recommended CPAs	<ol style="list-style-type: none"> <li>1. Every year, ARET update and circulate list of recommended chemicals for use in tobacco.</li> </ol>
2. Social	1. Agricultural Labor Practices (ALP)	1. ALP codes	<ol style="list-style-type: none"> <li>1. Collection of grower profile (child, forced labor data, etc) for non-contracted growers.</li> <li>2. Trained 3021 growers on ALP code in 2021-22 growing season</li> <li>3. Planning to train all non-contracted growers by 2023-24 growing season</li> <li>4. ARET is drafting a Compliance policy</li> </ol>

# Strides made to date

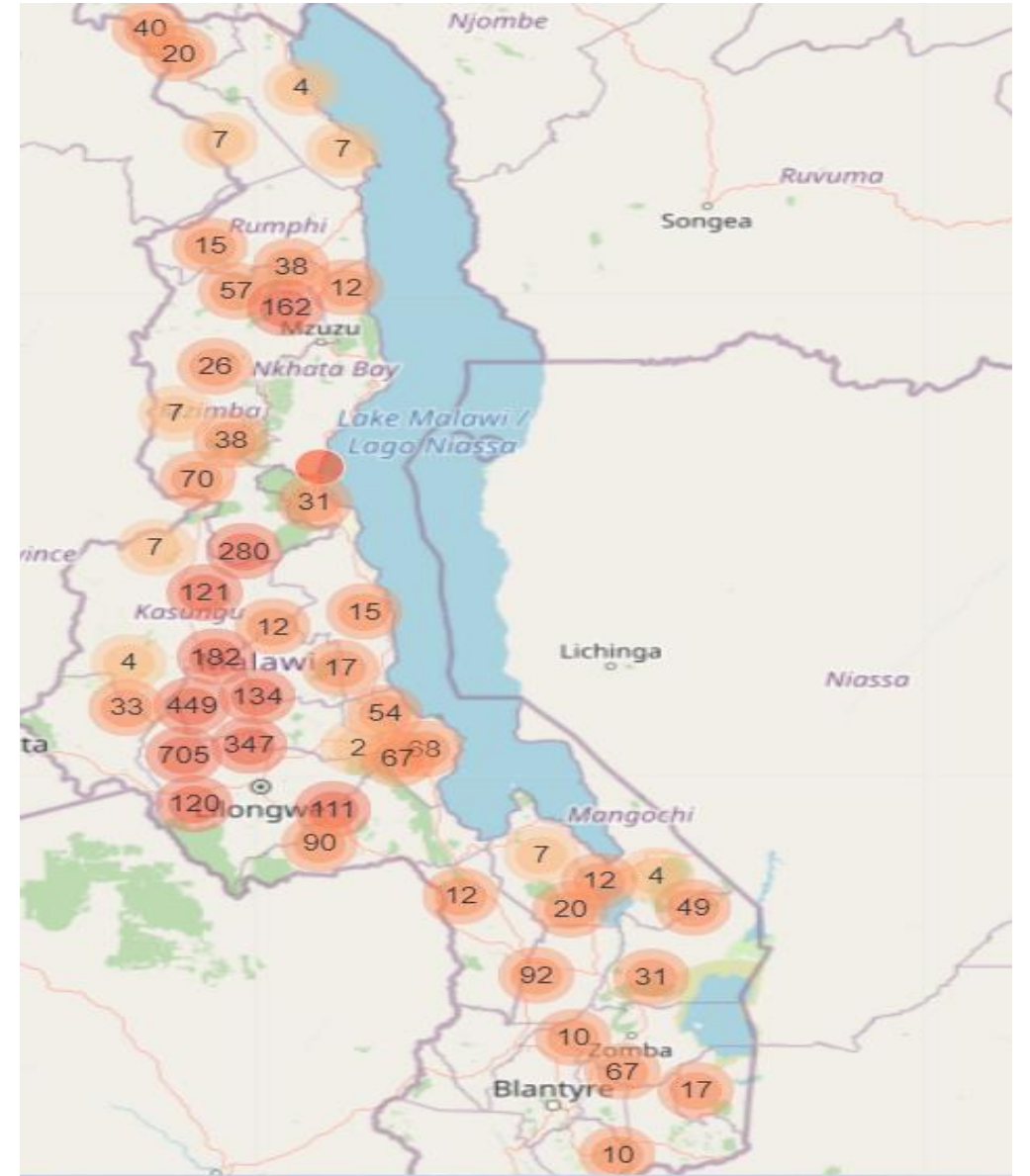
Pillar	Strategic issue	Strategies	Progress
2. Social	2. Corporate Social Responsibility (CRS)	2. Promote implementation of need-based CSR	<ol style="list-style-type: none"> <li>1. ARET has been taking part in organizing World Tobacco Growers Day where the industry has been donating various items to schools that are within or closer to tobacco estates.</li> <li>2. ARET is drafting a CSR policy</li> </ol>
3. Governance	1. Code of business conduct	1. Eliminate fraud and corruption	1. ARET has put in place proper transparent, accountable and ethically sound systems at all levels from Board of Trustees, Management and in all its operations
	2. Grower traceability	2. Conduct comprehensive grower registration	<ol style="list-style-type: none"> <li>1. Identification of all non-contracted growers (10,680)</li> <li>2. ARET is mobilizing all non-contracted growers into ARET contact groups. (279 contact groups)</li> <li>3. Groups are coded and mapped</li> <li>4. Grower profile for every group member</li> </ol>
	3. Human resources	3. Enhance extension services	<ol style="list-style-type: none"> <li>1. Use of contact groups with proper group structure to facilitate access to extension services</li> <li>2. Periodic staff trainings</li> <li>3. Document</li> </ol>

# Strides made to date

Pillar	Strategic issue	Strategies	Progress
3. Governance	4. Information management	Develop database	1. ARET has developed a database for all non-contracted growers
		Develop robust information management tools	1. Malawi has developed Tobacco Information Management System (TIMS) where all data from the industry players is uploaded.
		Enhance communication	<ol style="list-style-type: none"> <li>1. TIMS serves as source of information for all industry players</li> <li>2. ARET conducts dissemination workshops, field days and open days.</li> </ol>



Contact group after grading course



Distribution of contact groups



Tree nursery for one of the contact groups



Where we want to be in the next 5 years

# List of recommended chemicals for use on tobacco- 2022/23



## PESTICIDES RECOMMENDED FOR USE ON TOBACCO IN MALAWI 2022/2023



Tobacco Budworm



Fusarium wilt disease



Root Knot Nematode



Angular Leaf Spot

### INTRODUCTION

Tobacco production is not different from other crops and despite the best planning and proactive efforts of the grower, it is still prone to attack from insect pests and diseases. Therefore it is necessary to employ appropriate and good agricultural practice and compliant measures to protect the crop to secure desired yield and quality. Crop Protection Agents (CPAs), have an important role in the context of integrated pest management and sustainable tobacco production (STP). CPAs are substances, or mixtures of substances of chemical or biological ingredients, intended for repelling, destroying or controlling any pest or for regulating plant growth. Integrated pest management (IPM) practices reduce CPAs use, improve profitability and protect the crop and the environment. CPAs are classified as: Fungicides, bactericides, insecticides, miticides, nematocides and molluscicides. Fumigants are used to control soil borne pests and diseases and storage pests. Herbicides are used for controlling weeds that compete with the crop and harbour pests. Growth regulators such as suckercides controlling sucker growth and pheromones for attracting pests and repellents to repel them.

### Field Scouting

Another principle within IPM and STP is crop surveillance/scouting to enable pest problems to be detected early before they cause severe damage. Scouting allows growers to make informed decisions based on economic circumstances and identify and protect beneficial insects already within the crop which may naturally aid to control and reduce the pest population. However, when conditions demand that CPAs should be used to defend against crop failure, only recommended agrochemicals should be used as per label claims to lessen environmental impact, lower CPA usage and protect pesticide handlers. Always take note that "a well timed pesticide application is very effective than several routinely applied pesticides".

Herein you will find a list of CPAs RECOMMENDED by the Agricultural Research and Extension Trust (ARET) for controlling important insect pests, diseases and weeds of tobacco. It also contains CPAs prohibited for use on tobacco. The recommended CPAs are based on trials conducted by ARET in collaboration with chemical suppliers. In addition, they are in line with current international codes of practice, relevant CORESTA technical guides and take into account the status of CPAs in the major international tobacco markets. ARET updates and publishes this list annually. The recommendations are aimed at all stakeholders in the tobacco leaf production and supply sectors, including decision-makers, managers, agronomists, pest control specialists, extension officers, leaf technicians and farmers.

### 3. BUDWORMS

Budworms feed on young tobacco leaves, especially at the bud where they chew the leaves and create holes. The holes are magnified as the leaves grow giving the plants a ragged appearance.

Insecticide	Active ingredient	Mixture Rate in 10/ Water	Product Rate/Ha	Method and timing of application <i>(not advisable to apply chemicals after topping to avoid chemical residues)</i>
Belt 480 SC	Flubendiamide	1.3 ml / lands	0.3 l	Spray starting two weeks after transplanting and repeat fortnightly based on scouting results
Steward 150 EC	Indoxacarb	7 ml - lands	0.3 - 0.6 l	Spray starting two weeks after transplanting tobacco. Up to a maximum of 2 applications can be made per season based on scouting
Denim Fit 45 WG	Emamectin	8 g - lands	336 g	Spray starting two weeks based on scouting
Prevathon 5 SC	Chlorantraniliprole	Split application of 40 ml at planting followed by 14 ml / at 4 weeks after transplanting	2.4 l	Dilute 40 ml of Prevathon in 10 liters of water and apply cup No.30 to each planting hole at Transplanting. After 4 weeks, dilute 14 ml of chemical in 10 liters water and spray to the leaves
Belt Expert 480 SC	Flubendiamide 24%+Thiacloprid 24%	1 ml - nursery	0.1 l	Drench 2l of mixture per m <sup>2</sup> at sowing followed by fortnight drenches after seedling emergence for four times
		2 ml - lands		Foliar application at 2 and 4 weeks after transplanting
Aryna 46 EC	Acetamiprid + Indoxacarb	33.3 ml - lands	4l	Apply the mixture at transplanting as a drench using 30 ml/ in the transplanting hole, follow up with spray at 4 weeks later using a knapsack sprayer

### 4. CUTWORMS

Cutworms are brownish – grey soft bodied caterpillars about 2 – 4 cm long. They are more active and prefer feeding at night, cutting stems of seedlings at the nursery or newly transplanted seedlings in the lands.

Insecticide	Active ingredient	Mixture Rate in 10 / Water	Product Rate/Ha	Method and timing of application <i>(not advisable to apply chemicals after topping to avoid chemical residues)</i>
Lambda EC	Lambda - Cyhalothrin	5 ml - nursery	0.5 l	Drench 2 l of mixture per m <sup>2</sup> after seedling emergence followed by fortnight drenches for four times
Muthambozi 100 EC	Indoxacarb 80 g + Emamectin 20 g	4 ml - nursery	0.4 l	Apply the mixture as a drench at sowing using a watering cane, follow up with a pray application at four weeks after germination and continue at 14-21 days interval based on scouting results
Decis Forte 10 EC	Deltamethrin	1 ml	0.045 l	Drench 1 l of mixture per m <sup>2</sup> after seedling emergence followed by fortnight drenches for four times
Karate 5 EC	Lambda-cyhalothrin	5 ml - lands	0.2 - 0.4 l	If land has prior history of cutworms – apply 30 ml/ of mixture in the transplanting water at transplanting
Belt Expert 480 SC	Flubendiamide 24%+Thiacloprid 24%	1 ml - nursery	0.1 l	Drench 2 l of mixture per m <sup>2</sup> at sowing followed by fortnight drenches after seedling emergence for four times
		2 ml - lands		Foliar application at 2 and 4 weeks after transplanting

# Gaps in the regulations

- Certification of compliant crop from Non-contracted growers
  - Barcodes
  - Special market



Obrigado

Thank You