



Pest and Sanitation Management in Stored Tobacco (PSMST) Sub-Group Report

Izmir – 2015



- ❖ **Sub-Group on Pest & Sanitation Management in Stored Tobacco**
 - **Formed in 1993**
- ❖ **Participants from 18 companies**
 - **manufacturers of tobacco products,**
 - **leaf processors,**
 - **leaf companies,**
 - **pest control services**
 - **a research agency**
- ❖ **Coordinator : Vernon Schmidt (RJ Reynolds)**



Why did the Sub-Group form?

To assist the tobacco industry in combating the two post-harvest tobacco pests: cigarette beetle and tobacco moth



**Insects
cause million dollar damages
in stored tobacco**





What does PSMST do?

❖ 3 Objectives:

- To **educate** about and promote best Integrated Pest Management practices for post-harvested tobacco world-wide
- To **conduct collaborative studies** on pest control and sanitation practices for post-harvested tobacco
- To **investigate new technologies** and issues related to infestation control in post-harvested tobacco



What does PSMST do? Guidelines

- ❖ **CORESTA Guide N° 2 - Phosphine Fumigation Parameters**
 - Published January 2004
 - Updated November 2009
 - Revised October 2013

- ❖ **CORESTA Guide N° 9 - Freezing Parameters**
 - Published 2009

- ❖ **CORESTA Guide N° 12 - Controlled Atmosphere Parameters**
 - Published May 2012
 - Updated May 2013

All available on the CORESTA website



CORESTA GUIDE N° 2
October 2013

PHOSPHINE FUMIGATION PARAMETERS FOR THE CONTROL OF
CIGARETTE BEETLE AND TOBACCO MOTH

1. Introduction

Two insects, the cigarette beetle (*Lasioderma serricorne*) and the tobacco moth (*Ephestia ahitella*), infest cured tobacco. These pests can be controlled by successful fumigation. The tobacco moth is more susceptible to phosphine than the cigarette beetle and thus the fumigation standards established for control of the cigarette beetle are those that should be



CORESTA GUIDE N° 9
November 2009

FREEZING PARAMETERS FOR THE CONTROL OF CIGARETTE
BEETLE AND TOBACCO MOTH

1. Introduction

Two insects, the cigarette beetle, *Lasioderma serricorne*, and the tobacco moth, *Ephestia*
of cured tobacco, infesting the commodity during storage,
tobacco has relied on the use of



CORESTA GUIDE N° 12
May 2012

CONTROLLED ATMOSPHERE PARAMETERS FOR THE CONTROL OF
CIGARETTE BEETLE

1. Introduction



What does PSMST do? Training Videos

❖ Video 1 - "A Force to Be Reckoned With"

- gives the viewer an overview of infestation control.



❖ Video 2A - "Handle with Care"

- addresses fumigation practices.



❖ Video 3 - "First Line of Defense"

- the foundations of a highly effective sanitation program



❖ Video 4 - "A Battle Worth Winning"

- infestation control in tobacco farms and processing facilities.





What does PSMST do? Infestation Control Conference

- 2001 – Richmond, USA
- 2002 – Izmir, TURKEY
- 2002 – Puerto Vallarta, MEXICO
- 2002 – Santa Cruz do Sul, BRAZIL
- 2003 – Antwerp, BELGIUM
- 2004 – Stellenbosch, SOUTH AFRICA
- 2005 – Chennai, INDIA
- 2006 – Izmir, TURKEY
- 2007 – Antwerp, BELGIUM
- 2008 – Chiang Mai, THAILAND
- 2009 – Porto Alegre, BRAZIL
- 2010 – Kunming, CHINA
- 2011 – Cape Town, SOUTH AFRICA
- 2012 – San Juan, PUERTO RICO
- 2013 – Surabaya, INDONESIA
- 2014 – Bangalore, INDIA
- 2015 – Lilongwe, MALAWI
- 2016 - ...



Infestation Control Conference

Lilongwe, MALAWI – 18-19 May 2015



Universal Corporation



Limbe Leaf Tobacco Co.



Infestation Control Conference - ICC

Objective of the Conference

**To update the tobacco industry
on results of the latest research pertaining
to cigarette beetles and tobacco moths
for the purpose of
encouraging the implementation
of the best possible control practices**



Infestation Control Conference

❖ Day 1

- Integrated Pest Management
- Biology of Stored Product Pests
- Insect Monitoring & Inspection
- Sanitation & Prevention
- Insecticides
- CORESTA Video
- Fumigation Standard
- Good Fumigation Practices
- Phosphine Resistance
- Temperature
- Controlled Atmosphere

❖ Day 2

- Field Trip
(Fumigation Demonstration)
- What Else Have We Investigated?
- Application Exercise
- Questions and Answers



Infestation Control Conference

❖ 65 Attendees

- Mainly from the region
- Leaf suppliers, fumigators and logistics companies
- Good questions and discussions (primary focus of questions was around fumigation and re-infestation concerns)

❖ Evaluations

- Participants would highly recommend ICC to others
- Suggestions for improvement
 - more information on IPM,
 - region-specific problems,
 - resistance management,
 - new solutions and more practical ideas/approaches to local conditions



Malawi Tobacco Beetle Monitoring Committee (MTBMC)

Lilongwe, MALAWI – 20 May 2015



Malawi Tobacco Beetle Monitoring Committee (MTBMC)

❖ Background

- **An initiative of the Malawi Confederation of Chambers of Commerce and Industry**
- **Formed in October 2014**
- **Membership:**
 - Tobacco Buying and Processing Companies,
 - Agricultural Research and Extension Services,
 - Tobacco Control Commission,
 - Auction Holdings Ltd,
 - Traders in the Agricultural Sector,
 - Fumigators,
 - Forwarding Agents, Shipping Lines and Container Depot Operators



Malawi Tobacco Beetle Monitoring Committee (MTBMC)

❖ Objective: to lower beetle infestation levels

➤ Focus Areas:

- farms, storage/processing facilities at Kanengo,
- container depots, ports, and other non-tobacco companies around Kanengo

➤ Legal Perspective:

- to ensure that there is legal compliance with respect to provisions in the Malawi Crop Protection Act

➤ Beetle Resistance:

- to establish the specific resistance of beetle in Malawi using international laboratories





Malawi Tobacco Beetle Monitoring Committee (MTBMC)

❖ Joint Meeting – PSMST & MTBMC

- Recognizing the impact that this Committee could have on the significant pest control issues in the region, the Sub-Group invited the MTBMC for a joint meeting to share information and experiences related to infestation, sanitation and fumigation topics in Malawi.
- The Committee leadership presented a summary of the situation, the challenges and actions of the Malawian industry related to pest and sanitation management.



Malawi Tobacco Beetle Monitoring Committee (MTBMC)

❖ Highlights of Efforts of MTBMC

- Presented to governmental organizations information showing the impact of infestation on the nation's economy
- Conducted 6 “Field Days” across the country – educational program for farmers to raise awareness of infestation issues
- Facilitated cooperation to increase fumigation coverage in the highly congested Kanengo area
- Reduced dwell times of tobacco at port
- Ended confusion regarding misconceptions about phosphine fumigant types
- Decrease in tobacco infestation claims since 2013



Malawi Tobacco Beetle Monitoring Committee (MTBMC)

❖ Joint Meeting – PSMST & MTBMC

- Viewed as positive by the MTBMC
- Another form of outreach by the CORESTA SG PSMST





PSMST Sub-Group Meeting

Lilongwe, MALAWI – 20-21 May 2015



Sub-Group Meeting

❖ Topics

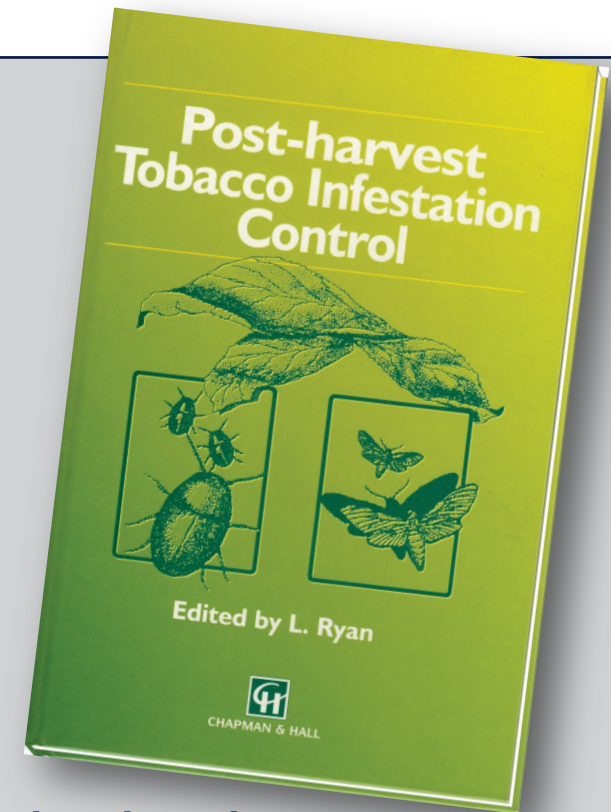
- **Sub-Group communications / improvements**
- **Updating Guides**
- **Research**
- **Other Efforts**



Sub-Group Meeting

❖ Communications / Improvements

- Continuing to work toward producing an updated electronic version of the “green book”
- Food and Environment Research Agency (Fera) asked to draft a manuscript of the Controlled Atmosphere research for eventual submission to a peer-reviewed journal
- Gaps identified in the ICC presentations to be closed





Sub-Group Meeting

❖ Updating Guides

- Guide No.9 “Freezing“
Parameters to be simplified,
Safety information and references to be added
- Guide No.2 “Fumigation”
Safety information and references to be added



Sub-Group Meeting

❖ Research

➤ Ethyl Formate testing

- determined parameters that are lethal to all life stages,
- more work needed to improve gas penetration,
- next studies to include evaluation of impact on tobacco

➤ Low Oxygen Phosphine Fumigations

- demonstrated that fumigation times can be reduced by lowering the oxygen concentration (decision made to not pursue this further at this time)

➤ Effect of Controlled Atmosphere on Phosphine Resistant Beetles

- demonstrated that resistant beetles are not more tolerant than susceptible beetles to CA

➤ Is CA Efficacy Affected by Relative Humidity?

- Study being designed



Sub-Group Meeting

❖ Other Efforts

- The Sub-Group will endeavour to engage with the International Plant Protection Committee with the aim of having all 3 Guides (Fumigation, Freezing, Controlled Atmosphere) recognized as acceptable treatments for the issuing of phytosanitary certificates.
- Location and date of the next ICC and SG meeting to be defined.



Thank you