



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

Berlin, GERMANY

10 October 2016



Sub-Group Objectives

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



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❖ Infestation Control Conference

- **Training for those involved with the tobacco industry from harvest to retail**
 - Translating scientific research into improved working practices
 - Demonstrating a common CORESTA Sub-Group approach to shared infestation problems
- **Communication of pressing issues, most accurate research, and latest developments**
- **Updates to ICC presentations**



❖ 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
- 2017 – ? (Argentina, Guatemala, Malaysia, Philippines, Tanzania, Mexico, Uganda)

❖ Educational Material Update

- Videos, E-book
- Postponed

❖ International Plant Protection Committee

- Endeavoring to engage with the IPPC to have all 3 Guides (Fumigation, Freezing, Controlled Atmosphere) recognized as acceptable treatments for the issuing of phytosanitary certificates
- Determining how to proceed





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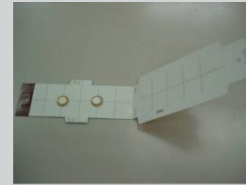
❖ Insecticide Impregnated Nets



❖ Vacuum Packing



❖ Effects of High Temperatures on Pheromone Trap Efficacy



❖ Heat Treatment of Bulk Tobacco



❖ Evaluating Reports and Research

- **Controlled atmosphere failures in Indonesia**
- **Resistance fumigation parameters insufficient (June 2015 – Journal of Economic Entomology)**





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❖ **Alternative Fumigants**

➤ **Ethyl formate**

- **Determined parameters that are lethal to all life stages**
- **More work needed to improve gas penetration**
- **Studies also needed to evaluate impact on tobacco**

➤ **Sulfuryl fluoride**

- **Revisited – pursuit of product being registered for use on tobacco**
- **Lethal parameters**
- **Penetration**
- **Impact on tobacco**

❖ Phosphine Fumigation

➤ Lasioderma culturing and annual phosphine resistance testing (Fera)

Susceptible

Strain	Country of Origin	Phosphine concentration (g m ³)	Number alive	Number knocked-down	% of tolerant insects
Cor 10	Australia	0.555	0	200	0
Cor 30	USA	0.42	0	200	0
Cor 33	Japan	0.42	0	200	0

Resistant

Strain	Country of Origin	Phosphine concentration (g m ³)	Number alive	Number knocked-down	% of tolerant insects
Family 14	Brazil	0.482	86	114	43
Cor 49	Brazil	0.555	155	45	77.5
Cor 52	Panama	0.389	27	173	13.5
Cor 87	Kenya	0.389	113	87	56.5
Cor 88	USA	0.482	68	132	34
Cor 89	Malaysia	0.426	33	167	16.5

❖ Controlled Atmosphere

- Laboratory tests to assess the efficacy of controlled atmospheres at a range of temperatures and relative humidities (fera)

CORESTA Guide 12

Minimum conditions required to achieve >99% control of all stages of cigarette beetle **and tobacco moth** AFTER commodity has reached 0.5% O₂ and the required temperature in the centre of bales at the bottom of a stack.

Temperature (°C)	Temperature (°F)	Time (days)
38	82.4	9
38	100.4	4





Questions