



CORESTA AP2023 Conference

“Agrochemicals Analysis Sub-Group”

Report

Cancun, Mexico

16 October 2023



Agrochemical Analysis Sub-Group (AA SG) Objectives

❖ Objectives

1. To perform regular proficiency testing of Multi-Residue Methods for the analysis of agrochemical residues on tobacco
2. To undertake joint experiments to resolve unanswered questions arising from proficiency tests; to expand knowledge base on agrochemical residues and their analysis
3. To produce and maintain a series of Technical Notes (on different agrochemical residue classes and selected individual compounds) to supplement the Technical Guideline and aid method development and improvement



Agrochemical Analysis Sub-Group (AA SG) Achievements

❖ Achievements

1. Established a well-organized proficiency test with the regular participation of a number of core laboratories together with new ones
2. Improved overall laboratory performance
3. Provided the tobacco industry with a laboratory performance assessment scheme and access to high quality laboratories to meet the demand for testing capability and reliable analytical results
4. Created a tobacco laboratory network
5. Produced the CORESTA Guide No. 5 (updated Oct. 2018) and Technical Notes on Maleic hydrazide (revised Oct. 2018), Dinitroanilines, Methamidophos, Pyrethroids, Acid herbicides (revised Nov. 2019) and Dithiocarbamates



Agrochemical Analysis Sub-Group (AA SG) Next meeting venue

Meeting	Place	Host
62 (2023)	Charleston, SC, USA	Global Laboratory Services
61 (2022)	Dubai, UAE	Premium Tobacco International
60 (2021)	Online	-
59 (2020)	Online	-
58 (2019)	Dubai, UAE	Premium Tobacco International
57 (2018)	Gothenburg, Sweden	Eurofins-Sweden
56 (2017)	Jujuy, Argentina	AOI Argentina, Cooperativa de Productores Tabacaleros de Salta & Cooperativa de Tabacaleros de Jujuy
55 (2016)	Chiang Mai, Thailand	AOI Thailand
54 (2015)	Victoria Falls, Zimbabwe	Tobacco Research Board
53 (2014)	Hamburg, Germany	Eurofins-Dr. Specht
52 (2013)	Raleigh NC, USA	Global Laboratory Service & Microbac Laboratories
51 (2012)	Vienna, Austria	JTI Ökolab
50 (2011)	Bergerac, France	Imperial Tobacco
49 (2010)	Trier, Germany	JTI
48 (2009)	Jujuy, Argentina	AOI Argentina & Cooperativa de Tabacaleros de Jujuy
47 (2008)	Lundsbrun, Sweden	Eurofins-Sweden & Swedish Match
46 (2007)	Brufa di Torgiano, Italy	JTI
- (WG)	Berlin, Germany	VdC
45 (2006)	Wiston-Salem, USA	R.J. Reynolds
44 (2005)	Hamburg, Germany	Eurofins-Dr. Specht

Next Meeting

- **Date:** Oct. 24th – 26th, 2023
- **Location:** Charleston, SC, USA
- **Venue:** Courtyard Charleston
- **Host:** Global Laboratory Services
- **Laboratories, manufacturers, tobacco suppliers, academia**
- **Review of Proficiency Test FT0119, presentations to be given by participants**

❖ Scope and Protocol

- CORESTA Guide N° 1 (October 2021, Version 7), CORESTA Guide N° 27 (October 2021, Version 3) & its candidates

❖ Tobacco Test Materials

- Blank tobacco: **Flue-cured Virginia from Zimbabwe**
- Incurred test material: **Flue-cured Virginia provided by the Residue Field Trial (RFT) Sub-Group**
- Spiked test material: **spiked into the blank tobacco**

❖ CPAs

- Incurred test material: **10 CPAs + Unexpected Analytes**
- Spiked test material: **21 CPAs**



Proficiency Test 2023 FT0119

Test	Laboratories that received test materials	Laboratories that returned results
FT0101	19	19
FT0102	29	29
FT0103	29	27
FT0104	28	24
FT0105	22	22
FT0106	25	22
FT0107	26	24
FT0108	24	24
FT0109	25	24
FT0110	30	26
FT0111	32	30
FT0112	27	26
FT0113	28	27
FT0114	28	25
FT0115	28	27
FT0116	31	29
FT0117	24	22
FT0118	25	23
FT0119	24	21

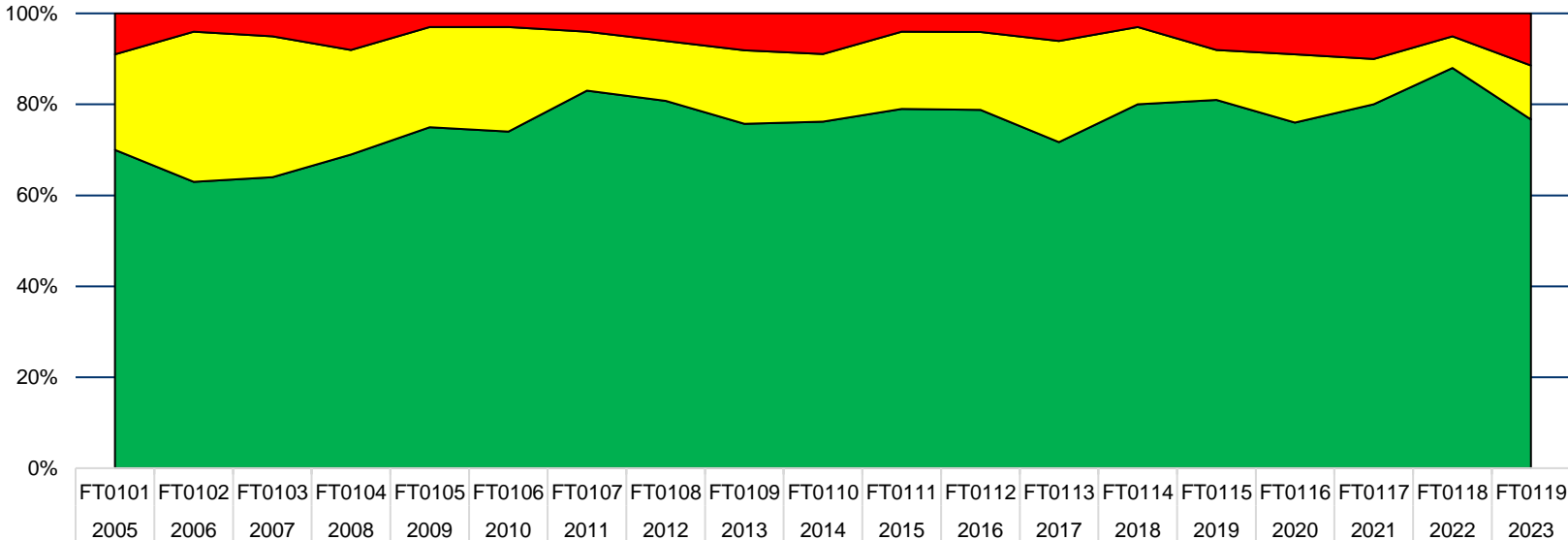
❖ Rationale

- ✓ **Low rate of $|z| \leq 2$**
- ✓ **Conversion factors**
- ✓ **Residue definition**
- ✓ **Highly Hazardous Pesticides**
- ✓ **Frequent usage in tobacco**
- ✓ **Availability of samples with different CPAs → recommendation from the RFT Sub-Group**
- ✓ **List of targeted CPAs (not all detected in the final sample – i.e. Triflumuron, Metolachlor)**

Spiked Sample CPAs	Incurred Sample CPAs
Benomyl, Carbendazim & Thiophanate-methyl (sum)	Azoxystrobin
Carbofuran (sum)	Chlorantraniliprole (Rynaxypyr)
Cyantraniliprole	Cyantraniliprole
Cyfluthrin (sum)	Difenoconazole
Cyproconazole	Flubendiamide
DDD + DDE + DDT (sum of)	Flumetralin
Dicamba	Imidacloprid
Diflubenzuron	Maleic Hydrazide
Ethoprophos	Mandipropamid
Flonicamid	Metalaxyl (sum)
Fluzifop-butyl (sum)	Pendimethalin
Fluensulfone (sum)	Propamocarb
Flupyradifurone	Spirotetramat (sum)
Flusilazole	Thiacloprid
HCB (hexachlorobenzene)	Triazophos
Indoxacarb (sum)	
Oxamyl	
Pendimethalin	
Pirimiphos-methyl	
Tefluthrin	
Triazophos	



z-Scores Overview 2005-2023



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
	FT0101	FT0102	FT0103	FT0104	FT0105	FT0106	FT0107	FT0108	FT0109	FT0110	FT0111	FT0112	FT0113	FT0114	FT0115	FT0116	FT0117	FT0118	FT0119
Analytes not found	9%	4%	5%	8%	3%	3%	4%	6%	8%	9%	4%	4%	6%	3%	8%	9%	10%	5%	11%
% z >2	21%	33%	31%	23%	22%	23%	13%	13%	16%	15%	17%	17%	22%	17%	11%	15%	10%	7%	12%
% z ≤ 2	70%	63%	64%	69%	75%	74%	83%	80%	75%	77%	79%	78%	71%	80%	81%	76%	80%	88%	77%



Agrochemical Analysis Sub-Group (AA SG) Further projects

Description	Timeline
Proficiency Test 2024 – FT0120	Preparations ongoing
Joint Experiment Test Study (JETS) for Pymetrozine	Exploring possibilities for a spiked sample testing
Technical Note – Pymetrozine	As a summary of the JETS, if launched
Review of CORESTA Guide N° 5 Technical Guide for Pesticide Residues Analysis on Tobacco and Tobacco Products	Ongoing, no due date set



THANK YOU