Agrochemicals Analysis (AA) Sub-Group Annual Report

Online

October 2020

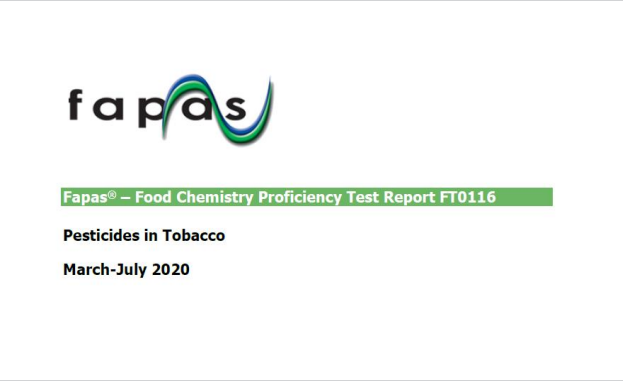
AA SG – Objectives

- To perform regular proficiency testing of Multi-Residue Methods for the analysis of agrochemical residues on tobacco.
- To undertake joint experiments to resolve unanswered questions arising from proficiency tests; to expand knowledge base on agrochemical residues and their analysis.
- 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

AA SG – Activities

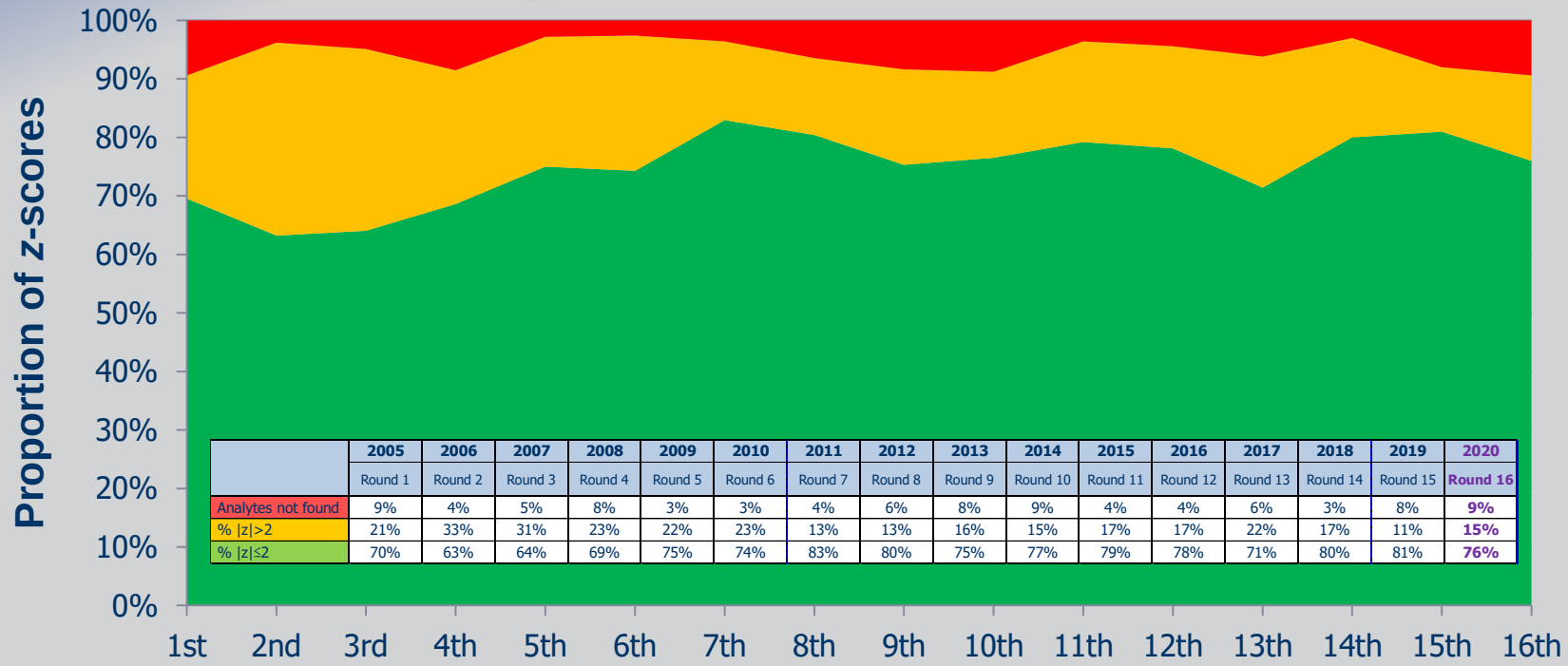
Proficiency Testing 2020 (Fapas FT0116)

- **116 CPAs listed in CORESTA Guide No.1 and its 13 GRL candidates**
- **Direction on reporting the sum of CPAs**
  - Residue definition and Conversion factor
- **Two test materials** (artificially spiked and agronomically incurred)
  - 21 CPAs spiked on blank Burley tobacco
  - 18 CPAs in incurred Burley tobaccos (provided by RFT SG)
- **29 laboratories from 19 countries**
- **z-score evaluation**
- **Fapas Report in August 2020**
- **Discussion at online SG meeting in September 2020**



AA SG – Activities

z-score trend (Fapas FT0101-FT0116)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Round 8	Round 9	Round 10	Round 11	Round 12	Round 13	Round 14	Round 15	Round 16
Analytes not found	9%	4%	5%	8%	3%	3%	4%	6%	8%	9%	4%	4%	6%	3%	8%	**9%**
% |z|>2	21%	33%	31%	23%	22%	23%	13%	13%	16%	15%	17%	17%	22%	17%	11%	**15%**
% |z|≤2	70%	63%	64%	69%	75%	74%	83%	80%	75%	77%	79%	78%	71%	80%	81%	**76%**

AA SG – Activities

Joint Experiment Technical Study (JETS 19/1) on Matrix Effects from DAC tobacco

- **Coordinators:** Masahiro Miyoshi (JT) and Shun Ueyama (JT)
- **Background:**
  - Matrix effects (ME) are a major concern in CPA analysis on tobacco.
  - AA SG has conducted numerous proficiency testing and JETS using Burley (BLY) or Flue-cured Virginia (FCV), however dark air-cured (DAC) tobacco was never used.
- **Objective:**
  - To know if there are any differences in MEs among DAC, BLY and FCV
- **Study design:**
  - MEs estimated by comparing the slopes of solvent-based and matrix-matched calibration curves
- **Three test materials (DAC, BLY, FCV) dispatched in November 2019**
- **12 laboratories participated**
- **Discussion at online SG meeting in September 2020**

Joint Experiment Technical Study (JETS 19/1) on Matrix Effects from DAC tobacco

- **Results:**
  - **Liquid chromatography (LC) analysis:** MEs showed a tendency to increase in the order of FCV, DAC and BLY.

LC-MS/MS	FCV	DAC	BLY
Total number of strong MEs	19	29	36

  - **Gas chromatography (GC) analysis:** MEs from FCV, BLY and DAC seemed to be almost the same.

GC-MS/MS, MS, ECD, FPD	FCV	DAC	BLY
Total number of strong MEs	30	28	28

- **Conclusion:**
  - No significant difference in the MEs was observed among DAC, BLY and FCV.
  - The same approach could be applicable to assess the MEs from Oriental (ORT) or dark fire-cured (DFC).

AA SG – Activities

2020 online AA SG meeting

- September 15th, 2020
- Some 20 participants from 14 countries
- Reviews of proficiency testing and JETS
- Other AA SG activities
- Updates of ACAC and RFT SG

CORESTA Sub-Group on Agrochemicals Analysis

59th Meeting on 15th September 2020

Time: 07:00 - 09:00 (Washington DC)
08:00 - 10:00 (Buenos Aires)
12:00 - 14:00 (London)
13:00 - 15:00 CET (Harare, Berlin, Brussels, Stockholm, Vienna)
18:00 - 20:00 (Jakarta)
19:00 - 21:00 (Beijing)
20:00 - 22:00 (Seoul, Tokyo)

Venue: MS Teams

Agenda

13:00 (CET)	Welcome, meeting agenda, etc. Review of the minutes of the 58th Meeting	Masahiro Miyoshi Heather Westberg
13:15 (CET)	Review of Fapas PT round 16 - Course of events, Study design and Participants - Data evaluation and Fapas Report FT016 - Participant's comments - Identification and Discussion of analytical problem - Summary and Conclusion - Next steps for future proficiency testing	Masahiro Miyoshi/Dominic Anderson all SG Members
14:00 (CET)	Report of JETS 19/1 on matrix effect in Dark Air Cured tobacco - Study design - Results - Discussion - Next step	Shun Ueyama
14:30 (CET)	Other AA Sub-Group activities - AOB	Masahiro Miyoshi
14:35 (CET)	ACAC update	Marco Prat
14:50 (CET)	Residue Field Trial Sub-Group update	Naoki Watanabe
14:55 (CET)	Next meeting venue and closing	Masahiro Miyoshi

AA SG – Next Activities

- **Proficiency testing**
  - Study design of 2021 testing to be planned with Fapas
- **Joint Experiment Technical Study**
  - Next step: matrix effect from ORT or DFC
- **Other activities**
  - Revision of Technical Notes
  - Residue definition
  - Method development for new GRL candidates
  - etc.

Acknowledgment

Proficiency testing 2020 (FAPAS FT0116)

- Dominic Anderson (Fera)
- Marco Prat (JTI)
- Torbjörn Synnerdahl (Eurofins Sweden)
- CORESTA RFT SG
- Participating laboratories

JETS 19/1 on Matrix Effects from DAC tobacco

- JT Leaf Tobacco Research Center
- Marco Prat (JTI)
- Participating laboratories

Thank you for attention!