



# **Proficiency Testing for Detection of Transgenic Tobacco Sub-Group**

**Izmir - 2015**



# Objectives

- ❖ The objective of a proficiency test is to study routine procedures used in participating laboratories.
- ❖ The Tobacco Proficiency Testing Scheme is an independent assessment of the quality of data being produced by participating laboratories.



# CORESTA-FAPAS PT “GeM ST02” 2014

- ❖ Each participant received three tobacco test materials as well as positive and negative control materials to be analysed for 35S promoter CaMV (*p35S*) and nopaline synthase terminator (*tnos*).
- ❖ 12 participants did qualitative detections.
- ❖ 5 participants returned quantitative results.
- ❖ Issue identified
  - Contamination occurred during the sample processing (lamina preparation or grinding). Traces were detected in the mother batch.
  - The negative control was replaced in 2015 by a Burley Tobacco provided by ITG.



# CORESTA-FAPAS PT “GeM ST02”

## ❖ 11 participating laboratories from 10 countries

Laboratory	Country
Chinwong Food Co., Ltd	Thailand
DXN Pharmaceutical Sdn. Bhd.	Malaysia
Eurofins Scientific Analysis	France
Eurofins GeneScan GmbH	Germany
Genetic ID AG	USA
Guizhou Academy of Tobacco Science of CNTC	China
Japan Tobacco Inc. -Tochigi	Japan
KT&G Research Institute	Korea
Nong Shim Co., Ltd	Korea
Tobacco Research Board	Zimbabwe
UFAG Laboratorien AG	Switzerland

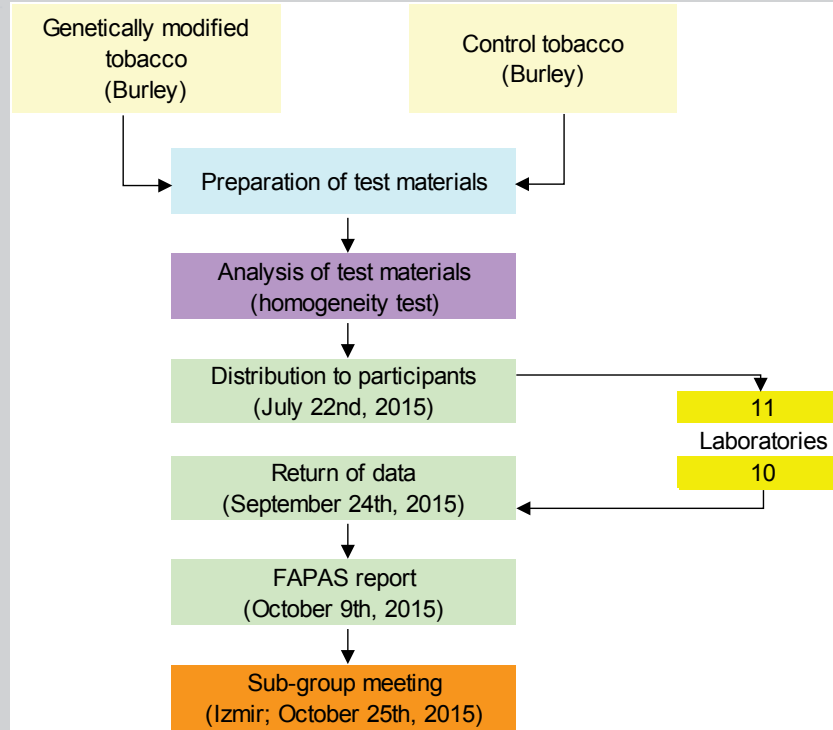


# CORESTA-FAPAS PT “GeM ST02”

## ❖ Test round contents

- 3 test materials distributed per this round.
- Participants requested to determine the presence of 35S promoter CaMV (*p35S*) and nopaline synthase terminator (*tNOS*) in the test materials.
- Participants invited to record qualitative and quantitative data.
- Electronic submission of the results and method information.
- Identity of specific laboratories is not listed.
- A |z-score| of less than or equal to 2 is considered satisfactory.

## ❖ Course of events



## ❖ Qualitative results

- Test Material GeM ST02A: Negative for *p35S* (89% consensus)  
Negative for *tNOS* (89% consensus)
- Test Material GeM ST02B: Positive for *p35S* (89% consensus)  
Positive for *tNOS* (89% consensus)
- Test Material GeM ST02C: Positive for *p35S* (78% consensus)  
Positive for *tNOS* (78% consensus)

## ❖ Quantitative results

Test material and analyte	Assigned value, $x_a$ %	Number of satisfactory scores: $ z  \leq 2$	Total number of scores	Satisfactory ( $ z  \leq 2$ ) %
GeM ST02B <i>p35S</i>	1.00	5	5	100
GeM ST02B <i>tNOS</i>	1.06	4	4	100
GeM ST02C <i>p35S</i>	5.14	5	5	100
GeM ST02C <i>tNOS</i>	5.28	4	4	100





# CORESTA-FAPAS PT “GeM ST02”

## ❖ Summary of outcome

- For qualitative test, two participants could not obtain the consensual results in all three test materials.
- For quantitative test, all submitted results for both targets in two positive test materials were evaluated as satisfactory (100%).



# CORESTA-FAPAS PT “GeM ST02”

## ❖ Issues

- Sample preparation and homogeneity test were delayed.
- Some members had a registration problem.
- Results were submitted by 10 participants (91%) before the closing date for this test.
- Eight laboratories who participated in the last test did not take part in this year’s test, although seven new ones joined in.



# The new Breeding Techniques, GMOs or not?

- ❖ In January 2015 (Scientific Commission, Chiang Mai), it was proposed to do an assessment of the new breeding techniques by ACAC with the support of the experts of the PTDTT Sub-Group.
- ❖ Presentation on new Breeding Techniques by the coordinator of the PTDTT Sub-Group during the ACAC meeting (June 2015, Strasbourg).



# New breeding techniques, GMOs or not?

- ❖ The status of the varieties created with the new breeding techniques is unclear in EU.
- ❖ An update of the EU 2001/18 is expected.
- ❖ There is no method of detection yet.
- ❖ Acceptance by public opinion?
- ❖ An assessment of the consequences related to the use of these techniques has to be done in relation with ACAC.



# Acknowledgements

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