



**Consultative Project in Thailand:
Developing Quality Infrastructure with an Emphasis on
Agricultural Products**

Canned Pineapple Stakeholder Workshop

WORKSHOP REPORT

Sofitel Centara Grand Hotel, Bangkok, Thailand

March 17th, 2009

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1. INTRODUCTION

The Consultative Project in Thailand: Developing Quality Infrastructure (QI) with an Emphasis on Agricultural Products has been facilitated and funded by the Physikalisch Technische Bundesanstalt, the National Metrology Institute of Germany (PTB). The aim of the project is to consolidate the Thai quality infrastructure, with the goal of creating a networked and nationally coordinated system as well as an efficient service provider for enterprises in selected areas of the agricultural sector. The project aims to assist in promoting a coordinated and internationally acknowledged overall system. In addition, the creation of a demand-oriented networked quality infrastructure, valid for the whole national economy is the key.

A second phase of the project, pending approval, will continue from 2009 to 2011 with activities aimed at enhancing the Quality Infrastructure in Thailand and focus on selected agro-industry areas. These will serve as a show-case for further dissemination to other industry sectors. The following workshop documentation concerns the value chain for the processed pineapple industry.

The approach addressed the specific priority needs of the processed pineapple value chain through improved QI services. Individual visits to canned pineapple stakeholders¹, which included tinplate companies, can manufacturers and a pineapple processing company, industry associations, and the MSTQ service providers were made to introduce the project and to discuss specific issues of the value chain and QI services. A subsequent workshop was organized to bring all many stakeholders together to discuss specific and practical solutions for QI issues along the value chain. ***The objective of the workshop was to develop a plan of action, addressing the specific needs of the canned pineapple value chain and the necessary QI services to enhance the Quality Infrastructure in Thailand.*** The workshop followed-up on previous activities of the first project phase and paves the way for future activities.

34 representatives of the canned pineapple value chain participated²; MSTQ service providers, GTZ and PTB. The program lasted from 10.00 – 16.30 hrs. as illustrated below.

¹ List of visited canned pineapple stakeholders is in ANNEX 2.

² List of participants is in ANNEX 1.

Workshop Programme	
Time	Topic
09.30 – 10.00	Registration
10.00 – 10.10	Opening Remark <i>Ms. Rachada Isarasenarak, Director, Office of the National Accreditation Council</i>
10.10 – 10.20	Introduction to the Workshop <i>Moderator</i>
10.20 – 11.00	Value Chain Approach to Quality Infrastructure: PTB Project on Quality Infrastructure, Thailand <i>Ms. Andrea Ulbrich, Project Coordinator, PTB</i> Strategies Concerning the Processed Pineapple Value Chain <i>Dr. Clemens Sanetra, Consultant, PTB</i> Questions - Answers
11.00 – 12.00	Addressing the Needs of the Processed Pineapple Value Chain and the QI Services: Instruction and Preliminary Discussion in Plenary <i>Moderator</i> Discussion in Sub-Groups <i>Sub-Group Moderators</i>
12.00 – 13.00	Lunch
13.00 – 15.00	Addressing the Needs of the Processed Pineapple Value Chain and the QI Services: Discussion in Sub-Groups (cont.)
15.00 – 15.15	Break
15.15 – 16.00	Presentation of Sub-Group Results in Plenary
16.00 – 16.30	Conclusion and Next Steps <i>Moderator</i>

2. SUMMARY OF PRESENTATIONS AND DISCUSSIONS

2.1 OPENING REMARK AND PRESENTATIONS

The workshop was opened by Ms. Rachada Isarasenarak, Director of the Office of the National Accreditation Council (NAC) of Thailand. Ms. Rachada focused her remark on the National Standardization Act B.E. 2551, which covers standards development, conformity assessment, and metrology. She highlighted the need for the new Act as Thailand has 55 Acts relevant to standardization, responsible by different organizations. This has caused confusion among those who have to comply with such Acts. There is a need for Thailand to streamline and consolidate the national standardization system, at the same time to monitor the conformity assessment system to be internationally recognized.

Ms. Rachada's remark was followed by Ms. Andrea Ulbrich's presentation³ (PTB Project Coordinator), concerning the PTB project on Quality Infrastructure in Thailand. Ms. Ulbrich provided a brief introduction of PTB and its International Technical Cooperation. She presented the framework of Thailand QI project, what has been achieved and what the focuses will be in the proposed second phase of the project (2009 – 2011).

Dr. Clemens Sanetra⁴, PTB consultant, provided technical explanations on the concept of Quality Infrastructure / MSTQ, how it works in the canned pineapple value chain, and the proposed scope for the following discussion.

³ PTB Project on Quality Infrastructure, Thailand by Ms. Andrea Ulbrich is in ANNEX 3.

⁴ Strategies Concerning the Processed Pineapple Value Chain by Dr. Clemens Sanetra is in ANNEX 4.

2.2 DISCUSSION IN PLENARY AND IN SUB-GROUPS

In plenary, the participants decided the group should be divided into 2 sub-groups to discuss issues of the canned pineapple value chain. The first sub-group was to focus on issues of the can-making value chain, which included tinsplate manufacturing. While the second sub-group was to focus on the pineapple processing value chain, which included pineapple supply. The members of both sub-groups consisted of representatives from tinsplate company, can making company, pineapple processor, industry associations, and service providers / regulator. GTZ and PTB representatives would be in the sub-groups as resource persons.

Ms. Kalayanee Chuncherd, workshop moderator, gave instructions on the sub-groups' tasks, work steps and method. The task in sub-groups was to agree on:

- The first 5 priority technical and practical issues, which are realistic to be overcome by the value chain stakeholders assisted by the QI project.
- A plan of action, identifying what to do, how to do it, by whom and by when.

The discussion steps and method are described below.

Discussion Steps and Method in Sub-Groups

<u>Steps</u>	<u>Method</u>
<ul style="list-style-type: none"> • Self introduction • Identification of a facilitator and a presenter • Priority problems <ul style="list-style-type: none"> • List main problems in pineapple value chain in note paper • Prioritize them • Write the most important one <u>on card</u> and put it on board • Discuss and agree-upon the top 5 priority problems which are realistic to be solved by the stakeholders assisted by the QI Project • A plan of action <ul style="list-style-type: none"> • Discuss practical actions and how to realize them • Identify responsible organization and/ or person • Estimate time frame 	<ul style="list-style-type: none"> • Active participation • Write ideas and conclusion on cards <ul style="list-style-type: none"> • One idea on one card • Write readably with a marker • Speak in English / Thai but please write in English

2.2.1 SUB-GROUP 1 RESULTS OF DISCUSSION

PRIORITY ISSUES

The top priority issues identified by the sub-group, which focused on can making were:

- Inside and outside can corrosion
- Chemical contamination
- Pesticide residues

➔ Inside and Outside Can Corrosion

The sub-group discussed in details the causes of can corrosion, both inside and outside the can. The can corrosion involves 4 main stages of the value chain: pineapple plantation, tinsplate making, can making, and pineapple processing. Concerning corrosion inside a can, there are many causes which have closed relation with can corrosion as follows.

Causes from pineapple and its processing

- Nitrate (NO₃) in fresh pineapple, particularly when the vacuum in packing process is too low (too high O₂), was suspected to accelerate can corrosion. However, the suspicion has not been confirmed due to a lack of technique for testing decomposed NO₃ after the canned food products are kept for a period of time.
- A particular technique (syrupeur technique) for de-aeration during packing process may also cause can corrosion.

Causes from tinsplate and can making

- Tin coating distribution is not consistent. There are 2 Thai standards concerning canned food. One is TIS 16 which defines standards for tinsplate, another one is TIS 90 which defines standards for metal cans for foods and drinks. The definitions of the nominal coating weights of the 2 standards are not the same. In addition, the standards only define nominal coating weights (g/m²) but do not control distribution of tin coating.
- Can formation process may cause scratches on tin, which leads to corrosion.



- There was a technical comment claiming that the tin crystal/grain size may cause corrosion; however, the participating tinsplate company has not seen direct link of the tin crystal/grain size to the level of corrosion. The fact that the tinsplate has been produced for multipurpose uses including canned food. The control of the tin crystal/grain size (if any) should be focused on the canned food rather than the tinsplate.

Whereas, the corrosion outside the can also shares the causes from tinsplate and can processing in addition to the following causes.

- Can design e.g. beading can etc. increases chances for can corrosion at beading areas.
- Quality of cooling water e.g. pH, conductivity, chlorine, etc. and improper storage e.g. high humidity etc. also accelerate can corrosion.

➔ Chemical Contamination

There are new requirements from EU market to control the OPP (Ortho-phenyl phenol) content, BPA (Bisphenol A) free and ITX (Isopropylthioxanthone) free. Thailand has no internationally recognized testing laboratory for OPP content, BPA and ITX.

➔ Pesticide Residues

Due to time limitation, the topic was not discussed in this session.

➔ Other Issues

The industry does not know where to access information concerning updated requirements of the importing countries and does not have information regarding which laboratory in Thailand is specialized in which field of testing.

In addition to the problems discussed above, the members of group 1 also discussed the issue of heavy metal contamination. However, the group concluded that the heavy metal contamination in canned pineapple has been under good control and is not a current priority problem of the industry. Normally, a canned pineapple manufacturer tests 5 types of heavy metal residues, which are Cadmium, Lead, Arsenic, Chromium (Cr ⁶⁺), and Mercury. The tested results so far have been accepted by the importing countries. Nonetheless, the Thai Standards have not yet controlled Cadmium content in food, while the international standards do.

IMPLEMENTATION PLAN: SUB-GROUP 1

Actions	Responsibility	Timeframe
1. Submit a written request to TISI (Bureau 1) to revise/harmonize the Thai tinplate and metal cans for foods and drinks standards	Thai Metal Packaging Association	May 2009
2. Revise and harmonize the Thai standard to new production techniques and international requirements, which may include: <ul style="list-style-type: none"> • Tin coating distribution consistency • Tin crystal/grain size for canned food • Maximum head space in can fruit • Water property for cooling process • Validation of testing methods 	TISI ⁵ /PTB ⁶	May 2010
3. Develop testing methods for OPP and decomposed NO ₃ (to confirm its cause of corrosion) in canned fruit products. <ul style="list-style-type: none"> • Thai Food Processors' Association shares the shelf life study of canned pineapple with the workshop participants⁷ (through Khun Wannipa/GTZ). • Assess whether the activity is needed. 	DSS ⁸ /TISTR ⁹ /PTB	To be defined

⁵ TISI = The Thai Industrial Standards Institute

⁶ PTB = The National Metrology Institute, Germany

⁷ In plenary, it was commented that there is no need to test nitrate in canned pineapple, as it decomposes during processing and storage. A way to control can corrosion is to control the nitrate content

4. Develop a best practice guide for canned pineapple value chain.	Thai Food Processors' Association	To be defined
5. Establish an information center on international market requirements, specialized testing laboratories, testing methods, etc.	ACFS ¹⁰	To be defined
6. Have a Thai representative in an international trade platform to proactively negotiate the international standards/requirements. <i>The action might seem too far but the participants saw the importance of addressing the issue proactively.</i>	To be defined	To be defined

2.2.2 SUB-GROUP 2 RESULTS OF DISCUSSION

PRIORITY ISSUES

The priority issues discussed in sub-group 2 were:

- Pesticide residues and heavy metal contamination in fruits
- Testing laboratories
- The Thai Industrial Standards (TIS)

➡ Pesticide Residues and Heavy Metal Contamination in Fruits



Pesticide and heavy metal residues in fresh fruits are found to be a result of pesticide and fertilizer use. This poses a problem as importing countries have strict controls regarding pesticide residue and heavy metal contamination in canned foods. Nonetheless, they are not addressed in relevant Thai Industrial Standards (TISI standards). Nitrate levels in fresh pineapple for processing must also be better controlled to maintain the good quality of the canned pineapple product. Research has shown that the application of fertilizers and pesticides is an important factor affecting nitrate levels. The improper application of fertilizers and pesticides impacts stakeholders further down the value chain. This should also be clear at farm level and it was suggested that improved GAP should be implemented. In general, the problem of high nitrate levels in pineapples is better and more

efficiently controlled at the beginning of the value-chain than at the end. (*see findings of Sub-Group 1*)

in fresh pineapples. The tinplate and can-making company realized the fact of nitrate decomposition; however, they still want to find ways to test their hypothesis of relation between nitrate and can corrosion.

⁸ DSS = The Department of Science Service

⁹ TISTR = Thailand Institute of Scientific and Technological Research

¹⁰ ACFS = the National Bureau of Agricultural Commodity and Food Standards

➡ Testing Laboratories

The Thai testing laboratories have limited capacities to detect very low limit values required by international customers. Test results are also not accepted by the customers, however, testing in international laboratories can be time consuming and expensive e.g. an average of 30,000 THB per sample in an EU laboratory.

Available testing laboratories for pesticide residues:

- The Department of Medical Science (DMSc)
- The Department of Agriculture (DOA)
- The National Food Institute (NFI)
- The Central Laboratory (Thailand) Co., Ltd.

Whereas, the nutrition analysis can be carried out by the Nutrition Research Institute; however, it takes some time to get the results.

➡ The Thai Industrial Standards (TIS)

Two government organizations are responsible for standard development in Thailand: the Thai Industrial Standards Institute (TISI) and the National Bureau of Agricultural Commodity and Food Standards (ACFS). The Thai industrial standards for canned food developed by TISI are not in line with the international standards/requirements e.g. CODEX standard, which indicates the maximum tin content in foods at 250 ppm and the EU requirement, which indicates the maximum tin content at 200 ppm. Whereas, the ACFS GAP standard for fresh pineapples is available, the standard for processed pineapples has not been completed. It was also questioned why there has to be a separate standard for processed pineapples. A second part to the existing standard could suffice.

IMPLEMENTATION PLAN: SUB-GROUP 2

Issues	Actions	Responsibility	Timeframe
1. <u>Nitrate</u> : Control of NO ₃ content in fresh pineapple from 25 ppm to not more than 10 ppm.	<ul style="list-style-type: none"> • Find out more about fresh pineapple standard for processing • Contact Pineapple Growers Association to discuss guidelines of fresh pineapple for processing Bring issues into technical committee for standard setting 	TFPA ¹¹ + TPIA ¹²	April 1 st 2009
2. <u>Heavy metals</u> : Import control of pesticides and fertilizers.	<ul style="list-style-type: none"> • Include heavy metal requirements in the national fertilizer standard • Check Cd content in canned pineapple (EU standard < 0.5 ppm) • Follow-up DoA¹³ regarding import control of pesticides and 	TFPA + PTB	

¹¹ TFPA = Thai Food Processors' Association

¹² TPIA = Thai Pineapple Industry Association

	<ul style="list-style-type: none"> fertilizers Contact Pineapple Growers Association to discuss issues concerning fertilizers / Cd 		
3 Thai laboratories cannot test low detection limit.	<ul style="list-style-type: none"> Further develop a list of pesticide control in Thailand Contact Thai Fresh Fruit and Vegetable Association regarding a survey of testing services used for pesticide residues in Thailand Survey TFPA members regarding testing services needed for pesticide residues 	DoA	May 2009
4 Thai laboratories cannot test all substances. List of pesticide control in Thailand (70 items) is much lower than the one of EU and Japan (400 – 1,000 items).		NFI ¹⁴ + PTB TFPA	
5 TISI standards are not updated.	<ul style="list-style-type: none"> Submit a letter to TISI to request an update of the Thai standards Send work plan to Director General for approval 	TFPA TISI Bureau 3	By 2010

2.2.3 CONCLUSION OF THE DISCUSSION

Although both groups were concerned with the same canned pineapple value chain, they worked with different foci: can-making focus and pineapple-processing focus. Some problems in the finished product (can corrosion, pesticide and heavy metal residues, etc.) are related to quality issues in the fresh pineapple and are better dealt with at the source. This may prove more efficient than finding solutions at the end of the value chain. Hence, it is of benefit for the can manufactures and the pineapple processors to work closely with the pineapple growers to control the limits of certain chemicals resulting from fertilizer use which in turn affect the quality of the canned pineapple. Thus it can be ensured that the end product better meets the customers' requirements.

Especially the example of nitrate levels in pineapples made the benefits of stakeholder cooperation along the entire value-chain clear. Whereas the sub-group concerned with can-making discussed how to prevent corrosion in cans through mechanical means, the other sub-group shared research results that revealed the root cause of elevated nitrate levels and was busy discussing how to eliminate the problem at the source. Sharing the information of the whole value chain allows the problem to be solved from its source.

¹³ DoA = Department of Agriculture

¹⁴ NFI = National Food Institute

3. NEXT STEPS

Next steps were agreed upon following the discussion in sub-groups and presentations of their results. Several main issues were identified, which should be considered for discussion in the future, as described below.

A need was expressed for a 'one-stop-service for canned food testing and consultancy'. Through the discussion, the participants realized that it would be very rare for one organization (regardless public or private sector) to provide services covering all testing areas required by the customers. A possibility was to **have one unit assume a coordinating role** in delivering canned food testing services and a technical consultancy service regarding requirements of different importing countries, specialized testing laboratories, recognized testing methods, etc.

Dr. Sanetra, PTB consultant, commented that in order to get something out of any cooperation each side must be willing to also contribute something. He recommended that **the key stakeholders of the canned pineapple value chain (both public and private organizations) could form a working group to discuss and manage the identified issues, supported by the technical assistance from PTB**. Setting up a working group is process-oriented activity, which needs to be further discussed among the stakeholders at a later stage.

To keep the momentum of the workshop, the participants should communicate the results of the workshop and planned activities to their management. Through the follow-up activities there is a need for regular communication between the stakeholders. The specific activities decided on in each sub-group were designed to be realistic and "doable" so that some results can be reported on in a next meeting, potentially in June, 2009. Especially bringing more stakeholders on board e.g. pineapple growers, etc. will require action by those who were present on March 17th.

Activities	Responsibility	Timeframe
1. Prepare the workshop report and distribute to the workshop participants	Kalayanee and Wannipa/GTZ	By 2 weeks after the workshop
2. Share results of the workshop and its potentials with management	Workshop participants	Before the next meeting
3. Sub-Group I to complete the activities according to Implementation Plan II as jointly decided upon in the plenum.	Sub-Group I participants	Before the next meeting
4. Sub-Group II to complete the activities according to Implementation Plan II as jointly decided upon in the plenum.	Sub-Group II participants	Before the next meeting
5. Carry out the follow-up discussions	PTB + GTZ	Before the next

		meeting
6. Organize a meeting to follow-up the implementation plans	PTB	June 2009

4. EVALUATION



The participants evaluated the workshop before leaving. The results of the evaluation are summarized below.

Evaluation Topic	Very Satisfied	Satisfied	Neutral	Dissatisfied
The discussion met my expectation	7	14	-	-
The topic is relevant to my work	10	11	-	-
The group discussion was a good method to deal with issues	10	10	-	-
I will attend the next meeting	6	15	-	-

ANNEX 1

List of Participants

Canned Pineapple Stakeholder Workshop - MSTQ : March 17th, 2009

List of Participants

Government Organization		Name of Participants	Position	Telephone	Fax	Email
1.	Office of the Thai National Accreditation Council (ONAC)	Khun Rachada Isarasenarak	Director Office of ONAC	02 202 3418	02 354 3133	rachada@tisi.go.th
2.	Thai Industry Standard Institute (TISI), Ministry of Industry	Khun Chaibhuk Bhutrachinda	Standard Officer - Standard Bureau 1	02 202 3394	02 354 3044	chbhbh@yahoo.com
		Khun Niratchara Temkusolwong	Standard Officer - Standard Bureau 3	02 202 3356	02 354 3161	niratcha@tisi.go.th
3.	National Bureau of Agricultural Commodity and Food Standard (ACFS), Ministry of Agricultural and Cooperatives	Khun Yupa Laojindaphan	Standards Officer	02 561 2277	02561 3357	yupa@acfs.go.th
4.	Food and Drug Administration (FDA), Ministry of Public Health	Khun Worapoj Ritdee	Food Technologist	02 590 7185	02 591 8476	worapoj@fda.moph.go.th
		Khun Jarunee Intrasook	Food Technologist	02 590 7179	02 590 7177	jar204J@fda.moph.go.th
5.	Department of Science Service (DSS), Ministry of Science and Technology	Khun Sumalee Tangpitayakul	Head of Food Packaging Laboratory	02 201 7189-91	02 201 7181	sumalee@dss.go.th
		Khun Nara Pataranavick	Chief Planning & International Technical Cooperation	02 201 7053	02 201 7050	nara@dss.go.th
6	Thailand Institute of Scientific and Technological Research (TISTR), Ministry of Science and Technology	Khun Wirach Chantra	Acting Director of Material Property Analysis and Development Center	02 577 9269	02 577 4160-1	wirachchantra@yahoo.com
		Khun Luxamee Plangsangmas	Director Industrial Metrology & Testing Centre	02 579 1121-30	02 579 9541	luxamee@tistr.or.th
		Khun Jittra Wannawichitra	Acting Director, Officer of Certification Body	02 579 1121-30	02 579 9541	jittra@tistr.or.th
		Khun Paramee Pengpreecha	Acting Director, Analytical Chemistry Laboratory	02 323 1672-80	02 323 9165	paramee@tistr.or.th
7.	National Food Institute (NFI)	Khun Napaporn Thititananukij	Senior Specialist	02 886 8088	02 883 5022	napaporn@nfi.or.th

Private Organization						
8	Siam Tinsplate Manufacturing Co., Ltd.	Khun Somkiat Chuprawat	Department Manager	038 683 231-6	038 683 987	somkiatc@siamtinplate.co.th
		Khun Piyawat Prajakkamol	Section Manager	038 683 231-6	038 683 987	piyawatp@siamtinplate.co.th
		Khun Pipat Patamarajvichian	Supervisor	038 683 231-6	038 683 987	pipatp@siamtinplate.co.th
9.	Thai Tinsplate Co., Ltd.	Khun Jirayu Santiwattana	Technical 1 Department Manager	02 754 4150-9 Ext 601	02 394 6175	jirayu@thaitinplate.co.th
		Khun Nopparat Areeprasert	Technical 2 Department Manager	02 754 4150-9 Ext 604	02 394 6175	nopparat@thaitinplate.co.th
10.	Standard Can Co., Ltd.	Khun Sakone Seangpreecha	Technical & QA Director	02 312 2177	02 312 2184	sakone@standardcan.com
		Khun Weerana Simarurat	Assistant Manager-R&D	02 312 2177	02 312 2184	weerana@standardcan.com
11.	Poonsub Can Co., Ltd.	Khun Siriphong Muangsiri	General Manager	034 822 723-5	034 822 181	srp@poonsubcan.co.th
		Khun Nanthavan Hongsrijinda	Quality Manager	034 822 723-5	034 822 181	nanthavan@poonsubcan.co.th
12.	Siam Food Products Public Co., Ltd.	Khun Aphisith Su	QA Manager	038 291 388	038 291 622	aphisith.s@siamfood.co.th
13.	Thai Pineapple Canning Industry Corporation Ltd.	Khun Ghanyapak Tantipipatpong	President	02 665 9333	02 665 9353	jinny@tpc-canning.com
Association						
14.	Thai Food Processors' Association	Khun Chaiwat Intrachatorn	Trade Manager	02 261 2684-6	02 261 2996-7	trademanager@thaifood.org
		Khun Supatra Rewpairoj	Trade Officer	02 261 2684	02 261 2996-7	thaifood@thaifood.org , foreigntrade@thaifood.org
15.	Thai Metal Packaging Association	Khun Viboon Trakulpoonsub	Chairman	034 822 723-5	034 822 181	viboon@poonsubcan.co.th
16.	Thai Pineapple Industry Association	Khun Pipaht Sukitpraneenij	Vice President	02 350 2691	02 350 2691	info@thaipineapple.org
		Khun Nuchjaree Ruplex	Manager	02 350 2691	02 350 2691	info@thaipineapple.org

Technical Cooperation Organization						
17.	GTZ	Mr. Jim Tomecko	Director - Business and Financial Services Component	02 712 0255, 02 381 8375	02 381 1054	james.tomecko@gtz.de
		Khun Phitcha Wanitphon	Deputy Director - Business and Financial Services Component	02 712 0255, 02 381 8375	02 381 1054	pwanitphon@yahoo.co.uk
		Khun Wannipa Wattanavaekin	Sector Manager	02 712 0255, 02 381 8375	02 381 1054	wannipa.wattanavaekin@gtz.de
18.	PTB	Ms. Andrea Ulbrich	Project Coordinator	+49 531 592 8226	+ 49 531 592 8225	andrea.ulbrich@ptb.de
		Mr. Clemens Sanetra	PTB Consultant	+49 532 138 3399	+49 532 138 3398	clemens@sanetra.com
19.	Moderator	Khun Kalayanee Chuncherd	Workshop Moderator/Training Consultant	02 467 2168		kalayanee.c@gmail.com

ANNEX 2

List of Visited Canned Pineapple Stakeholders

List of Visited Organizations

Government Organization		Name of Participants	Position
1.	Office of the Thai National Accreditation Council (NAC)	Khun Rachada Isarasenarak	Director Office of NAC
2.	Thai Industry Standard Institute (TISI), Ministry of Industry	Khun Nithasn Sirilarpyos	Director - Standard Bureau 3
		Khun Niratechara Temkusolwong	Standard Officer - Standard Bureau 3
		Khun Peamporn Boonsawang	Chief of Group 3 - Standard Bureau 3
		Khun Rumpaipan Nakasathit	Director - Standard Bureau 1
3.	National Bureau of Agricultural Commodity and Food Standard (ACFS), Ministry of Agricultural and Cooperatives	Khun Pisan Pongsapitch	Senior Standards Officer
4.	Food and Drug Administration (FDA), Ministry of Public Health		
5.	Department of Science Service (DSS), Ministry of Science and Technology	Khun Sumalee Tangpitayakul	Head of Food Packaging Laboratory
6.	Thailand Institute of Scientific and Technological Research (TISTR), Ministry of Science and Technology	Khun Wirach Chantra	Acting Director of Material Property Analysis and Development Center
		Dr. Luxsamee Plangsangmas	Director Industrial Metrology & Testing Centre
		Dr. Jittra Wannawichitra	Acting Director, Officer of Certification Body
		Dr. Paramee Pengpreecha	Acting Director, Analytical Chemistry Laboratory
7.	National Food Institute (NFI)	Khun Yuttasak Supasorn	President
		Khun Amorn Ngammongkolrat	Executive Vice President
		Khun Nitaya Pirapatrungsuriya	Director - Department of Laboratory Services
Private Organization			
8.	Siam Tinplate Manufacturing Co., Ltd.	Mr. Toshio Matsushita	Executive Vice President
		Mr. Kazuyaki Masuchi	Technical Advisor

		Khun Somkiat Chuprawat	Department Manager - Quality Control Department
		Khun Saowaluk Pupsucharaphan	Section Manager - Quality Control Department
		Khun Piyawat Prajakkamol	Technical Service Section Manager - Quality Control Department
		Khun Namon Pongsupot	Executive Secretary
9.	Thai Tinplate Co., Ltd.	Khun Jirayu Santiwattana	Technical 1 Department Manager
		Khun Nopparat Areeprasert	Technical 2 Department Manager
10.	Standard Can Co., Ltd.	Khun Sakone Seangpreecha	Technical & QA Director
		Khun Saowaluk Sangwan	Corporate Tinplate Director
		Khun Wuttikrai	Technical Manager
11.	Poonsub Can Co., Ltd.	Khun Viboon Trakulpoonsub	Managing Director
		Khun Rawat Jareanvimolruk	Technical & Service Department Manager
12.	Siam Food Products Public Co., Ltd.	Khun Vera Sirimunja	Vice President - Manufacturing
		Khun Nopadol Thongprajiad	Production Manager
		Khun Aphisith Sujittosakul	QA Manager
13.	Thai Pineapple Canning Industry Corporation Ltd.	Khun Ghanyapak Tantipipatpong	President
Association			
14.	Thai Food Processors' Association	Khun Ghanyapak Tantipipatpong	Advisor & VP & Chairman
		Khun Chaiwat Intrachatorn	Trade Manager
15.	Thai Metal Packaging Association	Khun Viboon Trakulpoonsub	Chairman
16.	Thai Pineapple Industry Association	Khun Nuchjaree Ruxlex	Manager

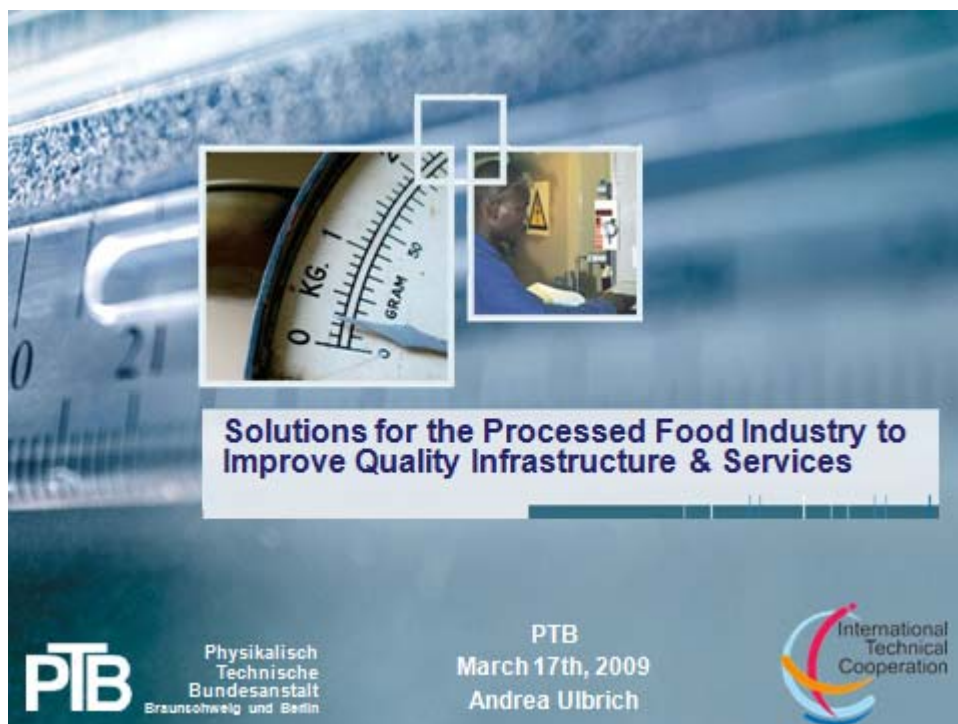
ANNEX 3

List of Relevant Standards to Canned Pineapple Products

1. **Hygienic practice for canned fruit and vegetable products**
(TIS 61-2517 (1974))
2. **Metal cans for foods and drinks**
(TIS 90-2530 (1987))
3. **Methods for microbiological examination of canned food**
(TIS 335 Part 1-2523 (1980))
4. **Canned pineapple** (TIS 51-2530 (1987))
Compulsory Standard (Effective Date 15 May 1988)
5. **Canned rambutan stuffed with pineapple**
(TIS 372-2541 (1998))
6. **Standard for Pineapples**, TACFS 4-2003
published in the Royal Gazette Volume 120, Special Section 145 d,
dated December 19, 2003
7. **Fructose syrup** (TIS 1170-2536 (1993))
8. **Pesticide Residues: Maximum Residue Limits**, TACFS 9002-2006
published in the Royal Gazette Volume 125, Special Section 139 d,
dated August 16, 2006

ANNEX 4

PTB Project on Quality Infrastructure, Thailand by Ms. Andrea Ulbrich





National Metrology Institute (NMI) of Germany



One of the leading NMIs world-wide

The most important national provider of metrological services in Germany

PTB is a national authority under the auspices of the Federal Ministry of Economics and Technology

- Staff: 1400
- Annual budget: €130 million
- Locations: Braunschweig and Berlin
- Founded: 1887



International Technical Cooperation



For over 40 years, PTB - International Technical Cooperation - has been active worldwide in developing countries and countries in transition.



40 years of experience in technical cooperation

Project in Thailand 2006 - 2009

Consultative project in Thailand
developing quality infrastructure
with an emphasis on agricultural products

Strengthening trade capacities while consolidating
the Thai Quality Infrastructure (QI)

Enhancing food safety nationally, for Thai consumers,
and internationally

Enable Thailand to utilize advantages of globalization
and avoid disadvantages

METROLOGY

Metrology in Chemistry

- Proficiency Testing
 - Heavy Metals in seafood
 - Preservatives in processed foods
- Development of Reference Material
- Traceability of chemical measurements

- Industrial Associations
- NIMT
- Metrology in Chemistry Network
 - TISTR, DMSc, DSS, etc

Project Activities

STANDARDS

- Support to Thai National Working Group on Food Safety
- Knowledge Transfer of Global Gap Standards
- Support to develop Thai Retailer Standards
- Elaboration of National Interpretation Guidelines
- Development of ThaiGAP & support to Benchmarking process

Thai Chamber of Commerce Certification Bodies Universities Thai GAP	Government Foodplus Thai Retailer Association
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Project Activities

TESTING

- Improving Border Inspection for imported produce
- Study on Value Chain Analysis
- Food Safety testing

DMSc	DSS
FDA	NFI
TISTR	

Project Activities

QUALITY MANAGEMENT

- Training of Trainers and Auditors/Inspectors
- Training to qualify as Food Plus approved Certifying Body
- Consultation to Certification Bodies
- Consultation to Accreditation Bodies

Kasetsart University
PT-Working Group, NIMT
MASCi

Project in Thailand 2006 - 2009

Working with Government and Industry

Phase I → focus on research and fact finding

Phase II (2009-2011) to focus on:

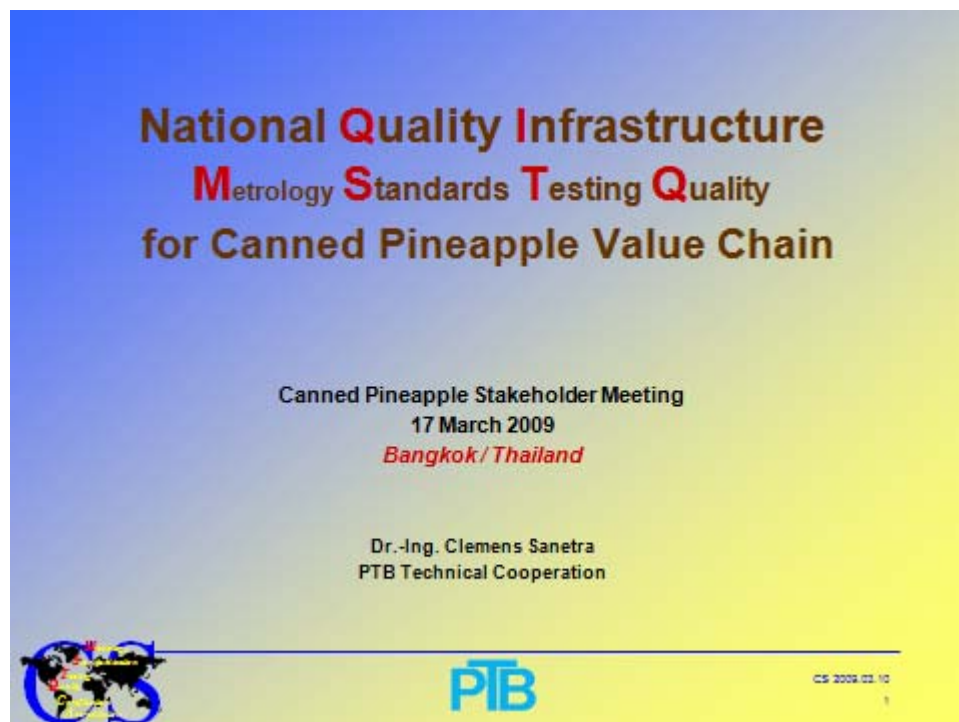
→ Activities along selected value chains (VC) to address specific priorities of industry
(beginning with processed pineapple VC as a show case)

→ Issues of Food Safety

ANNEX 5

Strategies Concerning the Processed Pineapple Value Chain

by Dr. Clemens Sanetra



Technical Quality Infrastructure

Sandardization = Definition of properties, dimensions, tolerances, etc.

Metrology = Guarantee of exact and reliable measurements

Testing = Analysis of properties, ingredients, characteristics, etc.

Quality Management = Reliable application of quality standards

↳ **C**ertification = Conformity with requirements defined in standards

↳ **A**ccreditation = Recognition of **technical competence**

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National Quality System

Pineapple value chain

ISO 9000, ISO 14000, HACCP, etc.

Product Certification

National standards
International standards

Testing, Analysis
Investigation

Calibration of Equipment
Reference Materials

Product with Certificate

National QI System

International QI System

IAF, ILAC, PAC, APLAC

ISO CODEX

Intercomparisons
Proficiency tests

BIPM
APMP

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