APEC FSCF PTIN Laboratory Competency Strengthening Initiative: Building Comprehensive Laboratory Capacity

Nuri Gras
Executive Secretary
Food Safety and Quality Agency (ACHIPIA)
APEC Project Responsible

Javiera Cornejo
APEC Project Coordinator

APEC-REGIONAL WORKSHOP
Dec 12-13th, 2013
Washington DC.
ACHIPIA’s mission

To advise the President of Chile in food safety matters and to coordinate the activities of all the public services related to food safety.

ACHIPIA’s vision

To become an integrative organism with a global and preventive focus of food processes that coordinates the National Food Safety System with effective response tools and scientific based information considering Chile’s real needs through the establishment of a strong network among all stakeholders related to food safety (public services, industry, academy and consumers).
National Food Control System

Ministry of Agriculture

ACHIPIA
Coordination, articulation and Tracking.

SAG
- Livestock, fruits and vegetables products target market compliance.

Ministry of Economy

SERNAPESCA
- Fish and Fishery Products target market compliance

SEREMIS
- Domestic consumption
- Domestic Production
- Imports control
Unique accreditation system through the ISO 17025:2005

Integrated System of Food Laboratories

- Pesticides
- Microbiological Hazards
- HACCP
- Dioxins
- Red Tide

Codex Alimentarius
ACHIPIA is the Codex Alimentarius’ Contact Point and Secretariat.

Scientific Network
It generates support capabilities, supports the interaction among experts and distributes information regarding food safety.

Food Alert Network
It integrates information about food safety events.

Regional Advisoty Commissions for Food Safety And Quality, CARs
Improvement of regional coordination, communication and inter-ministry work.

Capacity Building: development of capacities that will support our future Risk Assessment Unit for Food Safety.
Integrated System of Food Laboratories
Integrated System of Food Laboratories

General Objective: To integrate and coordinate the three existing laboratory networks in Chile. Unique accreditation system through the ISO 17025:2005. Harmonization of the results recognized among Public Services.
National Official Laboratories Scheme

Public Services

SAG

- 4 Public
- 3 University
- 11 Private

Total number of Laboratories (per service)

- 18

Total number of Laboratories (National)

- 70*

SERNAPERCA

- 0 Public
- 8 University
- 24 Private

Total number of Laboratories (National)

- 32

MINSAL

- 24 Public
- 8 University
- 7 Private

Total number of Laboratories (National)

- 39

*: The total number is corrected with the laboratories that are recognized by one or more Public Services.
Working group

SILÁ
Sistema Integrado de Laboratorios de Alimentos
SILA’s Laboratory distribution by analytical scope

**Distribution by work area**

<table>
<thead>
<tr>
<th></th>
<th>Chemistry</th>
<th>Microbiology</th>
<th>Pesticides</th>
<th>Dioxins</th>
<th>Phytoplankton</th>
<th>Marine Biotoxins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>13</td>
<td>22</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Academic</td>
<td>5</td>
<td>6</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Private</td>
<td>21</td>
<td>17</td>
<td>11</td>
<td>2</td>
<td>2</td>
<td>0</td>
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<tr>
<td>Total</td>
<td><strong>39</strong></td>
<td><strong>45</strong></td>
<td><strong>14</strong></td>
<td><strong>5</strong></td>
<td><strong>3</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>
Accreditation status of SILA’s laboratories

Accreditation

<table>
<thead>
<tr>
<th>Accreditation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Accreditated</td>
<td>42</td>
</tr>
<tr>
<td>Non Accreditated</td>
<td>28</td>
</tr>
<tr>
<td>Total</td>
<td>70</td>
</tr>
</tbody>
</table>
Accreditation by type of laboratory

<table>
<thead>
<tr>
<th></th>
<th>Accredited</th>
<th>Non Accreditated</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic</strong></td>
<td>9</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td><strong>Private</strong></td>
<td>31</td>
<td>1</td>
<td>32</td>
</tr>
<tr>
<td><strong>Public</strong></td>
<td>2</td>
<td>26</td>
<td>28</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>42</td>
<td>28</td>
<td>70</td>
</tr>
</tbody>
</table>
¿Estás buscando un Laboratorio? éste es tu sitio

Usuario *
Contraseña *
Entrar
Si aún no estás registrado, hazlo Aquí

Noticias
25 de Enero de 2013
Inauguran Laboratorio LADAB en UACH Puerto Montt
El Laboratorio de Análisis y Desarrollo de Alimentos Balanceados prestará un importante apoyo al des

18 de Enero de 2013
Director de RIKILT, Instituto de Inocuidad Alimentaria y Centro de Investigación...
PROJECT PLANNING MISSION

Preliminary agenda for the visit of the APEC expert team.
APEC mission to Chile Agenda

- **APEC Experts team**
  - Palmer Orlandi, FDA.
  - Emilio Esteban, FSIS.
  - Janie Dubois, JIFSAN.
  - Melinda Hayman, Grocery Manufacturers Association (GMA).

- **Chilean counterpart:**
  - ACHIPIA.
  - Nuri Gras
  - Javiera Cornejo.
  - Constanza Vergara.

- **Trip Description:**
  - APEC expert team met with Chilean laboratory expert counterparts. Representation from regional government agencies responsible for food safety laboratories, as well as stakeholders from industry and academia. The team made presentations on the initiative to each sector, identify priority food safety laboratory issues, and develop a pilot project workplan in cooperation with Chilean experts.
PROGRAM

- **Monday, June 17.**
  11.00 -13.00: Introductory meeting of Team APEC – Laboratory work group.
  14.30 – 18.00: Meeting with Academia.

- **Tuesday, June 18.**
  08.00 – 11.00: Breakfast with Industry
  11.00 – 13.00: ISP laboratories visit.
  14.30 – 16.30: FARMAVET laboratories visit, Universidad de Chile.

- **Wednesday, June 19.**
  09.00 – 11.00: SAG lo Aguirre laboratories visit.
  14.00 – 18.00: Development of the Work Plan with the working group.
Working group meeting with expert mission

Priority issues

- Microbiology: Validation and Verification.
- Veterinary drug residues: Multi-residue method.
- Laboratory accreditation (Public Health network).
- Suppliers accreditation.
- Proficiency testing.
Industry meeting with expert mission

Priority issues

- Multidetection methods for veterinary drugs.
- Sero typification.
- Microbiology: Campylobacter and Salmonella.
- Multidetection methods for mycotoxins (HPLC and LC MS/MS).
The Veterinary Sciences Faculty, Universidad de Chile, showed interest in becoming part of this project.

Multidetection methods for veterinary drugs.
Public laboratories visit (SILA): SAG, ISP, FARMAVET (SERNAPESCA)
Identified prioritary issues and activities to be done

- Coordinate the interpretation of the requirements to select and use VALIDATED methods (by AOAC/AFNOR or other gov) in microbiology official labs and authorized control labs.
  - Webinars on the application of validated methods.

- Hands-on Laboratory Training
  - E. coli non-0157:H7 STEC, campylobacter and Salmonella hands-on training.
  - Multi-residue methods for veterinary drug residues hands-on training.
  - In-Lab Training on viruses and bacteria in shellfish (hands-on training).
    (Shut down).

- Meet PT needs in Chile: Through identifying resources and enabling ISP to be a PT coordinator for the country in pesticides, vet drugs and microbiology.
  - Webinars on terminology and resources.
Webinars and other activities done for the project: "APEC FSCF PTIN Laboratory Competency Strengthening Initiative: Building Comprehensive Laboratory Capacity".

<table>
<thead>
<tr>
<th>Name of the activity</th>
<th>Date</th>
<th>Person in charge</th>
<th>Company/Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>DuPont BAX® System for pathogen detection for the Food Industry and service laboratories.</td>
<td>04/09/2013</td>
<td>Viviana Fino</td>
<td>Dupont</td>
</tr>
<tr>
<td>Validated systems for Salmonella detection: 3M´s Molecular detection system and Petrifilm plates.</td>
<td>13/09/2013</td>
<td>Constanza Quiros</td>
<td>3M</td>
</tr>
<tr>
<td>Biocontrol´s Salmonella and E. coli detection system.</td>
<td>24/09/2013</td>
<td>Luis da Costa</td>
<td>Biocontrol</td>
</tr>
<tr>
<td>Life Technologies´s detection methods for Salmonella and E. coli.</td>
<td>24/09/2013</td>
<td>Goncalo Carvalho</td>
<td>Life Technology</td>
</tr>
<tr>
<td>Rapid Methods for Salmonella and E. coli</td>
<td>10/10/2013</td>
<td>Stan Bailey</td>
<td>BioMerieux</td>
</tr>
<tr>
<td>Webinar on validation and verification of laboratory methods.</td>
<td>07/11/2013</td>
<td>Constanza Quiros</td>
<td>3M</td>
</tr>
<tr>
<td>Web discussion: Verification and validation of analytical methodologies.</td>
<td>20/11/2013</td>
<td>Stan Bacler</td>
<td>Health Canada</td>
</tr>
</tbody>
</table>
More than 80 people connected
(Preliminary data of the survey)
Web Discussion Validation and Verification of analytical methodologies.

- 19 People from different Public Services attending in ACHIPIA
- 5 people connected from Regional Labs
Training course: “Veterinary drug residue determination in livestock and fish products”.

- Place: JIFSAN, University of Maryland, United States.
- Participant institutions: SAG, FARMAVET, ISP, Bioquality.
- Date: 16-25 September 2013.

Fellows:

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aldo Madalenno</td>
<td>SERNAPESCA (FARMAVET)</td>
</tr>
<tr>
<td>Claudia Zamora</td>
<td>SAG</td>
</tr>
<tr>
<td>Gabriela Rocco</td>
<td>ISP</td>
</tr>
<tr>
<td>Isabel Lobos</td>
<td>Bioquality</td>
</tr>
</tbody>
</table>
Training course: “Salmonella and Campylobacter identification methods in food”.

- Place: JIFSAN, University of Maryland, United States.
- Participant institutions: SAG, FARMAVET, ISP.
- Date: 7-11 October 2013.
- Fellows:

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denisse Canouet</td>
<td>SERNAPECSA</td>
</tr>
<tr>
<td>Irma Acevedo</td>
<td>SAG</td>
</tr>
<tr>
<td>Leonardo Farías</td>
<td>ISP</td>
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</tbody>
</table>
Pending activities

- In-lab-training viruses and bacteria in shellfish: Shut down

<table>
<thead>
<tr>
<th>Activity</th>
<th>Topic covered</th>
<th>Person in charge</th>
<th>Probable date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web conference</td>
<td>Vet drug residues</td>
<td>J. Dubois</td>
<td>To be determined</td>
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<tr>
<td>Web conference</td>
<td>Viruses bacteria in shellfish</td>
<td>Palmer Orlandi</td>
<td>To be determined</td>
</tr>
<tr>
<td>Online modules</td>
<td>Vet drug residues</td>
<td>Javiera Cornejo</td>
<td>To be determined</td>
</tr>
<tr>
<td>Webinar</td>
<td>Terminology and PT providers</td>
<td>Nuri Gras</td>
<td>To be determined</td>
</tr>
<tr>
<td>Webinar</td>
<td>USDA model of confidence building</td>
<td>Emilio Esteban</td>
<td>To be determined</td>
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Training course: “Veterinary drug residue determination in livestock and fish products”

- Objective:
  - To transfer the knowledge to other national laboratories through training on the multi-residue determination methodologies in veterinary drugs.

- Scope:
  - All laboratories under supervision of SAG, SERNAPESCA and ISP.

- Action Plan (2014)
  - Literature review (regulations, analytes to be considered).
  - Management and coordination of logistic support (LC-MSMS equipment and international expert).
  - Preliminary tests to check the correct functioning of the LC-MSMS unit.
  - Tune up of the methodology.
  - Presentations preparation and course support.
  - Realization of the course.
Expected results

- Official laboratories analysts trained on this technique.
- Analysis method adapted to Chile’s reality.
- Collaborative study for the validation of the method.
- Standardized procedure for the 3 government Services (ISP, SAG, SERNAPESCA).
Training course: “Salmonella and Campylobacter identification methods in food”.

SAG
Ministerio de Agricultura
Gobierno de Chile

Instituto de Salud Pública
Ministerio de Salud
Gobierno de Chile

Transferencia Know How

ACHIPIA
Ministerio de Agricultura
Gobierno de Chile

SERNAPESCA
Ministerio de Economía, Fomento y Turismo
Gobierno de Chile

SILA
Sistema Integrado de Laboratorios de Alimentos
Training course: “Salmonella and Campylobacter identification methods in food”.

Action Plan: SAG-SERNAPESCA-ISP

- **OBJECTIVE:**
  - To create a protocol for the verification of alternative qualitative microbiological methods that are internationally validated and standard microbiology methodologies.

- **SCOPE**
  - All laboratories under supervision of SAG, SERNAPESCA and ISP.

- **Action Plan (2014)**
  - Literature review.
  - Draft design.
  - Public consultation.
  - Comments compilation and elaboration of the final document.
  - Users training.
  - Work shop **March 2014, Supported by 3M (TO BE CONFIRMED)**.
CONCLUSIONS

- Creation of working groups between industry, academy and government.
- The project outcomes:
  - Promotion of inter-ministerial work considering the needs of the industry and the academy capabilities.
  - Resources optimization
  - Avoiding duplication
  - Improvement of government laboratories capabilities.

- Harmonization of analytical methodologies.
- Knowledge transference for INN auditors (accreditation organism).

- Reliable and timely analytical results.
CONCLUSIONS

- Creation of interministerial group to address multi-residues methodologies for veterinary drugs residues.
- Development of a collaborative study between SILA’s specialists.
- Standard procedure as the official procedure for SILA.
- Harmonization of technical criteria for verification and validation.
- Harmonization of analytical methodologies.
- Knowledge transferance for INN auditors (accreditation organism).
CONCLUSIONS

- Creation of working groups between industry, academy and government.
- The project outcomes:
  - Promotion of inter-ministerial work considering the needs of the industry and the academy capabilities.
  - Resources optimization
  - Avoiding duplication
  - Improvement of government laboratories capabilities.

- Reliable and timely analytical results.
Dissemination of the Pilot Economy Proyect

- Number of persons who were aware of the project categorized by area of work

- Total: 220

<table>
<thead>
<tr>
<th>Area of Work</th>
<th>Number of Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILA</td>
<td>140</td>
</tr>
<tr>
<td>Industry</td>
<td>30</td>
</tr>
<tr>
<td>Academy</td>
<td>22</td>
</tr>
<tr>
<td>Public Services</td>
<td>28</td>
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</tbody>
</table>

Total: 220
Thank you!

Nuri Gras
Executive Secretary

nuri.gras@achipia.gob.cl