

## Theme: Food Security

### Annual International Training Course

On

### Food Safety and Security from Animal Origin: Strengthening the Network for Sustainability

1. Course title: Food Safety and Security from Animal Origin: Strengthening the Network for Sustainability

2. Duration: 2-20 August 2021 (3 weeks)

#### 3. Background and Rational

Food in good quality and safety is fundamental requisites for human being to live. Moreover, to produce high quality and safe food can increase trade volume and income of the country. However, living in globalization era, it has rapid change on people, cultures, economics, social, environment e.g. global warming, international trade regulation, non-tariff trade barrier. Those factors have impacts on food security and sustainability of the country. Recently, many countries are at risk of food insecurity especially in developing countries. The definition of food security given by Food and Agriculture Organization of the United Nations (FAO, 2002) is *"the state when all people at all times have physical, social and economic access to sufficient, nutritious and safe food to meet their dietary needs and food preferences for an active and healthy life"*. Food from animal origin like meat, milk, eggs, and other animal products also supply major amounts of human nutrition, as a source of proteins, fats, vitamin and mineral. Moreover, it is an importance export commodity in many agricultural countries which can support farmer income and increase employment of livestock labor. Apart from meat consumption, the edible insects (for example edible crickets or silkworm) are potential to develop and play a role as a source of protein for future food. Honey is another example that produced by insects which is a valuable commodity in international trade and support reduction poverty of farmers.

Safety of food from animal origin is significant effect to food security because meat and animal product contains high risk of foodborne pathogens, zoonotic agents, chemical and antibiotic residues as well as antimicrobial resistance (AMR) which is a global public health issue. If people access to unsafe food, it is consequently lead to getting illness which pose higher risk to vulnerable group (young, old, pregnant and immunocompromised). Food security could not happened without food safety. Food safety plays the critical role to ensure food security. To control safety in food, hygienic practice should be apply from farm to fork, from animal feed to consumer, and apply regular program for surveillance and monitoring system.

Veterinary Public Health Centre for Asia Pacific (VPHCAP), Faculty of Veterinary Medicine, Chiang Mai University, Thailand has been established since 2003 under collaboration of 2 Veterinary Faculties between Chiang Mai University and Freie University Berlin. The aim of collaboration is to establish a regional center for

role to ensure food security. To control safety in food, hygienic practice should be apply from farm to fork, from animal feed to consumer, and apply regular program for surveillance and monitoring system.

Veterinary Public Health Centre for Asia Pacific (VPHCAP), Faculty of Veterinary Medicine, Chiang Mai University, Thailand has been established since 2003 under collaboration of 2 Veterinary Faculties between Chiang Mai University and Freie University Berlin. The aim of collaboration is to establish a regional center for research, graduate education, academic services on food production and trade of animals and animal origin products from Southeast Asia and the Greater Mekong Sub-region. The mission of Centre are conducting the international master degree curriculum for students from Asia Pacific, Southeast Asia and South Asia. Moreover, the primary objective of VPHCAP is to build capacity in academic services through training course and scientific international conference every year. Recently, the World Organisation for Animal Health (OIE) designated the VPHCAP and Thailand's Department of Livestock Development as an OIE Collaborating Centre for Veterinary Services Capacity Building since 2016 which aims to be a center for developing and increasing the capacity of Veterinarians who work relates to food safety of animal origin, control of animal disease and zoonotic disease in the Asia Pacific region.

VPHCAP has realized the significance of food safety impact to food security therefore, we has attention to organize the short course training on Food Safety and Security from Animal Origin: Strengthening the Network for Sustainability. The aims of conducting the course are to develop and exchange knowledge and skill on food production, food safety in food chain, surveillance and monitor safety in food as well as international food regulations through the training course that provides participants to gain knowledge and experience from lectures, practices, and field visits. The course will be beneficial for food security challenge which has complexity and require multidimensional understanding including academic knowledge as well as socio-economic.

**4. Objectives:** Participants will be able to

- 4.1 Describe an importance of food safety to food security
- 4.2 Understand livestock and animal production systems
- 4.3 Apply quality control and assurance in food chain
- 4.4 Identify potential risk in livestock and animal production chain



- 4.5 Understand surveillance and monitoring in food chain and apply sampling methods to ensure food safety
- 4.6 Understand inspection and detection of hazards in meat and meat product
- 4.7 Understand international food regulation
- 4.8 Exchange and sharing knowledge and experience about food safety and food security in food of animal origin
- 4.9 Develop a tentative project for safety and security of food from animal origin

## **5. Course Contents**

### **5.1 Course Outline**

#### **Module 1      Food Chain Approach for food safety**

5.1.1 Livestock and animal production system in Southeast Asia such as meat, egg, milk, aquatic, honey, alternative protein source from insects, etc.

5.1.2 Quality, hazards and contaminants relate to safety of food from animal origin

#### **Module 2      Surveillance and detection of hazards in food from animal origin**

5.1.3 Surveillance in food chain

5.1.4 Meat inspection

5.1.5 Sampling and detection of hazards in meat and animal products

#### **Module 3      International food safety policy and regulatory framework**

5.1.6 Quality control and assurance in livestock and animal productions

5.1.7 International food regulations

### **5.2 Practices**

5.2.1 Demonstration of laboratory practice for detection of hazards in food and meat inspection

### 5.3 Study Trips/ Field Trips

5.3.1 Study of livestock and animal production from visiting farms, slaughterhouses, and markets in Chiang Mai-Lampoon province, Thailand

### 5.4 Advance Assignments

#### 5.4.1. Country Report

Participants will be required to provide a country report about livestock and animal production in their country including following information (ANNEX: country report)

- Information of national livestock and animal production
- National food safety control system and organization chart
- Food safety problems in animal products

#### 5.4.2. Reading Assignment

- Food safety along the food production chain
- Quality control and assurance system (GAP, GMP, HACCP)
- International food regulations (e.g. WTO-SPS agreement, FAO/CODEX)
- Principle of surveillance
- Microbiological criteria in foods

#### 5.4.3. Project Assignment

- Develop a tentative project for strengthening safety of food from animal origin

#### 5.4.4. Others

-

## 6. Participants Criteria

### 6.1 General criteria

6.1.1 Healthy in both physically and mentally

6.1.2 Sufficient English communication skill

6.1.3 Basic computer skill and able to use technology for online course

6.1.4 Participate in training course for full-time

## 6.2 Specific criteria

6.2.1 Working in the area related to food or livestock production, quality control and assurance, animal husbandry, government authority, meat inspection, and other fields related to food.

## 7. Venue

7.1 Study place: Study online

7.2 Accommodation: Study online

## 8. Expected Results

8.1 Participants will be able to apply knowledge and skill in their working area

8.2 Create the food safety network among participants

8.3 Strengthen food safety and security issue

## 9. Evaluation

9.1 Class participation, discussion and examination

9.2 Presentation/assignment

9.3 Evaluation form

## 10. Institution

### 10.1 Executive/ Implementing Agency

10.1.1 Organization title: Veterinary Public Health Centre for Asia Pacific (VPHCAP)/ OIE  
Collaborating Centre for Veterinary Services Capacity Building,  
Faculty of Veterinary Medicine, Chiang Mai University, Thailand

10.1.2 Resource availability

- Source of speakers	:University Professors from Faculty of Veterinary Medicine, Chiang Mai University  :Guest speakers from government authorities and private sectors
- Training materials	As a Faculty for teaching, the training materials and equipment are well-prepared and available in terms of quality and quantity.
- Accommodation	No accommodation
10.1.3 Organization address:	Veterinary Public Health Centre for Asia Pacific/ OIE Collaborating Centre for Veterinary Services Capacity Building,  Faculty of Veterinary Medicine,  Chiang Mai University  Mae Hia, Muang, Chiang Mai, 50100, Thailand
10.1.4 Focal persons and contacts:	Assist. Prof. Dr. Warangkham Chaisowwong  Director of VPHCAP  Tel. 053 948083 ext.109   Fax. 053 948065  e-mail: <a href="mailto:warangkham.chai@cmu.ac.th">warangkham.chai@cmu.ac.th</a>
10.1.5 Website:	Veterinary Public Health Centre for Asia Pacific website  Linked: <a href="https://vphcap.wixsite.com/vphcap">https://vphcap.wixsite.com/vphcap</a>  Faculty of Veterinary Medicine, Chiang Mai University website  Linked: <a href="http://www.vet.cmu.ac.th/web/">http://www.vet.cmu.ac.th/web/</a>

## 10.2 Collaborative Organizations

10.2.1 Upper Northern Regional Livestock Office, Department of Livestock Development, Ministry of Agriculture

Dr. Chairaj Pocharoen                      Veterinarian, Senior Professional Level

Phone/Fax no. 053 892457              E-mail: rg05\_cmi@dld.go.th

10.2.2 Chiang Mai Provincial Livestock office, Department of Livestock Development, Ministry of Agriculture

Dr. Suwit Prachum                      Veterinarian, Senior Professional Level

Phone no. 053 892514 Fax no. 053 892623              E-mail: pvlo\_cmi@dld.go.th

10.2.3 Agricultural Technology Promotion Center, Department of Agricultural Extension, Ministry of Agriculture

Mr. Thanapong Sampoaloy              Senior officer, Senior Professional Level

Phone no. 052 - 001152 Fax no. 052 - 001105 E-mail : aopdb04@doae.go.th

## 11. Expenditure/Funding



## AGENDA

### International Training on

“Food Safety and Security from Animal Origin: Strengthening the Network for Sustainability”

2 – 20 August 2021 (3 weeks)

Faculty of Veterinary Medicine, Chiang Mai, Thailand

Date/time	Topics
<b>Day 1 (Monday)</b>	
08.30 – 09.00	Registration
09.00 – 09.30	Opening session
09.30 – 10.30	Course orientation Self-introduction activity
10.30 – 12.00	Global food security and importance of food safety to food security
13.00 – 14.00	Food production and trading system in Southeast Asia
14.00 – 16.30	<u>Country report presentation</u> Reflection
<b>Day 2 (Tuesday)</b>	
09.00 – 10.30	Meat production, quality and hygiene (Cattle,Pig,Poultry)
10.30 – 12.00	Meat production, quality and hygiene (Cattle,Pig,Poultry)
13.00 – 14.30	Milk production, quality and hygiene
14.30 – 16.30	Milk production, quality and hygiene Reflection
<b>Day 3 (Wednesday)</b>	
09.00 – 12.00	<u>Field trip (Clip online):</u> Livestock and Aquatic production chain (Royal Development Study Center)
13.00 - 17.00	<u>Field trip (Clip online):</u> Livestock production chain (Poultry farm) Lesson learned from field trip
<b>Day 4 (Thursday)</b>	
09.00 – 10.30	Egg production, quality and hygiene
10.30 – 12.00	Aquatic production, quality and hygiene
13.00 – 16.30	Honey production, quality and hygiene
<b>Day 5 (Friday)</b>	
09.00 – 12.00	<u>Field trip (Clip online):</u> Animal production chain (Cricket farm)



10.30 – 12.00	Aquatic production, quality and hygiene
13.00 – 16.30	Honey production, quality and hygiene
<b>Day 5 (Friday)</b>	
09.00 – 12.00	<u>Field trip (Clip online):</u> Animal production chain (Cricket farm)  <u>Field trip (Clip online):</u> Animal production chain (Honey bee farm)
13.00 – 17.00	<u>Field trip (Clip online):</u> Milk production chain (milk plants-dairy cooperative) Lesson learned from field trip
<b>Day 6 (Monday)</b>	
09.00 – 10.30	Quality control and food safety assurance in livestock production (GAP, GMP and HACCP)
10.30 – 12.00	Risk analysis for food safety
13.00 – 16.30	Meat inspection (pig) Reflection
<b>Day 7 (Tuesday)</b>	
09.00 – 10.30	Meat inspection (Cattle)
10.30 – 12.00	Meat inspection (Poultry)
13.00 – 16.00	<u>Laboratory practice (Lab demonstration) :</u> meat inspection
<b>Day 8 (Wednesday)</b>	
13.00 – 16.30	<u>Laboratory practice (Lab demonstration) :</u> meat inspection
<b>Day 9 (Thursday)</b>	
09.00 – 12.00	<u>Field trip (clip online):</u> GMP and HACCP in slaughterhouses
13.00 – 17.00	<u>Field trip (clip online):</u> Meat factory Lesson learned from field trip
<b>Day 10 (Friday)</b>	
09.00 – 12.00	<u>Field trip (clip online):</u> Regional Medical Sciences Center 1 Chiang Mai

13.00 – 17.00	<b>Field trip (clip online):</b> Veterinary Research and Development Center Upper Northeastern Region, Lampang province Lesson learned from field trip
<b>Day 11 (Monday)</b>	
09.00 – 10.30	Sampling methods in food surveillance
10.30 – 12.00	Sampling techniques for meat and animal products
<b>Day 12 (Tuesday)</b>	
09.00 – 12.00	Detection of hazards in food chain (1)
13.00 – 16.30	<u><b>Laboratory practice (demonstration):</b></u> detection of hazards Reflection
<b>Day 13 (Wednesday)</b>	
09.00 – 12.00	Detection of hazards in food chain (2)
13.00 – 16.30	<u><b>Laboratory practice (demonstration):</b></u> detection of hazards Reflection
<b>Day 14 (Thursday)</b>	
09.00 – 10.30	International food regulations
10.30 – 12.00	Food standards
13.00 – 14.30	Assignment
14.30 – 16.30	Group work
<b>Day 15 (Friday)</b>	
09.00 – 12.00	Working for project assignment
13.00 – 14.30	Presentation of project assignment
14.30 – 16.00	Evaluation
16.00 – 16.30	Closing