



DEPARTMENT OF LIVESTOCK DEVELOPMENT (DLD)

**“ACTIVITIES AND STRATEGIC ACTION PLANS
ON ANTIMICROBIAL RESISTANCE (AMR)
ASSOCIATED WITH LIVESTOCK”**



DLD Organization Chart

Director General

Senior Veterinary and Livestock Experts

**Deputy DG
(Animal Health)**

Bureau of Disease Control and Veterinary Services

Bureau of Veterinary Biologics

National Institute of Animal Health

**Deputy DG
(Food Safety)**

Bureau of Quality Control of Livestock Products

Bureau of Livestock Standards and Certification

Division of Animal Feed and Veterinary products control

**Deputy DG
(Animal Production)**

Bureau of Livestock Development & Technology Transfer

Bureau of Livestock Biotechnology

Division of Animal Nutrition

Division of Animal Husbandry

**Deputy DG
(Administration)**

Administrative Development Unit

Internal Auditing Unit

Division of Planning
Division of Finance

Division of Personnel

Division of Legislative Affairs

Office of Department Secretary

Information Technology Centre

**Regional,
Provincial and
district level**

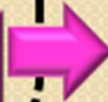
7 Regional Veterinary Research and Development Centers

9 Regional Bureau of Animal Health and Sanitary

76 Provincial Livestock Offices

887 District Livestock Offices

- 2,073 Subdistrict Livestock Assistants -
80,000 Village Livestock Volunteers





Strategic Plan for AMR Containment in Livestock

**1. Control and reduce the use of
antimicrobial drug**

2. Containment of microbial load
in food chain



Current Activities for AMR Containment in Thai Livestock

1. Prevent infection of livestock animals

➤ Promote farm standard (90 % Broiler and 50 % pig pop.)

- Improve animal husbandry system (GAP)
- Private veterinarians trained and licensed by DLD
- Health management program of animals under the supervision of veterinarian

➤ Disease control program

➤ Promote vaccination

➤ Compartment system

(Biosecurity management of the livestock production along the food chain including feed mill and slaughterhouse, HACCP and Traceability system)





Current Activities for AMR Containment in Thai Livestock

2. Control the Use of Veterinary Drug

Farm standard

- **Animal treatment must comply with**
“ Code of practice for control of the use of veterinary drugs, Ministry of Agriculture NO.9032 in 2009” compliance with Codex CAC/REP38-1993
i.e. criteria of drug usage, drug prescribing, vaccination program
- **Animal movement permit by checking the documents and records**
i.e. veterinary drug usage and withdrawal time, etc





Current Activities for AMR Containment in Thai Livestock

3. Surveillance data on AMR & AMU

3.1 AMR containment multidisciplinary committee and AMR surveillance working group (Revised 2014)

- Develop National Veterinary AMR Surveillance Program
- Action plan to control AMR and reduce antimicrobial drug usage
- Harmonize and implement standard method for AMR testing in livestock



Current Activities for AMR Containment in Thai Livestock

3. Surveillance data on AMR & AMU

3.2 DLD Project: Fiscal year 2016, Budget 12,000,000 Baht

“Surveillance Resistance bacteria and resistance genes in food chain”

- Develop National Vet AMR Surveillance System in line with decision 2013/652/EU
- Collect 5,895 samples from poultry and swine

Swine	samples
<i>Salmonella</i> spp.	
Swine carcass swab	1,000
<i>E. coli</i>	
Swine caecum at slaughterhouses (1 caecum = 1sample)	1,000
ESBL-AmpC-producing <i>E. coli</i>	
Swine caecum at slaughterhouses (1 caecum = 1sample)	300
Pork at retail shops	1,000
Total	3,300

Poultry	samples
<i>Salmonella</i> spp.	
Boots swab at broiler farms	170
Boots swab at layer farms	170
Boots swab at breeder farms of chicken	85
Boots swab at duck farms	85
Boots swab at breeder farms of duck	85
Neck skin	1,000
<i>C. jejuni, E. coli</i>	
Poultry caecum at slaughterhouses (10 caecums=1sample)	1,000
Total	2,595



Current Activities for AMR Containment in Thai Livestock

3. Surveillance data on AMR & AMU

3.3 DLD Project

“ Surveillance resistance bacteria and resistance genes of *Salmonella* spp. in meat and meat products from slaughterhouse, meat processing plants and markets”





Current Activities for AMR Containment in Thai Livestock

3. Surveillance data on AMR & AMU

3.4 Vancomycin-resistant enterococci (VRE) experience

- Thai Government banned the use and import of avoparcin mixed feed on 15 July 1998
- DLD has established measures for VRE control and surveillance for the whole poultry meat production chain
- Prevalence of VRE in poultry industry is very low
(during 2007-2014, 5 samples from 27,882 samples or 0.018 % were +ve)
- Continuation of VRE surveillance in both domestic and export markets



Current Activities for AMR Containment in Thai Livestock



3. Surveillance data on AMR & AMU

3.5 Technical cooperation with Food and Agriculture Organization (FAO) of the United Nations

TECHNICAL COOPERATION PROGRAMME (TCP)

Enhancing National Capacities for Antimicrobial Resistance Risk Management in Animal Food Production in Thailand

Project period : 2 years (2015 – 2016)

Budget covering FAO contribution: US\$ 250,000



Current Activities for AMR Containment in Thai Livestock

3. Surveillance data on AMR & AMU

3.6 Surveillance data on AMU (under develop)

- Estimate the use of antimicrobial drugs from the quantities of antimicrobial manufactured and imported
- Develop AMU data of major species by active pharmaceutical ingredient benchmark among farms in country or among regions



Current Activities for AMR Containment in Thai Livestock

4. Monitoring plan

Central Committee coordinate and plan sampling activities

4.1 Microbiology

E.coli, Salmonella spp., Campylobacter spp., Staphylococcus aureus, Clostridium perfringens, Listeria monocytogenes, Enterococci

4.2 Drug residues and Prohibited substances in Feed

Ampicillin, Tetracycline, Sulfamethoxazole-trimethoprim, Gentamicin, Norfloxacin, Ciprofloxacin, Cephalothin, Enrofloxacin





Current Activities for AMR Containment in Thai Livestock

National monitoring plan (Year 2015)

Type of sample	Examination List		
	Drug residue (No. of sample)	Micro-Biology (No. of sample)	Drug residue & Microbiology (No. of sample)
Feed	8,677	2,515	-
Meat	500	24,998	6,310
Chicken egg	-	-	200
Carcass wash	-	11,362	-
Honey	89	-	-
Urine (Beta agonist)	47,933	-	-



Current Activities for AMR Containment in Thai Livestock

4. Monitoring plan

4.3 Post marketing control of veterinary antimicrobial drugs

- **DLD sets project and cooperate with THAI-FDA**
 - Sampling veterinary drugs at pharmacy stores for quality testing (340 samples/year)



Current Activities for AMR Containment in Thai Livestock



5. Coordinated research on effectiveness of policies: Scientific basis for risk management (2015)

“ DLD Research project of antimicrobial resistance quantitative risk assessment of *E. coli*, *K. pneumoniae* and *Salmonella* spp. in pork products”



Current Activities for AMR Containment in Thai Livestock



Sample from research project

Place

Feed

Farms

Swab : Transport vehicles
(Swine/Carcass)

Transport
vehicles

Swab: Utensils and Equipments

Slaughterhouses

Swab: Swine carcass

Slaughterhouses

Swab: Lairage

Slaughterhouses

Pork

Retail shops





Factor Influencing AMR Containment in Thai Livestock and The Way Forward

Factor	The use of antibiotics in livestock
Continuous Operations	<ul style="list-style-type: none">➤ Improve the regulations to optimize the use of ABs<ul style="list-style-type: none">• Review of antimicrobial drug use in livestock (AGP ban)• Additional measures after AGP ban (Denmark experience : Reduce overall exposure to AB but increase AB treatment to double within 10 years)• Reclassification of antibiotics to prescribe by veterinarian• Control drugs in feed at farm and feed mill• Law enforcement of illegal drugs and substances



Factor Influencing AMR Containment In Thai Livestock and The Way Forward

Factor	The use of antibiotics in livestock
Continuous Operations	<ul style="list-style-type: none">➤ Promote the cooperation of all sectors• Control distribution channels of imported bulk pharmaceutical ingredients by drug law➤ AMR training program ➤ Sharing information about AMR ➤ Promote the rational drug use in the livestock<ul style="list-style-type: none">• Implement international standard from Codex and OIE• Step from voluntary to mandatory basis• Cooperate with veterinary council to develop Good practice for veterinary medicinal products use at farm level



Factor Influencing AMR Containment In Thailand and The Way Forward

Factor	The use of antibiotics in livestock
Continuous Operations	<p>➤ International cooperation</p> <ul style="list-style-type: none">• Sign MOU with French Agency for Food, Environmental and Occupational Health & Safety <p>OIE Collaboration Center for Veterinary Medicinal Products: 2015</p> <p>Collaborate in veterinary medicinal products control system and related issues such as AMR for both regulation and laboratory</p> 

Thank You Very Much



for Your Attention



Department of Livestock Development