

Final Report

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1. **研修機関 Training Institute:** 山口大学共同獣医学部 (Yamaguchi University, Joint Faculty of Veterinary Medicine)
2. **研修科目 Training Subject:** New Views of animal Science for the efficient and effective production, reproduction and management in High Quality animals.
3. **研修期間 Period of training:** 2012.05.14 – 2013.02.27
4. **研修内容 Contents of training:**

This period of training was a very good experience to learn about reproduction physiology in cattle raised in Japan, including laboratory techniques, I have visited cattle fattening farms, attended classes, observed the activities of Agricultural Prefecture offices, attended a scientific conference, I have learned about Japanese culture, and I was really pleased to have the opportunity to visit the hometown of my grandfather and met relatives I have never met. For all these moments and experiences, I am really thankful to all wonderful people I have met who I will remember all life and I will come back to Peru having unique memories of Japan. During 10 months I was living in Yamaguchi Prefecture which is located in southwest of Japan's main island (Honshū island) and studying this program at Yamaguchi University in the Faculty of Veterinary Medicine.

In Japan, the cattle breed that is mostly raised is Wagyu (also called Washu or Japanese beef cattle), which is a beef breed characterized to produce a high quality and marbling meat. There are four breeds of wagyu: Japanese Black, Japanese Polled (these two breeds are common reared in Yamaguchi prefecture), Japanese Brown and Japanese Shorthorn, according to the area of raising farms they are denominated Mishima, Tajima or Kobe cattle for example. For the purpose of learning about management of this breed and also Holstein breed, I have visited specific places like the Agricultural prefecture centers, for example I observed facilities, pens, calf hutches, shelter, roughage, CMT test,

biosecurity procedures and collection of semen for artificial insemination. Once I visited the Animal health Department of Yamaguchi Prefectural Agricultural Station that is in charge of animal inspection, diagnostics of animal diseases (like bovine spongiform encephalopathy) and animal feed testing in order to guarantee the animal's health, this station has specific laboratories for diagnosis. Other activities I have attended were treatment of laminitis, metabolic disorders, adequate inspection and judgment of cattle.

Other important points of training were the visits to the Agricultural Research Center of Shimane and Hiroshima in order to take sample from animals using catheter inserted on jugular vein for analyzing samples through laboratory techniques and measure levels of important reproductive hormones like luteinizing hormone. I attended the 154th Meeting of the Japanese Society of Veterinary Science that was carried out in Iwate University (in the north of Japan), and in this prefecture I visited Maezawa cattle farms which are famous because of the good quality of beef and which raising system is characterized by stables that are near the owner's houses to have the adequate and constant care of the animals, the facilities are made of wood, built by the owners. Farmers feed the cattle with rice straw (which was harvested from their rice fields), concentrate, mixed vitamins and nowadays they are feeding the cattle with also American roughage because of earthquake. This fattening system raises cattle from 9 to 30 months when the weight is approximately 700 kg, on the other hand I also visited Koiwai farm which is a company related to dairy products in Japan.

Regarding to laboratory techniques I learnt about techniques used for scientific research in reproductive physiology like enzyme immunoassay (to measure hormones levels), cell culture and PCR. I shared and learnt studying with post graduate students, attended weekly seminars to update about scientific papers that were presented by students and discussed, furthermore, I attended a slaughter house located in Yamaguchi, in order to observe taking samples for experiments and investigation.

About theory classes I had several lessons with undergraduate veterinary students related to physiology (digestive system, mammary gland, reproductive system), nutrition, management of cattle and some specific points of Japanese beef like the carcass grading standards to evaluate meat quality based on scores of carcass measurements and beef marbling standards, an excellent score for beef quality is A5.

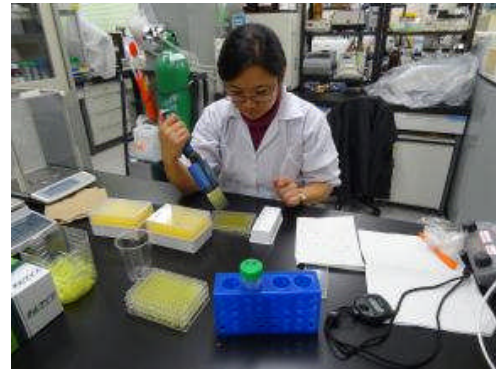
In the second period of the training I had the opportunity to visit an Auction in Yamaguchi prefecture where many farmers sell their cattle or calves, in this case each farmer tries to show and produce excellent animals to be sold in good price, also I have visited the Fukuoka Meat Wholesale Market, a slaughter house which process meat from cattle and pigs. This is the biggest slaughter house in Fukuoka which follows global standards regulation, through HACCP that are the measures, inspection and monitoring industrial processes to prevent hazards, ensure food safety and protect public health. These processes are used in all stages of this slaughter house, from the reception of animals, slaughtering, storing, packaging and selling the meat. This slaughter house has the certification ISO 9001, which ensure the quality management of the system in this place. I could observe the work of veterinarians and workers and facilities.

I also visited one of the biggest fattening farm in Yamaguchi Prefecture. The owner is a veterinarian which is in charge of the business of the meat. He has a breeding area of cattle, the area of slaughter and storing meat, and the area of supermarket where finally the meat is sold. They wean cattle at the age of 3 months but during this time only calves can have access to special concentrate. In this farm the aim of the production is to obtain A3 beef quality, that is the average of beef quality score according to Japanese standards.

During this training program in Japan, I have spent wonderful time with friends and I have learnt many personal and professional things and as a Japanese descendant I am really thankful to JICA to give me the opportunity to meet this wonderful country and to all people I have met during this period. I expect to put on practice what I have learned, through organizations or universities and promote the link between Peru and Japan, many investigations can be done and also we should continue with promotion of good breeding and management of animals. Thank you very much Japan!



Maezawa farm (in north Japan)



Laboratory techniques



Yamaguchi Prefectural Station

