Training Report

CGIAR Pig Herd Health Training in Parasites and Parasite Control

8th – 9th of June 2021 in Masaka, Uganda

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Background

Internal and external parasites are common in livestock worldwide negatively affecting animal welfare and health, farmer's profits and pose a threat to public health. The costs associated with parasitic infections are not just due to production losses at farm level but also for monitoring and inspection and for medication and control.

Pig production in Uganda is on a steady rise coupled with a steady increase in the human population over the last decades. The estimated number of households owning pigs was 1.1 million in 2008, representing 17.8 % of all households (*The National Livestock Census Report* 2009). The total number of pigs in the country was estimated to be above 4 million in 2018 (*Uganda Bureau of Statistics – UBOS*), making the Ugandan pig production the second largest in East Africa. Pork is contributing to 3.4 kg of the total meat consumption of 12.1 kg per capita and year making pork the second largest source of animal protein in the country (*FAOSTAT* 2019), showing the importance of pig production to food and nutritional security.

Pig production in Uganda is dominated by smallholders with the majority of pigs kept free range for at least part of the year (Dione et al. 2014b; Ikwap et al. 2014; Chenais et al. 2017). Pigs are of great importance to the livelihood of farmers contributing significantly to the household income by helping farmers pay for school fees and household health needs (Ouma et al. 2015). Worms are considered as one of the major constraints to production by smallholder farmers (Muhanguzi et al. 2012; Dione et al. 2014b) and helminthiasis and mange infestation are (together with African Swine Fever) reported to be the most common diseases encountered by village veterinarians (Dione et al. 2014a). Field studies report an overall prevalence of nematodes being as high as 91 % (Nissen et al. 2011). This high prevalence of infection is associated with the characteristics of the traditional smallholder farming systems, making biosecurity measures such as isolation, traffic control and sanitation difficult to achieve (Kouam et al. 2020). In addition studies show that farmers are not strategically deworming their pigs (Waiswa et al. 2009; Nissen et al. 2011; Ndyomugyenyi & Kyasimire 2015; Roesel et al. 2017).

Since pig production is becoming increasingly important for the livelihood of smallholder farmers in Uganda, information and education on appropriate and sustainable management is urgently needed to improve the pig production in the future.

The CGIAR Research Program on Livestock (Livestock CRP) provides research-based solutions to help smallholder farmers, pastoralists and agro-pastoralists transition to sustainable, resilient livelihoods and productive systems. The Animal Health flagship under the Livestock CRP is working towards improving livestock health. The proposed Training in Parasite management and control is a collaboration between SLU and colleagues from Makerere University, Ministry of Agriculture, Animal

Industries and Fisheries (MAAIF) and District Local Governments in Uganda. The current COVID-19 pandemic made the implementation of the training challenging as travel restrictions hindered the lecturers from participate face-to-face. However, by pre-recorded lectures combined with group exercises and on-line discussions, the training provided the participants with hands-on skills on how to work together with the farmer to reduce the prevalence of parasites to avoid animal suffering and production losses.

Objectives of the training

To provide the participants with the following knowledge and skills:

1. Basic understanding of the most common parasites (helminths, protozoa and arthropods) that can affect pigs and their life cycle, epidemiology and clinical signs
2. Knowledge on how to diagnose parasitic infections, including how to use the McMaster counting chamber
3. Understand the risks for parasite infection
4. Knowledge on how to treat and control these infections in order to keep the parasite challenge at a minimum rate to avoid clinical symptoms and production losses
5. Understand the effects of parasite infections from the perspectives of animal welfare, profits and public health

Expected output

The training participants are familiar with the parasites that can affect pigs and how to best help/advise farmers with diagnosis, treatment and control to avoid animal suffering and production losses.

Date and venue

8th to 9th of June 2021 at **MAPLE LEAF HOTEL in Masaka City** and lecturers available on-line at SLU, Uppsala, Sweden.

Instructors and their affiliations

Prof Ulf Magnusson	Department of Clinical Sciences, Swedish University of Agricultural Sciences, Uppsala, Sweden
Vet. Johanna Grundin	Department of Clinical Sciences, Swedish University of Agricultural Sciences, Uppsala, Sweden
Dr. Justine Alinaitwe	Kampala Capital City Authority

Dr. Stephen Lubega	Veterinary Department; Masaka Local Government
Dr. Kokas Ikwap	Lecturer; Makerere University Kampala
Prof Arvid Uggla	Department of Biomedical Sciences and Veterinary Public Health, Swedish University of Agricultural Sciences, Uppsala, Sweden
Dr. Emelie Pettersson	Swedish Veterinary Institute, SVA
Dr. Kristina Osbjer	Department of Clinical Sciences, Swedish University of Agricultural Sciences, Uppsala, Sweden
Vet. Elin Gertzell	District veterinarian, Kristianstad, Sweden

Participants

S/N	Name Of Participant	Gender	Designation	District	Contact	Email address
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23	Magezi Andrew	Male	Animal Husbandry Officer	Masaka	0701974543	Mageziandrew2021@gmail.com

Timetable and course content

Day 1 (8/6 2021)

Time	Topic/Activity	Person responsible
8.30 – 9.00	Registration	Ugandan facilitators
9.00 – 9.30	Welcome and introduction House rules and schedule	Prof Ulf Magnusson Johanna Grundin Ugandan facilitators

9.30 – 10.00	**Group photo and coffee break**	
10.00 – 11.00	Introduction to group work **Group work 1 –** Discussion	Ugandan facilitators Facilitated group discussion
11.00 – 11.30	Group presentations	Group presenters
11.30 - 12.30	**Module 1** 1.1 Biosecurity in Ugandan pig production 1.2 Introduction and basic concepts 1.3 Characteristics and implications of parasite infections 1.4 Important Helminths of the pig	Dr. Kristina Osbjer Prof Arvid Uggla
12.30 – 13.30	**Lunch**	
13.30 – 15.00	**Module 2** 2.1 Protozoa and arthropods of pigs 2.2 The parasite situation in Uganda 2.3 Ugandan pig production – challenges 2.4 Diagnosis of parasite infection 2.5 Fecal examination and egg count using the simplified McMaster technique	Prof Arvid Uggla Dr Stephen Lubega Dr Justine ALinatiwe
15.00 – 15.30	**Coffee break**	
15.30 – 16.30	**Module 3** 3.1 Antiparasitic drugs: Ectoparasitic drugs and antiprotozoal drugs 3.2 Antiparasitic drugs: Endectocides and anthelmintics 3.3 Hygiene and management routines	Dr Emelie Pettersson Vet Elin Gertzell
16.30 – 17.00	Q & A panel discussion	All lecturers

Day 2. (9/6 2021)

Time	Topic/Activity	Person responsible
8.30 – 8.45	Recap of day 1	Ugandan facilitators
8.45 – 10.00	**Module 4** 4.1 Treatment of endoparasites 4.2 Treatment of ectoparasites and protozoa 4.3 Anthelmintic resistance	Dr Emelie Pettersson
10.00 – 10.30	**Coffee break**	

10.30 – 12.00	**Module 5** 5.1 Parasitic zoonoses 5.2 Parasitic zoonoses in Uganda and how to limit them 5.3 Recommendations with regards to local conditions – part 1 5.4 Recommendations with regards to local conditions – part 2	Prof Arvid Uggla Dr. Kokas Ikwap Vet Elin Gertzell
12.00 – 13.00	**Lunch**	
13.00 – 13.30	**Group work 2**	Facilitated group discussion
13.30 – 14.00	Group presentations	Group presenters
14.00 – 14.30	**Coffee break**	
14.30 – 15.30	Q&A panel discussion	All lecturers
15.30 – 16.30	Closing words Training evaluation and closure	Prof Ulf Magnusson Ugandan facilitators

Summary of participants course evaluations

Q1. Impressions of the training

83.3 % of participants answered that their overall impression of the course was excellent, the remaining 16.7 % found it to be very good.

Participants found the training to be informative, interesting, helpful and educative. One comment was that these kind of refresher trainings are essential for veterinarians in the field. Several participants expressed a desire for more of these trainings.

Q2. How useful was the training for your work?

91.7 % of participants found the training to be “very useful” and 8.3 % rated it as “useful”. Only positive comments. One participant commented that he/she learned a lot to use in the field and another comment was that these training helps to know new innovations in the sector.

Q3. How do you rate the communication before the training?

The ratings on this are a bit mixed. The average rating was 3.3/5 (41.7 % rated 5 and 25 % rated 1). Some participants expressed a wish to have training materials and films shared with them. However, this was done after the course.

Q4. How did you find the format? (pre-recorded and on-site lectures combined with short films and group work?)

Average rating 3.8/5. Again a bit of a mixed result (8.3 % rated 1 and 58.3 % rated 5). Participants expressed a wish to have the training face-face. Several participants also mentioned that a practical session would have improved the course. Otherwise good comments overall.

Q5. How did you find the lectures and films?

Average rating 3.5/5. Overall good comments. However, there was a wish for more physical lectures and copies of the study material (this was though given after the course).

Q6. How did you find the group work?

Average rating 3.8. Again, overall good comments. Some participants commented that they would have wanted the training to be more interactive.

Q7. Was the training length too long, too short or about right?

All participants found the length of the training to be about right.

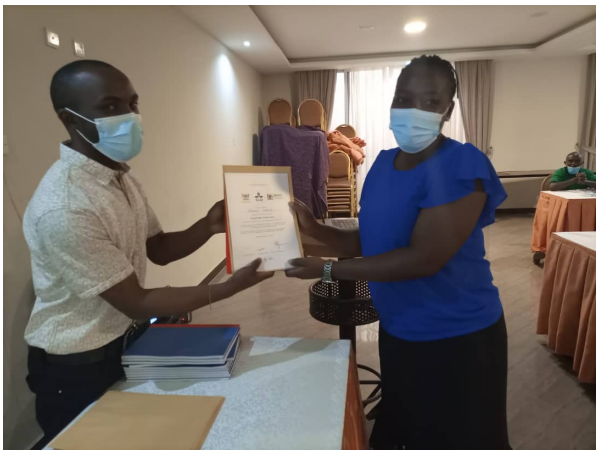
Q8. How could the training be improved?

- include fieldwork we need to see what problems caused by parasites on a farm
- Some pre recoded films to be shared with participants
- Increase on face-to-face lectures
- Practical part on different drugs
- To give it more time if possible
- share the training material with us
- Include hands on practical
- Maybe extend these trainings to a wider audience and create more lectures on different topics

Q9. Other comments

- More and routine trainings to be offered
- Such refresher training are very essential to we vets in field and they help to know new innovations in the sector thanks
- The training has been great, please organize more
- Thank you for this course
- Thank you for giving us an opportunity to learn more and also improve on our professional knowledge and skills.
- Thank you so much for the course. We have learn a lot and you have given us an opportunity for a CPD which is not a common thing in Uganda which affects delivery of veterinary services. Thank you so much!!!
- Very good training, very informative, helpful and educative, good work keep it up

Photos



Contact person(s) for more information

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