



RESEARCH
PROGRAM ON
Livestock

Guideline for participatory training on African swine fever control for smallholder pig farmers in Uganda



Guideline for participatory training on African swine fever control for smallholder pig farmers in Uganda

Michel M. Dione¹, Robert Ochago¹, Peter Lule¹ and Lawrence Mayega²

- 1. International Livestock Research Institute
- 2. Masaka District Local Government, Uganda

January 2018

CGIAR is a global partnership that unites organizations engaged in research for a food-secure future. The CGIAR Research Program on Livestock provides research-based solutions to help smallholder farmers, pastoralists and agro-pastoralists transition to sustainable, resilient livelihoods and to productive enterprises that will help feed future generations. It aims to increase the productivity and profitability of livestock agri-food systems in sustainable ways, making meat, milk and eggs more available and affordable across the developing world. The Program brings together five core partners: the International Livestock Research Institute (ILRI) with a mandate on livestock; the International Center for Tropical Agriculture (CIAT), which works on forages; the International Center for Research in the Dry Areas (ICARDA), which works on small ruminants and dryland systems; the Swedish University of Agricultural Sciences (SLU) with expertise particularly in animal health and genetics and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) which connects research into development and innovation and scaling processes.

The Program thanks all donors and organizations who globally supported its work through their contributions to the [CGIAR system](#)

©2018 International Livestock Research Institute (ILRI)



This publication is licensed for use under the Creative Commons Attribution 4.0 International Licence. To view this licence, visit <https://creativecommons.org/licenses/by/4.0>.

Unless otherwise noted, you are free to share (copy and redistribute the material in any medium or format), adapt (remix, transform, and build upon the material) for any purpose, even commercially, under the following conditions:



ATTRIBUTION. The work must be attributed, but not in any way that suggests endorsement by the publisher or author(s).

Editing, design and layout—ILRI Editorial and Publishing Services, Addis Ababa, Ethiopia.

Cover photo—ILRI

ISBN: 92–9146–530–6

Citation: Dione, M.M., Ochago, R., Lule, P. and Mayega, L. 2018. *Guideline for participatory training on African swine fever control for smallholder pig farmers in Uganda*. ILRI Manual 28. Nairobi, Kenya: International Livestock Research Institute (ILRI).

Patron: Professor Peter C Doherty AC, FAA, FRS

Animal scientist, Nobel Prize Laureate for Physiology or Medicine—1996

Box 30709, Nairobi 00100 Kenya

Phone +254 20 422 3000

Fax +254 20 422 3001

Email ilri-kenya@cgiar.org

ilri.org

better lives through livestock

ILRI is a CGIAR research centre

Box 5689, Addis Ababa, Ethiopia

Phone +251 11 617 2000

Fax +251 11 667 6923

Email ilri-ethiopia@cgiar.org

ILRI has offices in East Africa • South Asia • Southeast and East Asia • Southern Africa • West Africa

Contents

Figures	iv
Background	1
Introducing the training	2
Session 1: African swine fever: causes, symptoms and transmission (1 hour)	3
Session 2A: Biosecurity measures (1 hour)	4
Session 2B: Proper control of pig movements and reporting (30 min)	5
Session 3: On-farm practical demonstration of biosecurity measures (1 hour)	6
Session 4: Training evaluation (30 min)	8
References	9
Annexes	10

Figures

Photo 1.	The edges of the ears may become dark red to blue	10
Photo 2.	Pigs running high fevers huddling together	10
Photo 3.	A big ulcer in the skin	11
Photo 4.	Bloody diarrhoea	11
Photo 5.	Pigs stop eating and have difficulty breathing	12
Photo 6.	Pigs can die massively within short period	12
Photo 7.	Group demonstration of disinfection in Lira	13
Photo 8.	Farmers in Lira discussing the transmission cycle of African swine fever	13

Background

African swine fever (ASF) is among the major production constraints for smallholder pig farmers in Uganda (Atuhaire et al. 2013; Dione et al. 2014). There is no vaccine or treatment for the disease. The only way to control the disease is proper application of biosecurity along the pig value chain. However, adoption and implementation of biosecurity measures is challenging in the context of the smallholder pig production, because of the nature of the production systems which is characterized by poor housing and husbandry practices; poor hygiene during slaughtering and pork handling; and low level of knowledge and awareness of value chain actors about the disease. Also there is lack of incentive and capacities of value chain actors for reporting outbreaks of ASF to authorities, as well as observing movement control during outbreak seasons (Dione et al. 2014).

Hence, farmers operate 'panic sales' and slaughters to avoid financial losses attributed to the death of the pigs, with most farmers ignoring the implication of such practice in spreading the disease. Proper application of biosecurity measures require that farmers be well equipped with knowledge of their principles, when and how to apply them and why? To address this gap in knowledge, ILRI and partners developed a training guide for smallholder farmers on biosecurity and control of ASF. This guide will be delivered through participatory training. Here, the authors are describing the process for an effective training of farmers using participatory training methods, step by step.

Participatory training

According to FAO, participatory training is an interactive learning process enabling individuals and communities to develop skills, knowledge and attitudes, and to share lessons learnt, so that they actively contribute to food security and poverty alleviation. Participatory training is '**participatory**' because learning occurs through active involvement of the trainees and it is them who develop the answers. It is '**training**' because learning opportunities are created by presenting new information together with analytical methodologies for the trainees to discuss and consider in light of their own work experiences. Participatory training is completely different from traditional '**teaching**' (Wilde and Vainio-Mattila 1995). It must be centred on the farmers and developed according to their needs. Farmers should understand the importance of the problem in relation to their activity, and to what extent it can affect their livelihood if not addressed. They must feel ownership of the whole process, in this way; they are participating in solving their own problems.

Introducing the training

The facilitator starts with opening prayers (or he will ask a participant to lead the prayer). This will be followed by the national anthem. The facilitator will ask the farmers to introduce themselves. (Since farmers are generally very busy, it is therefore very important to highlight the benefits this kind of training provides. If the participants of a participatory training session can see the added value it offers it will keep them motivated and interested).

Introduce ILRI project and the purpose of this specific training. Use the narrative in the box below.

ILRI is working with Masaka/Lira local government to help pig farmers improve their productivity through improved health, management, feeding and marketing. The aim of this training is to discuss with you (farmers) how the ASF disease can be controlled better and to inform you about the best practices to prevent your pigs from catching the disease. If you implement proper biosecurity onto your farm, your pigs will not be affected.

Write the list of expectations of the participants only in relation to ASF (no other aspects of pig keeping). Share with them the time table below and what is expected from them at the end of the training

Table 1. Suggested time table

0830–0900 hours	Registration of participants
0900–0930 hours	Prayers, anthem, objective of the training
0930–1030 hours	Session 1
1030–1100 hours	Tea break
1100–1230 hours	Sessions 2A/2B
1230–1330 hours	Lunch
1330–1500 hours	Sessions 3 and 4 and closure

Session I: African swine fever: causes, symptoms and transmission (1 hour)

Objective:	By the end of the session, the participants should learn about the causes, symptoms, transmission routes of ASF
Delivery method:	Group discussion
Training aids:	Posters, pictures
Material:	Poster stand, flip charts, markers
Technique:	Brainstorming

Facilitator opens the session by briefly explaining to the participants the purpose/objective of this session and asks a volunteer to say out the local name of ASF. The name is subject to agreement by the rest of the participants.

Brainstorm about the **causes of ASF** with the participants and let them list for you what they know. Analyse the responses and identify the wrong answers. Display the exhaustive list of **clinical signs** and indicate that in some cases, these signs are not visible all at the same time on the pigs. Some pigs can even die without any clinical sign.

Distribute **Photos 1–6** of sick pigs with red spots on their skins and huddling pigs with each other, and ask participants to describe what they see on those photographs. After listening to their views, tell them that these pigs have died of ASF and what they see are some of the most common visible signs.

Display the **transmission cycle** poster. Choose two people (one male and one female) among them to share with the audience what they see on the poster. The audience will in addition give their own opinions/reactions to what their peers said. Note that this is an open but facilitated discussion. Emphasize the roles of other mechanical vectors that are not shown on the poster. These may include: veterinarians, dogs, flies and pig body fluids (blood, saliva etc.). Also emphasize the danger that healthy carriers represent for the entire pig population. (A healthy pig carrier is a pig that is sick but does not show any clinical signs. The same pig can carry the virus for months. Within that time, it can shed the virus and infect other pigs with which it has been in contact).

At the end of the discussion, the facilitator summarizes the discussions and highlights key take home messages.

Note: the facilitator will take note of all questions and issues that arise from the discussions

Session 2A: Biosecurity measures (1 hour)

Objective:	By the end of this session participants would have understood the importance of implementing good biosecurity practices
Delivery method:	Case study
Technique:	session story

Use the following story:

Mr and Mrs Okello are pig farmers in Adekokwok subcounty, Lira district. They started their pig enterprise in 2014 with five pigs (one sow, one boar and three finishers) with a purpose of increasing the household income. Their pigs are left to roam freely most of the time but fed on kitchen waste in the evening by their 15 year old son, Lule and his parents. Lule collects kitchen waste from the nearby trading centre and sometimes from the neighbours.

One day, while Lule's parents were out on their normal errands, he noted that the pigs had stopped eating and were huddling together. He reported this to his father upon his return. Mr Okello wondering what was happening to his pigs, decided to check on them in the next morning. To his surprise, he found one pig dead. He noticed red spots on the skin (as shown in the photograph). Mr Okello took the initiative of asking his neighbours from whom Lule often collects kitchen waste whether they had encountered the same problem. Effectively, they had done. A neighbouring farm had lost all six pigs a few days after they provided swill to Mr Okello.

During the same week, a number of farmers told their neighbours about death of their pigs. Many farmers started selling off their pig at cheaper prices to traders. Like Okello, none of the farmers however reported the incident to the veterinarian. Okello, a busy man, spent three weeks away after the incident. His wife did not know to whom to report the pig deaths, and instead choose to wait for the husband's return. The concerned Okello choose to call the area veterinarian upon returning home. After investigation, the veterinarian confirmed that it was an ASF outbreak.

After the story, divide the group into two smaller groups (mix men and women) and give them the task of discussing the following two questions:

1. What practices sparked off the disease at Mr and Mrs Okello's house?
2. What should Mr and Mrs Okello have done to control the disease?

Each subgroup should appoint a rapporteur.

After 15 minutes of group discussion, put the groups in plenary and ask the group rapporteurs to display their points of view to the audience. Allow other participants to intervene and share their opinions.

At the end, the facilitator wraps up the discussions by summarizing the best practices to prevent and control ASF.

Note: the facilitator will take note of all questions and issues that arise from the discussions

Session 2B: Proper control of pig movements and reporting (30 min)

Objective:	Train participants about the importance of proper control of the movement of pigs and early reporting of ASF outbreaks.
Delivery method:	Group discussion
Material:	Flip chart, marker, masking tap
Technique:	In reference to Mr and Mrs Okello's story, use the following questions to guide the group discussion

1. In short story above, Mr Okello reported the death of his pigs to the area veterinarian. Do you think he did the right thing?
2. If it was the right thing to do, did he report on time?
3. Do you think he reported to the right person?
4. Still in the story, we read that other farmers within Adekokwok sold their pigs hurriedly to traders at a cheap price. Is it a good practice to sell pigs during times of outbreak? If yes/no, ask the participants the reasons for their position.

Facilitator will then summarize the key points bringing out what could have been missed during the course of the story discussion. For example, emphasize the importance of the movement permit, if not mentioned above.

Ask among the group if there is someone who would be willing to volunteer and share his/her experience with ASF and how he/she managed it. Choose two volunteers (male and female) and invite them to tell their story. Open up a short discussion on the case and allow participants to ask questions to the farmer.

Report: the trainer will take note of all questions and issues that arise from the discussions

Session 3: On-farm practical demonstration of biosecurity measures (1 hour)

Objective:	This is to enable participants appreciate the importance of implementing good biosecurity practices..
Delivery method:	Demonstration
Technique:	Practical/observations

The facilitator will demonstrate with the group the following activities

1. **Cleaning and disinfecting the pigsty**
Get the group move to a pigsty of the model farm (make sure that biosecurity measures are observed by all participants). Sweep with a broom all waste in the sty including manure, left over feeds and garbage. Get a basin of water, add in the disinfectant with the right dilution recommended by the manufacturer and use a brush to scrub all corners of the sty.
2. **Footbath**
Use a basin, pour in the disinfectant and dilute following the manufacturer's recommendations. Step in feet first and allow all participants to do the same. Explain the importance of the activity, and provide them with a list of material they can use in replacement of the basin (use of cement pot, buckets etc.)
3. **Hand wash for the farmers**
Put water in a basin, get a cake of soap, and demonstrate hand washing from the shoulder to the fingertips of both hands. Get participants do the same. Emphasize that hand washing should be done before entering and after leaving the pigsty; also before and after handling a pig.
4. **Protective wears**
Get the model farmers show to the participants the clothes and shoes they use for their pig units. Get them explain the reason why protective wears are important.
5. **Heating of swill**
Get the swill from a local restaurant or a neighbour, and have the farmers identify the hazard in that swill. Put the swill in a pot, add some water and boil for a minimum of 30 min to 1 hour. Let it cool down before feeding to the pigs.
6. **Disposal of dead pigs**
Dig a pit of three feet, measure from the bottom of the pit up to six feet. Tell the participants about the recommended depth of the pit (nine feet). Emphasize that the width and length of the pit depend on the size and the number of the pigs to be buried.

At the end of the session, list the disinfectants that are available in the local market to the farmers. Indicate the prices and the dilution methods.

Table 2. Disinfectants sold in Masaka

Disinfectants	Quantity (litre)	Price (UGX)*	Dilution in water
Norocleans	1	15,000 (Masaka); 20,000 (Lira)	10 ml in 1 litre
Biosafe	1	14,000	
Virkil	1	16,000 (Masaka)	20 ml in 1 litre
Jik	1	4,000	
Kerol	1	45,000	15 ml in 10 litre

* UGX (Ugandan shilling). On 26 October 2017, USD 1 = UGX 3,649.86.

Material: basin, disinfectant, spray pumps, water, broom, brush

Session 4: Training evaluation (30 min)

Objective:	The purpose of this step is to develop methods for determining the degree to which the training is successful—i.e. whether it accomplishes the objectives set out. A well designed evaluation strategy provides trainees with an opportunity to express whether or not their needs have been met. It also provides the trainers with valuable feedback on the choices they made in the training.
Material	Flip chart, marker, masking tape
Technique:	Draw a table of four columns and rows on a sheet of paper; draw symbols such as gloomy face (1), a little smile (2) and a full smile (3). Distribute to each of the respondents one sheet of paper and guide them through the evaluation questions. Participants should tick against each parameter of choice in relation with the face expression.

Training	1 = Poor	2 = Good	3 = Excellent
Presentation skills of the facilitator			
Knowledge of farmers before the training			
Knowledge of farmers after the training			
Relevance of the training to the expectations at the beginning of the training			

References

- Atuhaire, D.K., Ochwo, S., Afayoa, M., Mwiine, F.N., Kokas, I. et al. 2013. Epidemiological overview of African swine fever in Uganda (2001–2012). *Journal of Veterinary Medicine* Article ID 949638, 9 pages. <http://dx.doi.org/10.1155/2013/949638> (Accessed 26 October 2017).
- Dione, M.M., Akol, J., Roesel, K., Kungu, J., Ouma, E.A., Wieland, B. and Pezo, D. 2015. Risk factors for African swine fever in smallholder pig production systems in Uganda. *Transboundary and Emerging Diseases* 64(3):872–882
- Dione, M.M., Ouma, E.A., Roesel, K., Kungu, J., Lule, P. et al. 2014. Participatory assessment of animal health and husbandry practices in smallholder pig production systems in three high poverty districts in Uganda. *Preventive Veterinary Medicine* 117:565–576.
- Wilde, V.L. and Vainio-Mattila, A. 1995. *How to design and carry out participatory training workshops. Gender analysis and forestry*. Rome, Italy: FAO.

Annexes

Photo 1. The edges of the ears may become dark red to blue.



Photo 2. Pigs running high fevers huddling together.



Photo 3. A big ulcer in the skin.



Photo 4. Bloody diarrhoea.



Photo 5. Pigs stop eating and have difficulty breathing.



Photo 6. Pigs can die massively within short period.



Photo 7. Group demonstration of disinfection in Lira.



Photo 8. Farmers in Lira discussing the transmission cycle of African swine fever.



ISBN 92-9146-530-6



The International Livestock Research Institute (ILRI) works to improve food security and reduce poverty in developing countries through research for better and more sustainable use of livestock. ILRI is a CGIAR research centre. It works through a network of regional and country offices and projects in East, South and Southeast Asia, and Central, East, Southern and West Africa. ilri.org



CGIAR is a global agricultural research partnership for a food-secure future. Its research is carried out by 15 research centres in collaboration with hundreds of partner organizations. cgiar.org