



WORMSS Participant Information Sheet for farmers submitting sheep poo

1. Study title

Worms – Resistance and Moxidectin on Scottish Sheep Farms (WORMSS)

2. Invitation paragraph

You are being invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. If you decide to take part in this study, you will be given a copy of this Participant Information Sheet and the signed consent form to keep.

3. What is the purpose of the study?

The purpose of this study is to find out how Scottish shepherds are currently using moxidectin (e.g. Cydectin) on their farms, and how effective moxidectin is against the sheep worms in their flock.

This study also aims to gather up-to-date information about wormer use in general by Scottish shepherds, and the prevalence of wormer resistance across Scotland. We are looking to learn how farmers perceive wormer resistance both as it impacts their own flock, and the sheep industry more widely.

4. Why have I been invited to participate?

You have been invited to take part in this study (by providing sheep faecal samples and completing a focused questionnaire) because you had contacted us to volunteer to submit samples for analysis and you have indicated that you are using moxidectin at lambing time this year.

5. Do I have to take part?

No, it is up to you to decide whether or not to take part. If you do decide to take part, you will keep this information sheet and are asked to sign and return the consent form included in this pack. If you decide to take part, you are still free to withdraw at any time and without giving a reason, however any research data, or samples, which you have submitted before that point will be retained and may be used in the project.

If you have changed your mind and no longer wish to take part, please let us know ASAP so that we can find a replacement farm.

6. What will happen to me if I take part?

You will fill out the enclosed moxidectin focused questionnaire. You will collect individual faecal samples from 15 sheep which you have treated with moxidectin 17-21 days previously, using the enclosed faecal sampling kit. You will then complete the sampling collection part of the enclosed questionnaire (page 1). Using the pre-paid padded envelope, you will return to us: the sheep faecal samples, the completed questionnaire and the consent form.

We will perform a strongyle faecal egg count on the sheep faeces and return the results to yourself promptly. Worms obtained from faecal samples will be further analysed (to identify species present) and stored long term during which time they may be used in other research projects, without notifying yourself.

We are also interested in resistance towards the end of the moxidectin persistency period. You will collect a second set of faecal samples from 10 sheep, complete a sample collection form and return these to us in a pre-paid padded envelope, towards the end of the persistency period of the product you used at lambing. The timing of this second collection will depend on the product you used but will be between 5 and 15 weeks after the date of treatment. You will not be required to sample the same sheep at the second sampling time point, but they should be representative of the 15 sheep that you sample at the first timepoint. This means that they should have been treated with the same moxidectin product at lambing and have been managed in the same way within the flock.

Your contact details will be retained until the project completes (expected to be Autumn 2021), after which time they will be securely destroyed, unless you specifically request for us to retain them. Once the project has completed, worm samples will be linked with the questionnaire data you provide, but not to yourself – unless you specifically request otherwise. If you do, your personal information will only be available to ourselves, or our successors at the University of Glasgow.

Summary:

- **Now: Collect faecal samples (15 sheep), fill out questionnaire and consent form**
- **Within 3 to 13 weeks from now (dependent on product): Collect faecal samples (10 sheep)**

7. What do I have to do?

Please read the faecal sampling instructions and complete the enclosed questionnaire. Collect faecal samples from treated sheep and return these, with the completed questionnaire and consent form to ourselves in the pre-paid padded envelope.

When we contact you with the faecal egg count results, we will arrange with you the time for the second faecal sample collection.

If you have any concerns, questions or suggestions please do not hesitate to get in contact.

8. What are the possible disadvantages and risks of taking part?

Collecting faecal samples now, and in the future, may be labour intensive for yourself, or your staff. Although you have already discussed the practicalities of this with ourselves, we realise that unexpected issues may arise. Please contact us if you are worried about any aspect of this study.

9. What are the possible benefits of taking part?

You will be provided with faecal egg count data from the samples you submit. This will allow you to observe whether moxidectin resistance may be present on your farm and will provide you with data which you can follow up, if you choose, with your vet or SQP.

As time and COVID restrictions permit, we will be running lab tests to identify worm species present in the samples you submit. If you would like this information, please let us know as it will not be automatically returned to you. We cannot provide an exact time as to when this information will be available but will be processing the samples as quickly as we can. Note that it takes several weeks, at a minimum, from sample collection to PCR identification of infective larvae.

10. Will my taking part in this study be kept confidential?

All information which is collected about you, or responses that you provide, during the research project will be kept strictly confidential. You will be identified by an ID number, and any information about you will have your name and address removed so that you cannot be recognised from it.

Any data in paper form will be stored in locked cabinets in rooms with restricted access at the University of Glasgow, or in a locked safe box (due to COVID restrictions and home working) until transposed into an electronic format. After this point, data in paper format will be securely destroyed. All data in electronic format will be stored on secure password-protected computers. No one outside of the research team or appropriate governance staff will be able to find out your name, or any other information which could identify you.

Once the study has completed, results and questionnaire responses will be stored anonymously in the University of Glasgow data repository to allow re-use in other research projects.

11. What will happen to my data?

Researchers from the University of Glasgow collect, store and process all personal information in accordance with the General Data Protection Regulation (2018).

You have been assigned a Farm ID. All samples and results, and all questionnaire responses will be identified by your Farm ID. No personal information will be stored with this data. For the duration of the project your personal information will be stored separately, and securely, in an encrypted form by the University of Glasgow and will be associated with your Farm ID. This will allow us to link the research data you provide (samples, results and questionnaire data) with yourself. Upon completion of the project your personal

information will be securely destroyed, unless you specifically request otherwise and we will no longer be able to link the research data with yourself.

The research data will be stored in archiving facilities in line with the University of Glasgow retention policy of up to 10 years. After this period, further retention may be agreed or your data will be securely destroyed in accordance with the relevant standard procedures.

If you decide to withdraw from the project at any time, your personal information will be securely destroyed within 72 hours. However, any research data you have provided up to that time point (samples, questionnaire information), will be retained and may be used in the project.

12. What will happen to the results of the research study?

Results will be analysed and summarised. Summary results will be presented within farmer focused meetings, most likely via zoom, later this year. Summary results will also be presented at scientific conferences and are expected to be published within a scientific paper. Summarised results will be distributed within the sheep industry and associated professional bodies, via a variety of means, as opportunities present.

13. Who is organising and funding the research?

The project is funded by the Knowledge Transfer Network (KTN) who are kindly sponsoring the Steve Bishop Early Career Award of the British Society of Animal Science. The University of Glasgow researchers, part of the Institute of Biodiversity, Animal Health and Comparative Medicine, are also supported by the BUG Consortium project (funder BBSRC) and a Wellcome Clinical Fellowship.

14. Who has reviewed the study?

The project has been reviewed by the College of Medical, Veterinary & Life Sciences Ethics Committee.

15. Contact for Further Information

For further information contact Dr Jennifer McIntyre: Jennifer.mcintyre@glasgow.ac.uk

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University of Glasgow,
Garscube, G61 1QH

If you have any general concerns, or are unable to get a response, please contact Dr Roz Laing: Rosalind.Laing@glasgow.ac.uk

Thank you for taking the time to read this information. If you have any questions, please don't hesitate to get in touch!