

Description of Pig Production, Health and Biosecurity on Smallholder Pig Enterprises in Scotland



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Introduction

Small-scale pig holdings in Europe tend to house a variety of other livestock¹ species which increases the risk of animal contacts^{2,3}. Consequently, such enterprises are presumed to play an important role in maintaining endemic disease^{2,3} and also in spreading exotic disease.

Although large-scale, commercial pig production is closely regulated in Scotland, little is known about the production systems, management practices and biosecurity approaches in use on small-scale, backyard and hobby enterprises. Generally speaking there is a paucity of literature available on this topic.

As over two thirds of the pig keepers in Scotland⁴ report that they have less than 10 pigs, the aim of this research was to fill existing knowledge gaps to facilitate improved focus of disease surveillance and control activities and better recommendations for pig keepers.

Methods

A list of registered pig keepers in Scotland was obtained. Those that were also registered with QMS Quality Assurance were removed and the remainder were randomly sampled to generate the study population.

610 questionnaires were sent by post and included the option to complete online instead. The link to the online questionnaire was also distributed as follows:

- 2 smallholder websites
- SAC Consulting newsletter
- Dumfries Agricultural Show 2013
- Royal Highland Show 2013
- Emailed to Scottish members of the British Pig Association

The questionnaire comprised seven sections dealing with location, reason for keeping pigs, nature of enterprise, experience selling pigs (if any), experience transporting pigs (if any), pig husbandry practices and pig health and biosecurity. Analyses were performed using ArcGIS and R.

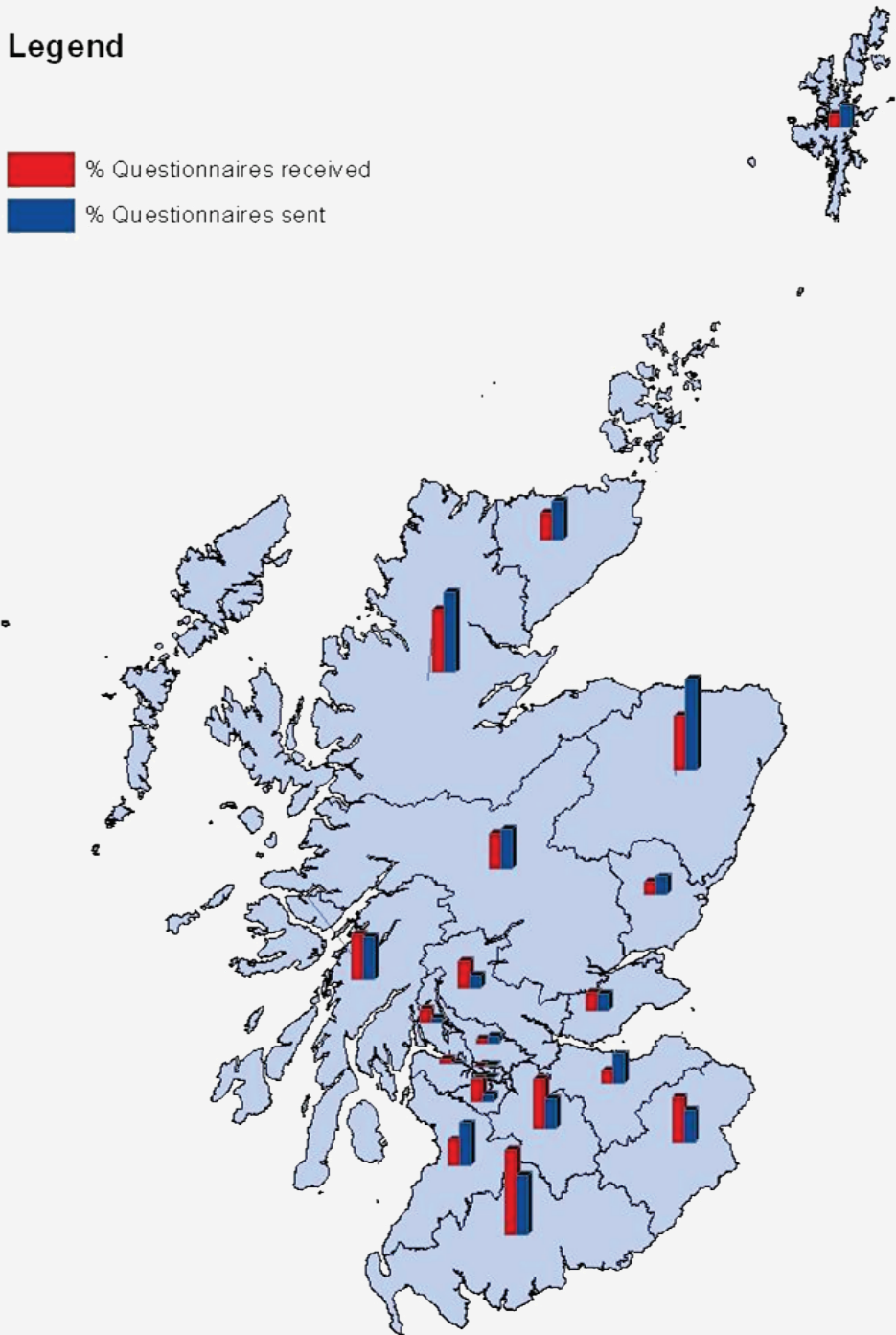
Selected Results

Questionnaire Responses and Validity

- 145 responses: 121 postal, 24 online
- 135 responses met criteria for small-scale pig keepers:
 - < 50 finishing pigs
 - < 15 adult pigs
 - finished < 100 pigs in 2012

No statistically significant difference in proportional representation of postcode areas between surveys sent and responses received.

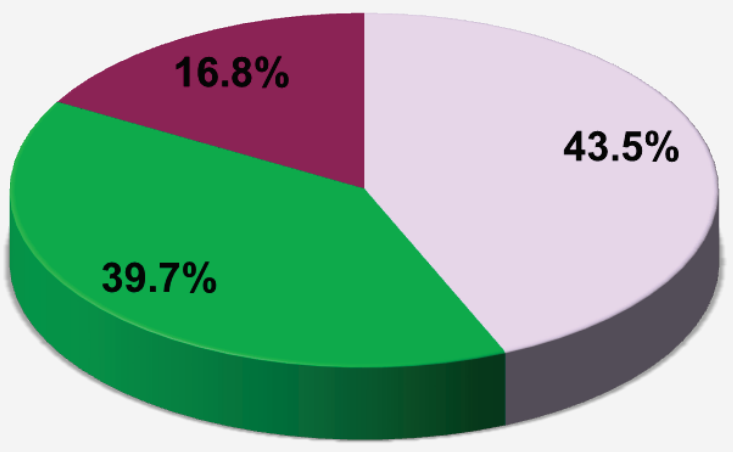
Responses by postcode area



Legend
■ % Questionnaires received
■ % Questionnaires sent

Selling and Transporting of pigs

Transporting pigs



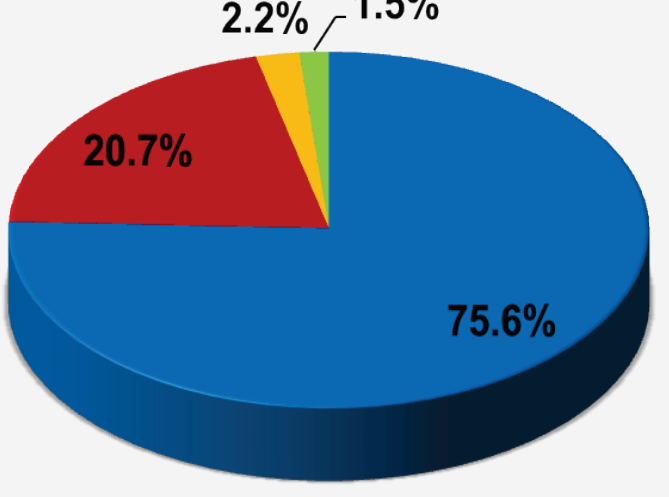
■ Yes, abattoir
■ Yes, several reasons
■ No

- Over 50% of respondents sold pigs, with over 75% of those using word of mouth as the main means.
- Over 33% reported difficulty in selling pigs, principally due to difficulty finding buyers, extensive legislation, poor prices and abattoir access.

Characterising Small Scale Pig Keepers

Category	% Respondents	Number at June 1st 2013		
		Min	Med	Max
Adult	52.4	1	2	15
Young	17.4	1	7	21
Finishing	39.4	1	4.5	23
No. finished pigs	77.5	1	4	80

Respondents' location



■ Isolated rural
■ Rural village
■ Small town
■ Large town/city

Pig numbers and type reported and number of pigs finished in 2012

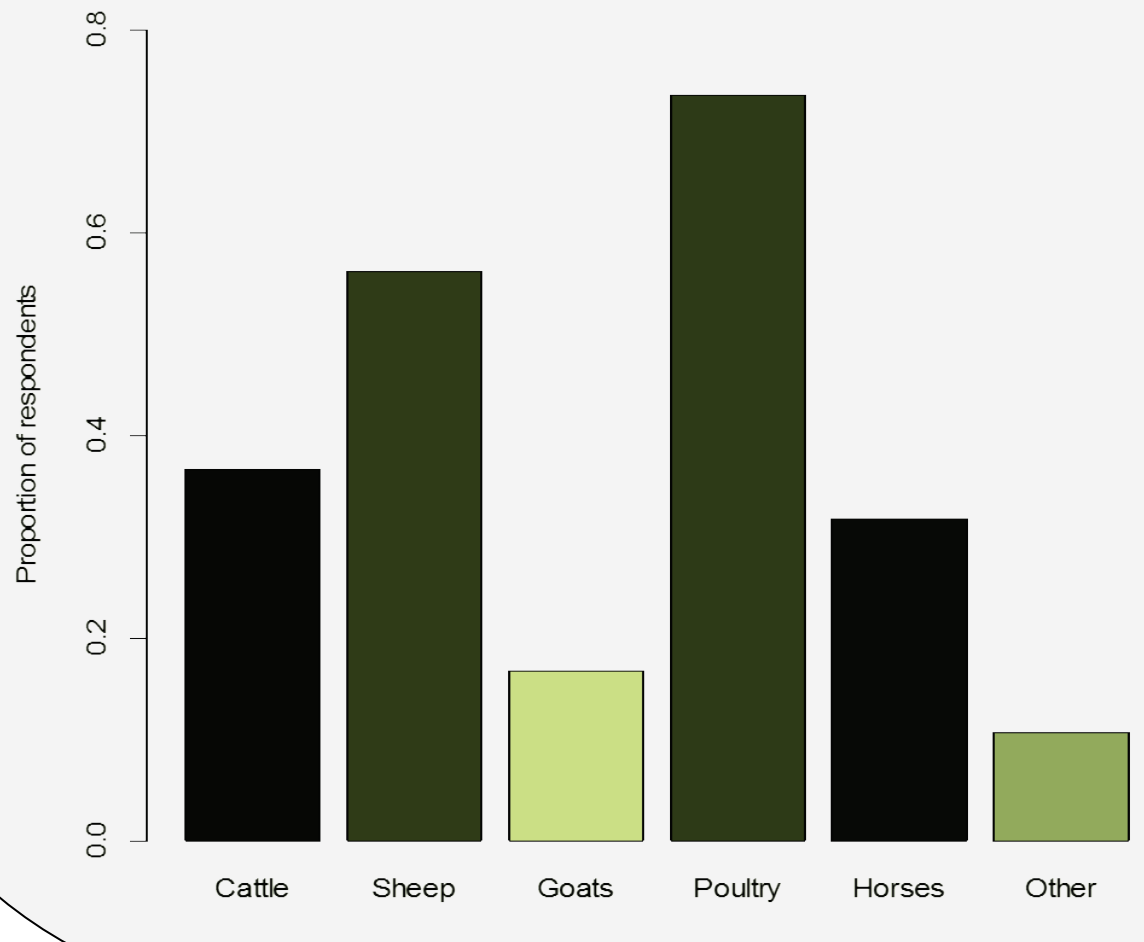
Why do you keep pigs?

1. Quality pork
2. Land utilisation
3. Self-sufficiency

Do you make money from pigs?

- 76% no income from pigs
- 22% slight income
- 2% significant income

Categories of additional species kept



■ Cattle
■ Sheep
■ Goats
■ Poultry
■ Horses
■ Other

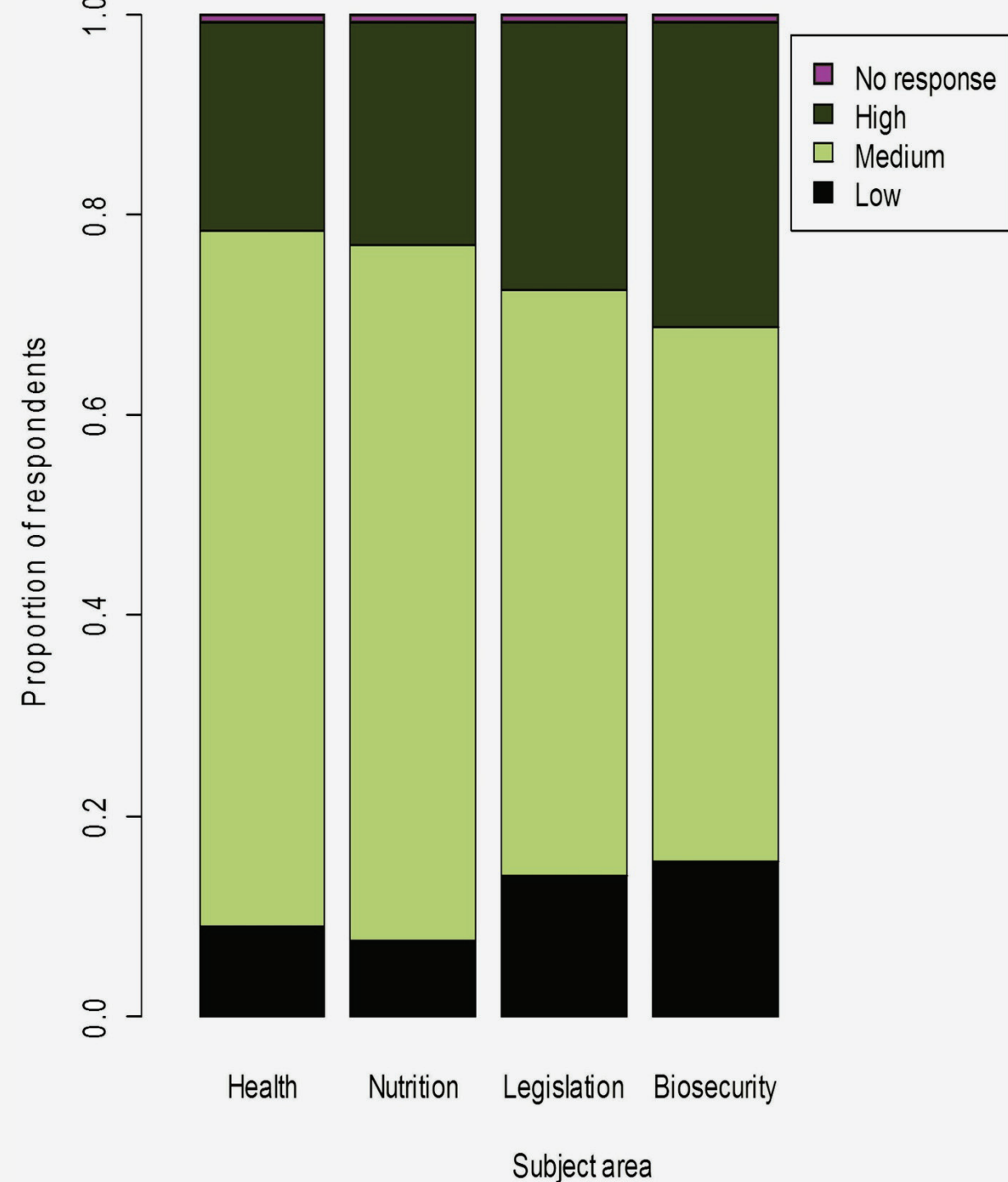
- 91.1% of small-scale pig keepers kept at least 1 other species
- 19.3% kept >3 other species

Health and Biosecurity

- The majority of pigs were kept outdoors.
- 63.3 to 82.5% of respondents reported never seeing respiratory, gastrointestinal, reproductive or locomotor problems in their pigs.
- 54.2% of respondents treat for worms; 20% treat for mange; 7% vaccinate (PRRS, Porcine Parvovirus and Erysipelas).

49.2% of respondents chose the vet as their first point for pig health advice, but 87% indicated that vet visited their pigs less than once a year or never.

Respondents' assessment of their knowledge



■ No response
■ High
■ Medium
■ Low

On average respondents practiced 7 out of a list of 15 biosecurity options. The following were most commonly selected:

1. Vehicles cleaned after movement of pigs
2. Controlling rodents
3. No contact between pigs and neighbouring animals
4. No contact between pigs and other animals on same premises
5. Preventing wildlife access to animal feed or waste

88.5% of respondents did not feel part of the British pig industry.

Conclusions

- Over 90% of respondents keep other species alongside pigs, which can have implications for disease spread. Poultry, sheep and cattle are the species most commonly kept on smallholdings in Scotland.
- Many pigs never see a vet and most small pig keepers do not feel they are part of the pig industry. This perceived separation could present a barrier to uptake of disease control measures.
- The output from this work will inform disease control planning through risk/transmission models.

References

¹EUROSTAT, 2012
²Alexandrov, T., Kamenov, P., Depner, K. (2011). Epidemiol. et sante anim. 59–60,140–142.
³Nigsch, A., Costard, S., Jones, B.A., Pfeiffer, D.U., Wierland, B. (2013). Prev. Vet. Med. 108, 262-275.
⁴Scottish Agricultural Census, 2011

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