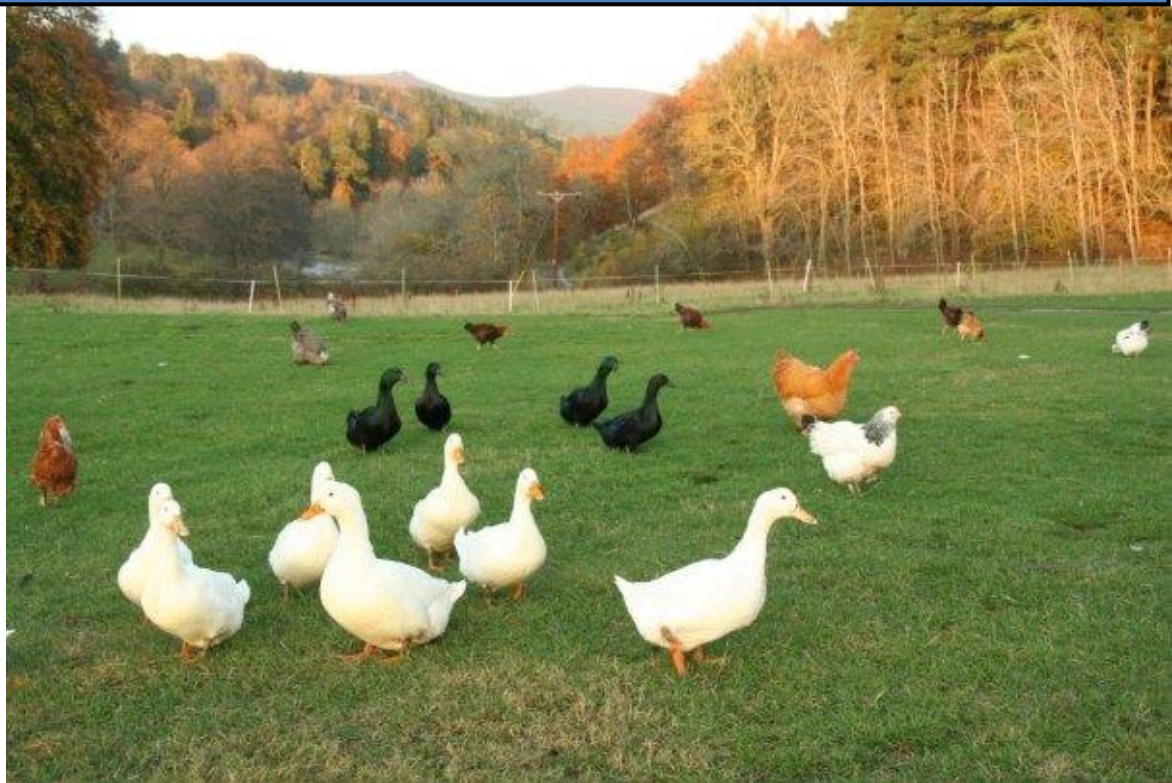




The James
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Survey Report: Understanding Backyard Poultry Keepers and their Perspectives on Bird Flu. August 2020



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Executive summary

Previous research¹ suggested that although some backyard keepers may be aware of the financial implications of Avian Influenza (AI) for the commercial poultry sector, many believe that they are disconnected and do not see themselves as a risk to commercial enterprises. In addition, few keepers seemed to be aware of the consequences to the export market of an outbreak of AI in a backyard flock. In order to investigate this further a survey was undertaken to explore Scottish keepers' attitudes to AI and in particular their awareness of the effects of AI in backyard poultry on the commercial sector.

This study is a survey of 126 backyard poultry keepers, from 15 regions in Scotland. The study was promoted at a sale in Aberdeenshire and through social media sites from 8th April until 30th June 2020. Findings are not statistically representative but reflect the perspectives of a broad demographic of backyard poultry keepers from across Scotland.

The majority (97%) of respondents said that they were either slightly worried (43%) or not at all worried (54%) about their birds contracting AI, believing themselves to be far enough away from any outbreaks and/or in a remote location. This was interesting given that half of the respondents were aware of wildfowl regularly feeding within 2km of their flocks and nearly all said that wild birds and/or their droppings could enter their enclosures.

Of the respondents to the survey, 63% had poultry during the 2016/17 UK outbreak of AI. Of these, three quarters of them stated that they housed their flock as required, following government

¹ Kyle and Sutherland (2017) <https://www.epicscotland.org/media/1559/final-report-smallflocks-and-biosecurity.pdf>

Correia-Gomes and Sparks (2020) <https://www.sciencedirect.com/science/article/pii/S016758771930412X>

regulations to the best of their ability. Some of those who did not house their flock said, *“it didn’t seem necessary”*, *“it’s too much effort”* and it’s *“unfair on the birds”*. Some 52% of the keepers who experienced the 2016/17 outbreak thought that regulations to control the spread of AI were either effective or somewhat effective. Only 14 participants had registered flocks (over 50 birds) at that time and of them 8 said they received text alerts and thought these alerts were useful.

When asked to read a statement regarding the effect to the commercial sector of an AI outbreak in a backyard flock², just under three quarters of respondents said they were already aware of the consequences, which contradicted the perception gained during earlier studies. However, responses suggest that they although they may be aware of the implications of AI to the commercial sector in terms of financial losses, the impact of a backyard bird or flock contracting AI is not as well understood. Comments around backyard birds being unlikely to spread AI to commercial units and being seen as scapegoats for AI outbreaks would appear to highlight this lack of understanding. In addition, there are a number of backyard keepers (28% in this survey) who are either unaware of the consequences and/or are unwilling or unable to follow guidelines during a future outbreak of AI or other notifiable diseases. In addition, although few respondents were aware of a living near a commercial poultry enterprise, just under half of those that did so indicated that their poultry could not be comfortably housed away from wild birds for long periods. Some participants asked for more specific guidelines, for instance how to exclude wild birds from their flock, while others requested clearer information on the minimum size of flock to be housed, how long they should be housed and the signs and symptoms of AI.

“Next time would it be possible to make things even clearer? State flock sizes, how long to keep in, the signs to look for etc”

As indicated in previous studies, Facebook, and other internet sites, and seeking advice from friends, were the main sources of education and information, with government websites and vets also mentioned. This demonstrates the importance of communicating through both industry and social media channels.

Due to the nature of backyard flocks, unregistered birds - which are in the majority - are difficult to access and police. Despite stringent attempts to inform keepers of the guidelines and regulations around an AI incursion, it appears that in many cases the message was not received, was poorly understood or simply ignored.

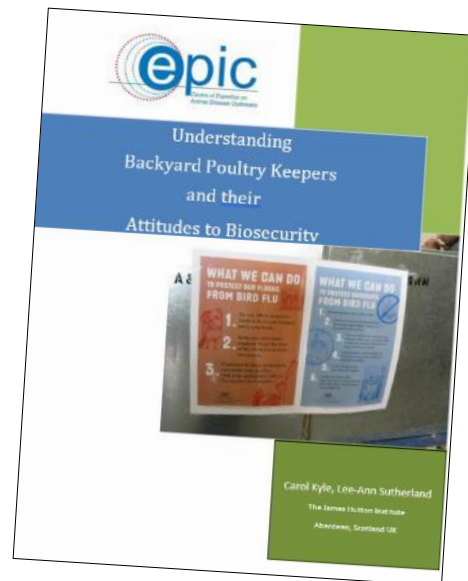
² The statement read: “A confirmed case of bird flu in any poultry, including ‘backyard’ birds, leads to export markets being severely restricted and the enforced housing of free range birds until the UK is declared disease free. And, restrictions which may last many months, have a huge financial impact on commercial producers, the poultry supply chain, the Scottish economy and importing countries. Individual employees will also suffer personal and financial consequences.”

Introduction

Previous research (Kyle and Sutherland 2017, Understanding Backyard Poultry Keepers and their Attitudes to Biosecurity) suggests that although some backyard keepers were aware of the financial implications of Avian Influenza (AI) to the commercial sector in Scotland, many do not see themselves as a risk to commercial enterprises.

<https://www.epicotland.org/media/1559/final-report-smallflocks-and-biosecurity.pdf>

Gomes, Adam and Sparks (Assessing the disease biosecurity of backyard keepers 2017) note that *“Backyard poultry keepers in Scotland were found to be relatively poorly informed about disease and may warrant specific consideration in the event of an AI outbreak. Engaging with [backyard] keepers is important for optimisation of contingency plans”*.



https://www.sruc.ac.uk/downloads/download/1303/assessing_the_disease_biosecurity_of_backyard_poultry_keepers

This study was designed to build on these findings and gauge the awareness of backyard keepers of the consequences of an AI outbreak in their flocks. The study also assesses whether highlighting these consequences would influence their likelihood of adapting their behaviour during future AI outbreaks.

Method

A survey of 46 questions divided into 9 sections (characterisation of keeper, location, housing and number of poultry, contact with wild birds, experience of AI, attitudes to regulations, knowledge of consequences to commercial sector, registration, information sources) was developed online (Qualtrics XM) and promoted through Facebook from 8th April until 30th June 2020. In addition, paper copies were distributed at a poultry sale in Aberdeenshire in March, but postcodes from these surveys were not recorded. In total 132 responses from people aged over 18 and keeping poultry in Scotland were received. Unfortunately, due to the COVID -19 outbreak, plans to engage with breed groups and distribute paper copies at other Scottish shows and sales did not take place, thus limiting the number of respondents while still attracting a broad demographic of backyard poultry keepers from across Scotland.

Characterization of keepers and poultry housing

Respondents came from 15 regions in Scotland (Figures 1a and 1b) and were aged between 18 and over 60, with the majority being between 41 and 50 (Figure 2). It is interesting to note the large number of responses with an AB postcode. The previous study by Kyle in the Aberdeenshire area may be a factor here as the author is known to some keepers in the AB area. As previously stated, paper copies distributed at an Aberdeenshire sale did not include postcodes, so they were not included in the geographic distribution.

Figure 1a Survey Postcode Coverage

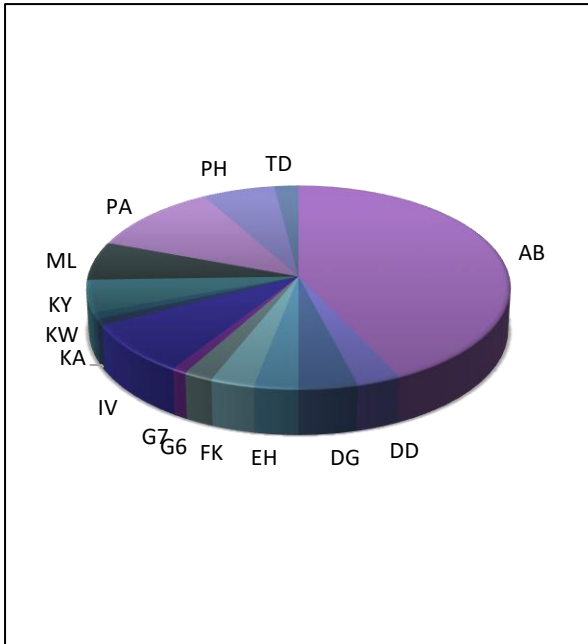
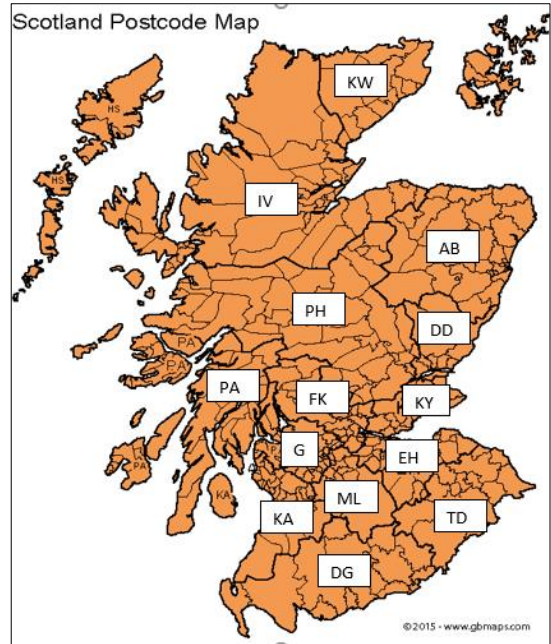


Figure 1b Map of Survey Postcode Areas



Just over half of respondent flocks were kept in a rural areas where neighbours were located within 1km. The remainder of flocks were kept in towns, villages, and rural areas with no neighbours. Some 4% of respondents kept their birds in a city. (Figure 3)

Figure 2 Age range of respondents

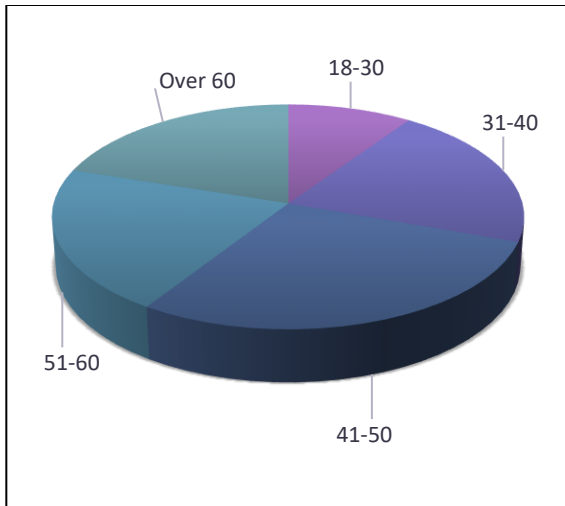
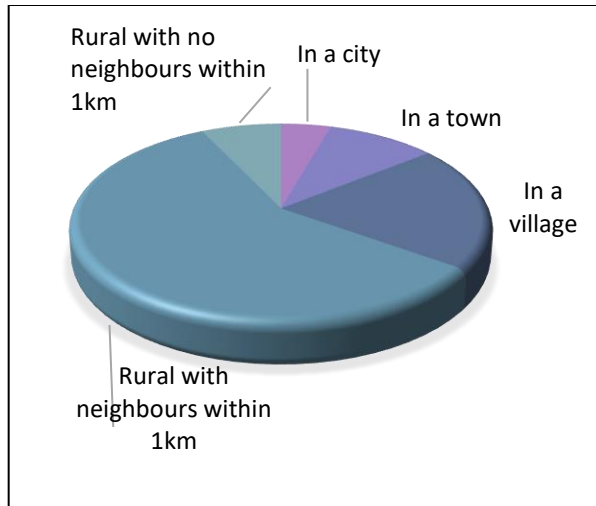


Figure 3 Location of poultry



Chickens were the favoured species, with numbers ranging from 2 to 120 (mean 15) in a flock. Respondents also kept ducks, turkeys, geese, quail, exotic pheasants, and guinea fowl, often in mixed flocks.

Nearly two thirds of respondents kept their birds either completely free range or enclosed in a pen with no roof, while the remainder used fully enclosed coops or runs with a solid or netted roof. Most (89%) respondents said that wild birds or their droppings could enter the area where their poultry lived; 70% of respondents said that their birds could be comfortably housed to exclude wild birds for long periods if required.

Nearly all respondents reported no standing water in their enclosure, but half of the respondents lived within 1km of a watercourse of some description. Perhaps unsurprisingly, given that a high proportion of keepers lived in rural areas, nearly half reported wildfowl feeding within a 2km radius of their flock.

Few participants (17%) knew of a commercial poultry enterprise within 2km of their flock and just under half of those said that they could not house their poultry in line with 2016/17 AI regulations.

Experience of AI

The majority of the respondents had heard of avian influenza (also called AI or bird flu), but none had direct experience of it in their flock, although a few had lived near an outbreak. One respondent who had lived near an outbreak said they were not at all worried about their birds getting AI but commented that “[we] thought we had AI but after Defra coming and culling some birds, [it] turned out to be a whole flock with mycoplasma. It was such a hard time” Only 4 respondents stated that they had never heard of AI or bird flu.

When asked how concerned they were that their birds might get AI, nearly all respondents (96%) were either slightly worried or not at all worried. Their reasons for their lack of concern were either their distance from previous outbreaks, distance from roads or close neighbours and /or their ability to follow guidelines regarding the exclusion of wild birds as required. There was no difference in response between respondents who did or did not have birds during the 2016/17 AI outbreak and no age category was more or less concerned. One of the only two people who were ‘very worried’ commented on their “concern for the genetic and conservation value of threatened species in my possession and the bloodlines of my exhibition poultry”. Interestingly, on further analysis, this person had around 120 birds and was unable to fully enclose the whole flock during the 2016/17 outbreak. Due to lack of housing and the inability to move or sell birds they voluntarily culled bird they were unable to house. A third of respondents with 50 birds or more said that they would be unable to house them all if required to do so.

Over half (63%) of the respondents owned poultry during the 2016/17 AI outbreak and the majority of them (75%) either housed their flock inside or took extra measures to exclude wild birds from the run.

“4 birds confined to covered run. It was a little small and this led to stressed birds with knock on effects for their health. I eventually let them out for supervised garden-time but kept feeder and drinker in run. I subsequently built a large, roofed, walk in run and larger coop. Although my birds’ free range daily, I am confident that a period of confinement would be well-tolerated and that I am now well set up for bird flu lock downs. Without a set up designed for this scenario the knock on welfare (hens) and emotional (hens and keeper) can be severe”.

While many keepers thought that their birds had settled into confinement, some commented about their concern for the birds’ welfare and the emotional and financial costs to themselves.

Photo courtesy of an anonymous keeper



“Flock kept enclosed throughout outbreak. Stress to birds not used to confinement. Extra feed cost. Some conflict with nearby neighbour not containing their birds. Extra time needed for hygiene requirement.”

“We built and upgraded as many runs as possible. I had a croft with lots of various birds, my ducks suffered the most having to live in a barn. Costs were very high in materials to rebuild chicken runs with metal roofs and aviary mesh. All were built to be walk in for humans and give the birds lots of space”.

“With movement/sales restrictions quality birds had to be killed. Those housed suffered welfare issues. Housing all birds would have created a situation [that would] normally incur cruelty charges and arrest”

“Housed 40 chickens in closed internal byre attached to house. No access to outside or for wild birds to have contact with my poultry. Financial cost- given no access to grass so

feed and bedding bill doubled. Emotional cost- 6 breeding cockerels crowing virtually in my house. Major concerns re bird welfare due to the restrictions that were imposed (and adhered to)”

Around a fifth of participants said that they took no extra measures to protect their flocks. Reasons for not doing so included: *“it’s unfair on the birds”, “we’re far enough away from an outbreak so not at risk”, “it didn’t seem necessary”, “our set up doesn’t enable housing”, “I couldn’t afford it or that it was too much effort”.*

“With the nearest confirmed case of AI being over 100miles away I considered the actual danger of being housed and welfare issues to be greater than potential danger of contracting AI”

“All birds were fit and healthy, sparrows etc. often pop into the run and we live inside a walled garden so any problems would be contained on our property”.

“No available indoor space except small coop - not sufficient space inside. Also felt risk was low”.

Knowledge of the Commercial Sector

Previous studies have suggested that backyard keepers have little knowledge of the effects on the commercial sector of their birds contracting AI. However, when asked if they were aware of the consequences, and having read a statement underlining the issues (Text Box 1), three quarters of respondents said they were aware of these repercussions.

Text Box 1

“In addition to supplying the UK market, the commercial poultry sector in Scotland supports a multimillion pound export market providing eggs and meat worldwide, and day old chicks to producers in more than 100 countries. While it is believed that the risk of direct infection from ‘backyard’ poultry to the professional sector is negligible:

- A confirmed case of bird flu in any poultry, including ‘backyard’ birds, leads to export markets being severely restricted and the enforced housing of free-range birds until the UK is declared disease free.
- Restrictions which may last many months, have a huge financial impact on commercial producers, the poultry supply chain, the Scottish economy and importing countries. Individual employees will also suffer personal and financial consequences”

When the respondents who had owned poultry during the 2016/17 AI outbreak were asked if, having read the statement, they would do anything differently during a future outbreak, the comments were mixed. The majority of respondents said they would not change their actions, primarily because they were satisfied with their facilities and did not feel they required improvement, while others cited cost, perceived welfare issues or distance from outbreaks as reasons for not making a change. There was no obvious relationship between awareness of the consequences of AI to the commercial sector and changes in behaviour during a future outbreak.

A small number of people specifically mentioned AI in commercial units, questioning why a sector with high biosecurity practices appeared to be the source of multiple outbreaks and suggesting that backyard keepers were being made scapegoats.

Commercial flock-photo Courtesy of Aviagen



“Commercial poultry operations supposedly have the highest bio-security. HOW could Influenza actually get INTO their flocks??? WHY was it able to get into commercial flocks??? It was absolutely NOT from small scale domestic flocks. Small scale domestic poultry keepers were subject to draconian measures with the continued implication that it ‘would be our fault’ if commercial flocks got it. Isolated domestic flocks were subject to the same restrictions as commercial flocks...”

“I feel that small scale producers are sometimes unfairly scapegoated as a threat Transmission by vehicles and humans involved in industrial production industry is a far bigger threat”.

“If an outbreak was close to the property where we lived, I would have taken measures [to enclose the flock]. I strongly feel that wild birds are used as a scapegoat for bird flu in poultry. As always, human animals are to blame NOT other beings!!”

“Look at Commercial flocks and research thoroughly WHY they can even be affected by Avian Flu when they supposedly have the best bio-security and isolative practices available. DO not impose the same restrictions on isolated, small scale poultry keepers. Look to the problem rather than the scapegoat”.

These comments would suggest a lack of understanding regarding the rationale for regulations around backyard flocks despite respondents having read the statement in text box 1.

AI in the flock

Just over half the respondents said they would involve their vet and/or the authorities (Defra and APHA were specifically mentioned) if they suspected AI in their flock. Others said they would cull

*A chicken showing signs of AI.
Photo courtesy of Fieldcasestudy.com*



either the whole flock or cull infected birds and isolate the remainder. There was some overlap between responses e.g. cull and inform vet or authorities so it is difficult to put a quantitative figure on the responses. Of the 3 respondents that said they either would not know what to do or would do nothing, one who kept 140 birds in a town and wasn't registered because *“I don't do paperwork”* commented that *“the backyard keepers actually put the entire poultry industry at risk. Bird flu is rife in small messy collections all over and people have no knowledge whatsoever. If a*

bird has bird flu symptoms, they will try to treat that bird with non -medical things. I cannot reiterate enough the lack of knowledge keepers have and this added to markets selling birds and people trying to make money from them all adds to a disaster rather like the one we are all living now.” As these two statements seemed rather contradictory the responses were double checked and are correct.

Registration and text alerts

Of the small number of respondents who had more than 50 birds (10%), three quarters of them had their flock registered with APHA. With the exception of the example above, those that were not registered did not comment as to why not.

Half the total number of respondents were aware that it is possible to register less than 50 birds and 15% of respondents with fewer than 50 birds had registered their flock. Two thirds of all keepers who kept registered flocks during the last AI outbreak remembered receiving text alerts which they found either useful or extremely useful. None of the respondents said that the text messages were not useful.

Regulations around AI outbreak

Respondents who owned poultry during the 2016/17 AI outbreak were asked ‘how effective do you think the regulations for backyard keepers were during the 2016/17 bird flu outbreak?’. A third thought they were either very effective or somewhat effective commenting that “*most people made an effort to comply*” and the “*outbreaks were restricted and cleared*”. Around half could not say how effective they thought the regulations were, while just under 15% thought that they were not at all effective either because there was a lack of awareness, “[*I was*] *not required to, but took steps to ensure birds were safe*” or that the regulations were impractical, difficult to police or that people just ignored them.



“[Regulations were] too haphazard, restrictions did not make sense e.g. why only a single bird infected from masses in a bird sanctuary when told it was very infectious?”

“Because a lot of backyarders aren’t aware of Defra guidelines and treat their poultry as pets, they don’t think rules apply to their birds because they have small numbers and there is no hard and fast rules about buying and keeping poultry no movement sheets like for animals, anyone can buy poultry no questions asked”.

“I don’t think there was much awareness of whether we had to do anything or not”.

“Ridiculous & poorly thought through, impractical”.

“Most ignored, impossible to police”

The refusal of some backyard keepers to follow regulations caused some respondents to comment on the poultry they saw or heard of that were unsecured.

“I did read of farmers still allowing their farmyard chickens to free-range yet people like myself were taking extra precautions!”

“It worried me that many people during the last bird flu outbreak still kept their birds outside and ignored the risk to other flocks and kept them outside, running around”

In their response to the questions around AI, some participants asked for more specific guidelines, for instance how to exclude wild birds from their flock, while others wanted clearer information on the minimum size of flock to be housed, how long they should be housed and the signs and symptoms of AI.

“I would have liked more specific information about how exactly smallholders were supposed to keep their poultry separate from wildfowl, e.g. what kind of mesh, layers, sizes, and estimated costs per square metre of the measures. In the 2016/17 occurrence, my sense was that I was spending money on precautions without being sure they were appropriate or sufficient”.

“I found the information in 16/17 a bit confusing as to whether tiny flocks needed shutting in and how long for. I’m not unintelligent so it wasn’t about comprehension. Next time would

it be possible to make things even clearer? State flock sizes, how long to keep in, the signs to look for etc”

Information Sources

As indicated in previous studies, respondents used a number of information sources, often more than one at a time,

“I have 2 books about keeping chickens. I do research online as well and chat with others who also keep or kept poultry before”.

Facebook, on-line poultry, and smallholder sites and seeking advice from friends, were the main sources of education and information, with government websites and vets also popular.

This suggests that a varied communications strategy appears necessary to reach small-scale poultry keepers in the event of future outbreaks.

Discussion

The information collected during the study undertaken by Kyle and Sutherland in 2017 suggested that backyard keepers have little knowledge of the implications of AI to the commercial sector. The results from this survey contradict that as 72% of participants said they were aware of the implications. However, responses suggest that they although they may be aware of the implications of AI to the commercial sector in terms of financial loses, the impact of a backyard bird or flock contracting AI is not so well understood. Also, around 25% of respondents were unaware of the impacts to the commercial sector and therefore do not fully understand the importance of following regulations.

Perhaps of greater concern are the participants who, despite professing to understand the impacts, do not believe that their flock is at risk or are unwilling or unable to house their birds. Due to the nature of backyard flocks, unregistered birds - which are in the majority - are difficult to access and police. Despite major efforts to inform keepers of the guidelines and regulations around an AI incursion, it appears that in many cases the message was not received, was poorly understood or was being ignored.



Acknowledgements

We would like to thank all the respondents who gave their time to fill out the survey.



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