

Effecting Change on Farm through Farmer Action Groups: Reducing the Use of Antibiotic Medicines on Dairy Farms

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Abstract: With current concerns over the emergence of antimicrobial resistance, pressures to reduce antibiotic use is widespread, and the dairy industry is no exception. Compelled by consumers, retailers and policy makers, farmers face the challenge of maintaining or improving dairy herd health and welfare while using medicines responsibly. Novel approaches are necessary to assist dairy farmers in achieving reductions in antibiotic use. The aim of the project was to adapt the tried and tested Stable School approach to see whether participatory farmer groups could be used in the UK to help farmers reduce antibiotic use on farm. In the project, groups of dairy producers worked together through Farmer Action Groups to develop Action Plans to limit the need for use of antibiotics on farm.

Key words: Antibiotic use; dairy production; peer-to-peer learning; farmer action group; action plan; participatory approach.

Introduction

The use of antibiotics (ABs) in food-producing animals is expected to grow over time particularly in the absence of intervention policies (O'Neill, 2015). Critically important antibiotics (CIAs), those considered important in human health care (WHO, 2012), are widely used on UK dairy farms (Brunton, 2012). Current concerns over the emergence and spread of antimicrobial resistance has led to pressures to reduce all AB use on farm. Compelled by consumers, retailers and policy makers, farmers face the challenge of maintaining or improving dairy herd health and welfare along with ensuring responsible use of medicines. In the absence of compulsory regulations to reduce ABs, novel approaches are necessary to assist dairy farmers in achieving reductions.

This article describes the process by which groups of dairy producers work together through Farmer Action Groups to develop Action Plans to reduce the need to use ABs and promote the highest standards for responsible use of ABs on farm.

Materials and methods

As part of a University of Bristol PhD research project, funded by and collaborating with AHDB Dairy, several Farmer Action Groups were established across the South West of England. The aim of the project was to adapt the tried and tested Stable School approach (Vaarst et al., 2007), to see whether participatory farmer groups could be used in the UK to help farmers reduce AB use on farm.

The process

From the outset, the process followed a rigid plan (Figure 1).

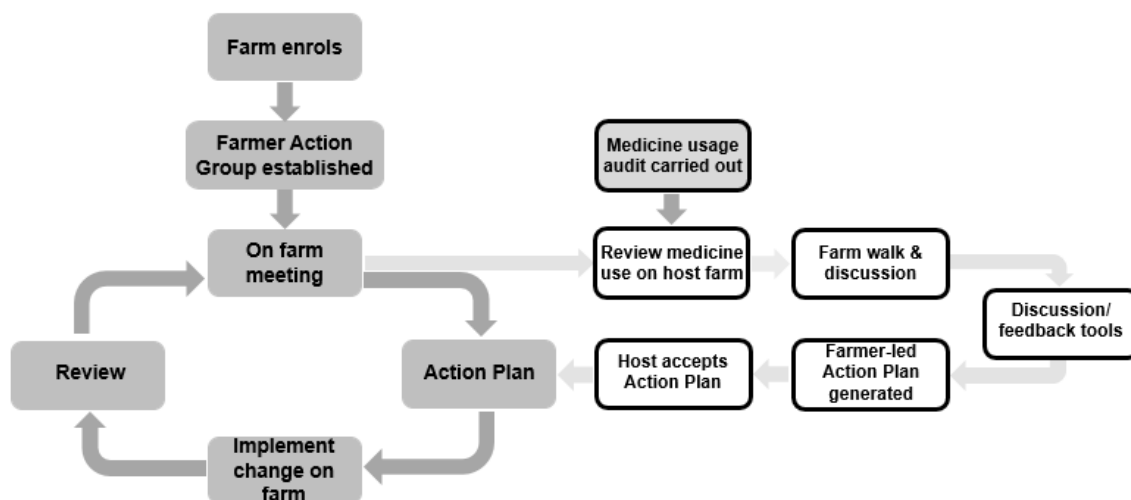


Figure 1. Outline of the process followed to reduce antibiotic usage on farm

Enrolment

Dairy producers were enrolled in the project via various channels: through approaches via veterinary practices, advertisements in farming literature and newsletters, advertising at on-farm events and meetings held for the sole purpose of recruitment to the project.

Farmer Action Groups established

Groups of producers in close geographical proximity were formed. These groups varied in size from 4 to 10 businesses, with some businesses having more than one member attending meetings.

On-farm meetings

The format of each meeting followed a structured approach and relied on an experienced facilitator to direct the process. Farm businesses in each group took it in turns to host a meeting every 6 to 8 weeks.

Around the farms. Each attendee shared with the group what had arisen on farm since the previous meeting, specifically in relation to AB usage.

Medicine audit review. A medicine audit for the host farm (which had been compiled prior to the meeting) was reviewed. Emphasis was given to areas where usage was low and where treatments were high. This highlighted areas where good practice could be shared amongst the group as well as where challenges for improvement could be considered.

Facilitated farm walk. A farm walk was undertaken, with the group looking at and discussing all classes of stock as well as the environment – such as buildings and the parlour – connecting what they saw and heard to the farm’s AB usage.

Review of farm walk. Various different feedback tools (one per meeting) were then utilised to generate dialogue to bring to light what worked well on the host farm and to identify where there were opportunities for change. Some of the feedback tools (Appendix) used were:

1. Grid system: A grid was laid out on a piece of flip-chart paper. The areas of the farm walk made up the columns, with three rows: positives, opportunities for change and ideas to take home (Table 1). A short period of time was given to reflect on the farm walk, what they considered was going well on farm (the positives) and where there were opportunities for change. Sticky notes were used to capture these points. Visiting farmers took turns to place their sticky notes on the grid, elaborating on their observations as they did so.

Table 1. An example of the grid system feedback tool

	Parlour	Milking cows	Dry cows	Calving area	Calves	Young-stock	Other
Positives							
Opportunities for change							
Ideas to take home							

2. Mapping exercise: A group member was appointed as an artist to draw a map of the farm walk on a piece of flip-chart paper with marker pens. The rest of the group guided the artist by recalling the areas of the farm walk. The host(s) were keenly discouraged from contributing, to allow the visiting farmers to actively reflect on what was observed. Once the map was made, the visiting farmers took turns to place three different coloured stickers representing positives, opportunities for change and ideas to take home on the map, expanding on their opinions as they did so. Multiple stickers of each colour were available for each farmer.
3. Evaluation scoring: A grid was laid out on a piece of flip-chart paper. The areas of the farm walk made up rows with a column for each attendee (Table 2). Each visiting farmer rated all areas of the farm walk on a scale from 1 (suggesting opportunities for change) to 10 (reflecting best practice). Scores were totalled for each row; additionally high or low scores were highlighted for further examination and discussion.

Table 2. An example of the evaluation scoring feedback tool

	1.	2.	3.	4.	5.	6.	7.	Total
Parlour								
Milking cows								
Dry cows								
Calving area								
Calves								
Young-stock								
Other								

Action Plan. The final part of the meeting involved the visiting farmers recommending practical changes that can be implemented on farm to reduce AB use. The host then accepted (or in some cases rejected) these ideas to form their Action Plan.

Implementation of Action Plan

The producers then executed their Action Plans on farm.

Review Meeting

Once all members of the group had been visited, review meetings took place. Implementation of the Action Plan was evaluated together with updated medicine audits to re-examine AB usage.

Action Plans and practical outcomes

To date, 29 farm businesses have enrolled and 23 on-farm meetings have been held with associated Action Plans generated. On average each Action Plan contains five action points for the host farmer to implement on farm.

The project is still ongoing and, as such, evaluations of how meticulously Action Plans have been applied on farm and changes in medicine use are currently being analysed. Farmers involved in these groups, however, have already shared changes on farm as a result of their participation.

Practical outcomes so far include: increased discussions with veterinarians, cessation of use of CIAs as first line treatments, building re-designs and improvements to calf housing, highlighting infectious disease control and vaccination, monitoring of colostrum and passive transfer, monitoring and investigating lameness and mastitis and increased use of foot trimmer rather than veterinary treatment with CIAs.

Recruitment and retention

Five recruitment events were held cross the region. Of the 1,070 businesses invited, sixty-five people attended from fifty-one businesses (4.8% of businesses invited). Of these, thirty-five farms signed up to the project (68.6%).

In total, sixty-two dairy enterprises have registered. Thirty-three (53.2%) have signed up and attended at least one Farmer Action Group meeting. Nine (14.5%) signed up but never attended a meeting, and fifteen (24.1%) have declined from the outset or were subsequently uncontactable. Of those that attended a Farmer Action Group meeting, only five (8.0%) have discontinued their participation (Figure 2).

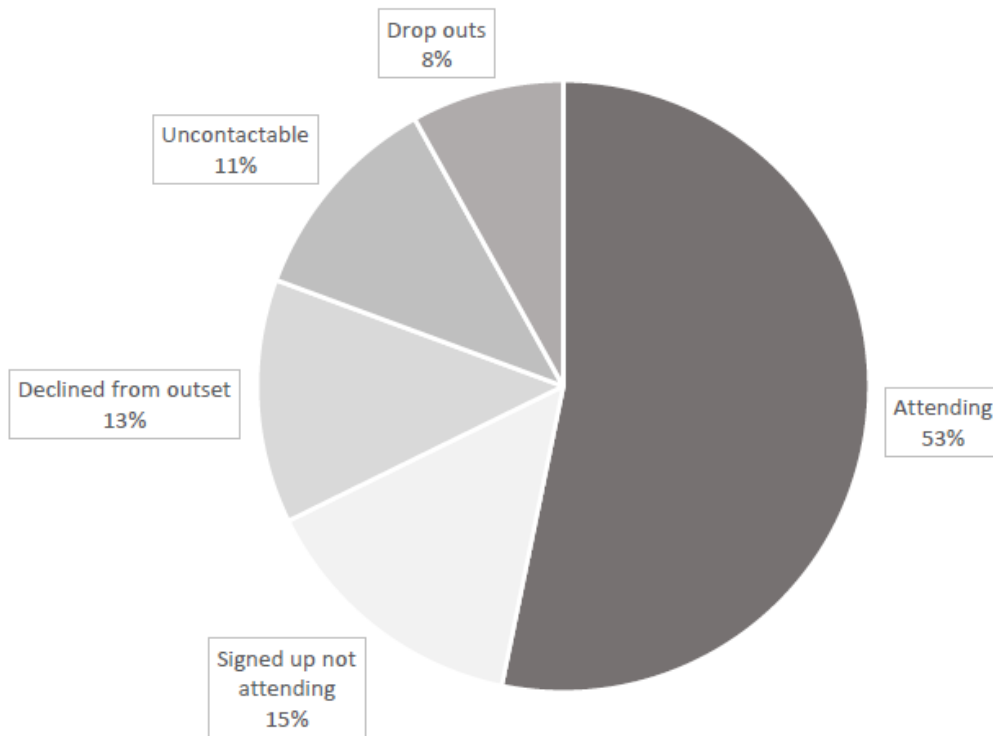


Figure 2. Recruitment statistics for the Farmer Action Group project

Concluding remarks

Engagement of farmers that agreed to participate has been excellent, with participants being happy to share both positive and negative issues, best practice and challenges, as well as to provide constructive feedback.

This project provides a unique opportunity to apply farmers’ knowledge and experience to result in credible and practical recommendations to reduce AB use on farm. Farmers work together towards a common goal and can gain support and seek advice through peer-to-peer engagement. Farmer Action Groups also provide an opportunity for farmers to see other management systems and adopt best practice concepts on their own farms. These collaborative approaches are likely to lead to reduced costs and improved animal welfare. However, further industry engagement, particularly with veterinarians, may be required to help drive AB reduction. Monitoring changes on farm by use of medicine audits provide a measurable indicator of effective change on farm. The Farmer Action Group approach can be used with other motivated farmer groups that have a shared objective. Considering that identifying farms that were willing to attend the Action Groups was challenging, further work is needed to understand how to make optimum use of the process within national policy initiatives focused at reducing AB use on dairy farms.

Acknowledgements

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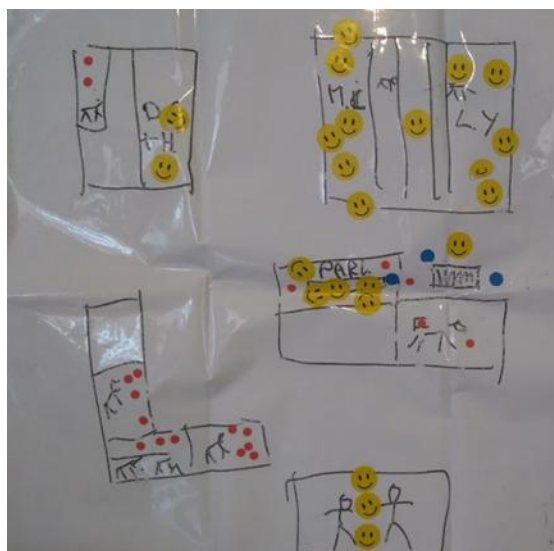
Appendix

Feedback Tools

Grid System



Mapping exercise



Evaluation scoring

Area									
Labour	9	8	7	9	9	9.5	9	8	68.5 8.5
Cubicles/ loose housing	7	8	6	8	8	7	9	7	60 7.5
Milking cows	8	7	7	8	10	8	9	10	67 8.37
Youngstock	?	9	5	-	8	-	-	-	22 2.2
Dry cows	8	8	5	8	10	7	10	10	66 8.25
Calving area	6	6	6	7	9	7	9	9	59 7.37
Calves	7	8	7	7	8	8	8	9	62 7.75
Other									