

Johne's Disease (JD) Focus Farms Project

An Action Research Approach designed to accelerate adoption of best practice to mitigate the impact of JD on dairy farms in Ontario.

Summary report to Dairy Farmers of Ontario



Executive Summary:

Project Aim:

That Dairy farmers participating in the project will:

- Become better informed about Johne's disease and its actual and potential impacts on farm, community and the dairy economy and,
- Using the Focus Farm as the "active site", cooperatively develop and implement practical management strategies and techniques to mitigate the spread and prevalence of the disease

The project will

- Accelerate the adoption of 'best practice' models of Johne's management across the industry.

The project forms one element of the education components of the "Johne's Education and Management Assistance Program for Ontario Dairy Producers", a three year program, launched on 1 January 2010. This element ran for two years, and established 8 Focus Farms across Ontario each of which became the nucleus of a self directed learning group of dairy farmers.

On the basis of the analysis of the results the project has:

- Provided a model for accelerating the rate of adoption of biosecurity practices and technologies on farm.
- Provided industry with a proven mechanism to address disease threats and enhance the overall preparedness of industry for a disease outbreak
- Resulted in behavioural change in the target groups which will, as a result of the intervention, be motivated to proactively address all disease issues on farm as opposed to reactively addressing the consequences of a disease outbreak post infection.
- Increased the ability of producers to interpret and adapt industry biosecurity standards for use within their individual business context.
- Built capacity by developing mentors and facilitators to work within industry
- Engendered a learning culture into industry that will over time help develop a more knowledgeable producer base.

Recommendations:

1. Develop a bank of trained facilitators running several Focus Farm groups across different commodities
2. This process is well suited to addressing intangible issues which whilst not of obvious financial significance to farmers are of importance to the farm operation and/or the social license of industry to operate (for example environmental management).
3. Producer developed newsletters should only to be used where producers would be interested in the subject matter as it applies to them.
4. Unless the subject matter of the meetings specifically refers to summer management – **do not hold meetings in the summer.**
5. Plan to visit other groups if possible. This might not be easy as the groups (as ours were) could be geographically diverse. At the very least provide a strong conduit between groups so that information can be exchanged. Consider using the facilitators as the conduit.

Report

Background

Godkin¹ (2006), reports that, “evidence shows that Johne’s disease is more widely spread than 15 years ago due to increased animal movement from herd to herd and larger herd sizes. If infection is spreading into more herds where it can spread to more cows, JD’s impact may be on the rise. JD-infected cows, even though not obviously sick, have reduced milk production and a shorter herd life over time.



Another cause for concern is that the organism causing JD in cows is increasingly being studied for a possible (as yet unproven) link to Crohn’s disease in people. Although JD is a bacterial infection, you can’t treat cattle for it. Unlike most other diseases, JD develops slowly, the interval between initial infection and bacterial shedding or sickness takes years rather than days or weeks. An infected animal can pass the disease on to a new generation of heifers before testing positive or showing any symptoms.

Once JD is established in a herd, reducing the reservoir of infected animals over time is the only way to prevent new cases from occurring.

In the last 5 to 10 years, other jurisdictions have shifted from the test-and-slaughter approach for JD control to emphasizing prevention of new infections in heifer calves. These programs involve changing heifer rearing in ways that are believed to prevent exposure of the young stock to JD infection.”

Sorge² (2009), on the results of a telephone survey of 238 dairy farmers in Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia who had participated in a risk assessment based voluntary JD control program concludes; *Although the producers generally liked the program and found the recommendations reasonable and feasible, on average only two of six suggestions made specifically to them were implemented. The recommendation with the highest compliance was culling of JD test positive cows. The main reasons for non-compliance were that the dairy producer did not believe a change of management practices necessary or the available barn setting or space did not allow the change. Producers were generally uncomfortable estimating time and monetary expenses for management changes, but found several suggested management practices actually saved time and money. In addition, 39% of the producers, that implemented at least one recommendation, thought their calf and herd health had improved subsequently. This indicates that the communication of associated benefits*

¹ Godkin, A. Johne’s Control - OMAFRA on line article.
www.omafra.gov.on.ca/english/livestock/dairy/facts/johnes_control.htm

² U. Sorge, ¹* D. Kelton, * K. Lissemore, * A. Godkin, † S. Hendrick, [§] and S. Wells[#] Attitudes of Canadian Dairy Farmers Towards a Voluntary Johne’s Disease Control Program

needs to be improved in order to increase the compliance of producers with recommended management practices.

The challenge arising out of these situations described above is the relatively slow rate of adoption of proven techniques and technologies by farmers. Dr Godkin (ibid) notes that *These programs involve changing heifer rearing in ways that are believed to prevent exposure of the young stock to JD infection.* In other words the best available technology to mitigate Johnne's disease involves changes in farm practice and every practice change involves trade-offs.

Inexplicably slow adoption of technologies and practices by farmers even when there are financial incentives, is well documented. When the best available technology is to make changes to farm practice and thus change whole farm systems (as suggested above), with no explicit return on investment of time and money, adoption becomes slower again.

Externally developed protocols, disease preparedness, awareness raising or traditional KT approaches by industry or government do not in and of themselves, incentivize individual farmers to adopt practices to mitigate disease and there are many examples throughout agriculture of this same phenomenon/problem. Adoption is voluntary and it is accepted by many researchers (for example Boxelaar, 2005,)³ that *“adoption is comprised of a complex amalgam of personal attitude, skill levels, technical understanding, social issues, beliefs and farming systems. As a result of this complexity the adoption of natural resource management practices by dairy farmers is a slow process.”*

In order to ensure that best practice is adopted it is important that the best practice becomes a routine practice on the farm. One way to achieve this is by using a participatory or action research approach.

Action Research (AR) has been used successfully in a number of similar (well documented), circumstances to overcome the problem of adoption. AR used appropriately enables groups of producers to:

- recognize and accept that there is a problem,
- seek to understand how best to mitigate the problem and then
- act to solve the problem in their unique circumstance (context).

The project:

Using an Action Research model the objective of the project was to achieve an acceleration in the rate of adoption of 'best practice' at farm level to mitigate the impact of, and eventually eradicate JD in the dairy industry in Ontario.

The project was specifically designed to:

- Raise awareness among dairy farmers of the potential farm impacts, community implications and economic downsides associated with JD in dairy cattle,
- Result in behavioural change in the target group who will, as a result of the intervention, be motivated to proactively address the possibility of JD on farm as opposed to reactively addressing the consequences of a disease outbreak post positive identification.

Boxelaar, L., Paine, M., 2005, Social dimensions of on-farm change

- Increase the ability of producers to interpret and adapt industry biosecurity standards for use within their individual business context.
- Provide industry with a mechanism to address other disease threats and as a result enhance the overall preparedness of industry for a disease outbreak

Activities that helped achieve the project objectives:



1. Identification and recruitment of a number of influential industry opinion leaders
2. Training of a number of facilitators in AR techniques to run the Focus Farms groups
3. Establishment of 8 Focus Farms
4. Accessibility to technical expertise on an as needed basis
5. Identification of “exemplar” farms to be used as models
6. Access to funds to assist with farm visits
7. Access to funds to assist with the development and implementation of farm biosecurity plans (didn't happen – yet)

Results, the project has:

- Provided and demonstrated a model for accelerating the rate of adoption of biosecurity practices and technologies on farm.
- Provided industry with a proven mechanism to address disease threats and enhance the overall preparedness of industry for a disease outbreak
- Resulted in behavioural change in the target groups which will, as a result of the intervention, be motivated to proactively address all disease issues on farm as opposed to reactively addressing the consequences of a disease outbreak post infection.
- Increased the ability of producers to interpret and adapt industry biosecurity standards for use within their individual business context.
- Built capacity by developing mentors and facilitators to work within industry
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Lessons learned:

1. Producer produced newsletters: the newsletters simply didn't get traction with producers.

Recommendation is for the newsletter initiative only to be used where producers would be interested in the subject matter as it applies to them.

2. Unless the subject matter of the meetings specifically refers to summer management – **do not hold meetings in the summer.**

Recommendation – be careful about when meetings are run – look at the topic and plan accordingly

3. The groups really liked hearing about (and in our case meeting) other groups to exchange ideas.

Recommendations

3.1. Plan to visit other groups if possible. This might not be easy as the groups (as ours were) could be geographically diverse. At the very least provide a strong conduit between groups so that information can be exchanged.

3.2. Consider the facilitators as the conduit: This issue of linkages also touches on the issue of facilitation. There were pro's and con's to having vets as the facilitators. The pro's are obvious, they know the subject matter and can fill gaps when any arise in the discussion – but this is also a weakness. The vets should not be the ones facilitating and at the same time offering expert advice. Stephanie Andreatta in 2001 in a thesis called "Learning from the group" suggests that where too much expertise lies within the facilitator the meetings quickly turn from a discussion group to a consulting session. This is counter productive. Farmer capacity is not built, ownership of solutions is not forthcoming and behavioural change is slower as a result.

A different model would be to have one facilitator manage several groups as a full time job. The vets could then be brought into the meetings as experts, their natural role in the workplace. This would be considerably less expensive than using vets and would enable the cross pollination of ideas between the groups, better continuity of progress between the groups and potential speaker cost savings for example if a speaker is needed by two groups they could run a joint meeting.

There is resistance to this from the vets. Understandably. They see their role as being the interface with and conduit to the producers, they are right. They also suggest that as they know the farmers, they know the issues and can get the farmers to talk about them – also true. But I had to wonder when we were touring farms how much information the farmers withheld because the vet was present! This issue needs further discussion with the JD working group.

For issues other than livestock disease the groups would not need a vet. It would be possible to have a bank of trained facilitators running several Focus Farm groups across different commodities which is why this model of facilitation (one facilitator running multiple groups) is recommended.

Recommendation: This process is well suited to addressing intangible issues which whilst not of obvious financial significance to farmers are of importance to the farm operation and/or the social license of industry to operate (for example environmental management).

Highlights

The purpose of the project was to facilitate groups of dairy farmers to work together to develop solutions to help mitigate the impact of Johne's disease on their farms. The first two interim reports recorded success in the following areas:

1. Facilitators developed a high level of facilitation skills
2. Group members were recruited
3. A close working relationship between group members was established
4. An initial understanding of what we don't know how to seek more information about mitigating Johne's disease by:
 - a. Hearing from experts and
 - b. Visiting examples of good practice
5. A commitment to the project by the farmers.
6. The first returned after the summer with full attendance recorded at each group meeting
7. A series of special 'joint' group meetings were held during November 2011 at which highlights from the groups were displayed and discussed and stories swapped between farmer members.
8. A second cohort was successfully recruited in 6 of the 8 groups, Navan, New Liskeard, Napanee, Tavistock, Kemptville and Seaforth. The Kirkton and Listowel were unable to get the second cohort running and were overtaken by the early spring which hampered their attempts to form a cohort.
9. Some farmers from the first cohort in a number of groups chose to stay on for a second year
10. The members of the first cohort were successfully used as ambassadors to recruit the second cohort
11. The Focus Farm model is to be used on a trial basis in 2012 for reducing somatic cell counts
12. The important outcome to note here is that when the group transition is handled correctly it works really well. It takes some effort to make it happen and its also important to have the right connections with the first group and to have had some successful outcomes with them in order for them to feel comfortable recommending the program to their peers.

Key achievements of the project:

1. The numbers of farmers who have gone through the program
2. The number of first cohort farmers who stayed on in year 2
3. The volume of practice/behavioural change we have recorded.
4. The fact that this program has been picked up and used in another disease mitigation program by the DFO before this project was completed. Already five workshops have been run.
5. A new position at DFO has been created to assist with running their new program based on the Focus farm principles.
6. Decision making skills and confidence have been built in producers
7. 6 groups look as if they will continue on after the end of the project
8. 4 groups have applied for and been granted AMI funds
9. On at least two farms from the first cohort we have seen an improvement in calf health
10. Producers from these groups have been eager participants in another trial investigating water use – indicating a growing desire to be involved and learn.

Why is this project important to the stakeholders?

“We have been having trouble reaching our members, so we are changing our focus and this process is helping”

(Mr. George MacNaughton DFO August 2012).

The project is less important to producers than it is to stakeholders. Producers learn decision making skills whilst undertaking the project and the personal confidence we've seen built in some of the participants has been quite extraordinary.

But it does provide a mechanism to engage producers in an issue which would otherwise be very hard for them to get involved with. **No-one would come to a John's management meeting.** For too long we have been lecturing producers in chalk and talk sessions on the right way to do this and that and that method has its place in teaching skills and imparting information where tangible outcomes can be observed. But where the benefits are intangible behavioural change is a very difficult end point to achieve. If left to their own devices eventually producers will find the best way to do what we're looking for on their own farms. But before this happens they need to not only see the problem or be told about it by an expert, they need to witness it in a context to which they can relate, a way to internalize it and develop a solution for themselves.

The focus farms method provides a mechanism for achieving this by covering three important elements that allow them to do this;

- Develop a greater awareness of the complexity of the issue (not just be told it's a problem),
- Discussion with others (their peers) as to how they manage or would manage the issue and
- The ability to contextualize the issue in their individual farm setting.

End Project Summary