

The Identification of Issues Related to Access to Livestock Slaughter Facilities in Animal Disease Situations

The identification of practical issues related to slaughter facilities participating in the humane destruction and disposal of livestock

(a) in the event of a disease event requiring slaughter and disposal and

(b) in an event requiring access to slaughter for animals in an emerging disease event that has no food safety implications or regulatory requirements for disposal.

together with recommendations to address them.

February 2018

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This report was produced with support by the Assurance stream of the AgriMarketing program, through Growing Forward 2. The project was managed by the Canadian Animal Health Coalition (CAHC) and supported by the National Farmed Animal Health and Welfare Council (NFAHW Council) and the Livestock Market Interruption Strategy Steering Committee (LMISSC).

The report expresses the opinions of the consultant and not necessarily the views of the NFAHW Council, the LMISSC or the CAHC

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Executive Summary

Through on-site interviews this study attempted to identify key concerns and issues that senior management and/or owners of slaughterhouses would have if requested to participate

- in the humane destruction and disposal of the entire animal
- or with some parts retained for use and the balance discarded
- or with retention of all normally retained animal parts for use.

The study also was to identify critical issues to be included in a proposed national survey of the slaughter industry, both provincially and federally inspected establishments, to be completed in 2018.

According to the 2014 paper entitled “The application of humane slaughterhouse practices to large-scale culling” by A. Gavinelli, T. Kennedy & D. Simonin (*Rev. sci. tech. Off. int. Epiz.*, 2014, 33 (1), 291-301)

“Conducting mass culling at a slaughterhouse has many advantages, due to the availability of:

- *competent personnel*
- *handling facilities and stunning equipment*
- *measures to maintain biosecurity.*

In addition, the psychological trauma of killing animals in large numbers is less significant at a slaughterhouse. Despite these advantages, the requirement for exemplary planning remains. Planning involves the organization of animal transport and lairage capacities with slaughterhouse throughput, the availability of personnel, and disposal capacities to ensure that backlogs are not created that would compromise welfare.

Barriers against using slaughterhouses do exist. The disease may be so infectious that any movement from the farm poses an unacceptable risk. Furthermore, it may be so debilitating that humane transportation is impossible. Operators and companies are aware of the public concerns that surround culling and, in the interests of maintaining good business relations, may not wish to be associated with it. Assurances that culled products will not enter the food chain are a further consideration. Identifying a slaughterhouse that can accommodate multiple susceptible species or animals of different ages is also a challenge”.

None of the interviewees indicated that they would refuse to participate in a cull if requested. Agreement by owners or managers to any use of a slaughter facility to mitigate a crisis negatively impacting the livestock industry will be motivated by two prime factors:

- The long term maintenance of their raw material supply base, ie; the viability of the livestock producer.
- Sustaining their business and the livelihoods of their employees, suppliers and the local economy in both the short and long term. There would be efforts made to avoid lay offs or shutdowns and to retain their market share and customers in the long term.

Any agreement to participate would, however, be conditional and the conditions could vary substantially from establishment to establishment.

Two options were identified when considering the use of slaughter establishments for culling livestock.

1. Adapt the establishment to stun and kill the animals and then dispose of the carcass without passing it through the entire operation, ie. remove the carcass from the stunning and bleeding area via some form of conveyor directly to a vehicle for transportation to a disposal site such as rendering or burial.
2. Run the slaughter establishment as normal and pass the carcass through the normal (or slightly modified dressing process if disease is present) with either full or partial marketing of parts of the carcass and disposal of the remainder.

In most establishments option 2 is preferred and the most practical. It is also the option that can be implemented very quickly. In infectious livestock disease outbreaks actions to control the outbreak must be taken very quickly.

The most important limiting factors to increasing slaughter capacity are lack of chiller space, lack of freezer capacity to store excess product and the inability to find the necessary labour. Provincial labour regulations and collective agreements (both of industry and government employees) also restrict the amount of hours that employees can work. The size and species of livestock to be slaughtered are limiting factors with certain provincially inspected establishments likely having the most flexibility to slaughter a range of livestock. It would be a high priority to identify these establishments.

Using part of existing slaughter capacity to slaughter healthy animals that are required to be culled (slaughter displacement) as opposed to trying to add additional slaughter capacity is probably be the most practical use for existing slaughter facilities. For diseased animals any inactive establishments could be utilized and should be identified to determine their current condition. Depending upon zoning restrictions In a major emergency companies that have more than one establishment could be requested to dedicate an establishment to slaughter diseased animals with their other operations supplying their customers.

Two methods of compensation for participating in a cull were suggested. The first method would be a per head slaughtered calculation and the second method would allow for healthy livestock to be slaughtered with the establishment being able to market the carcass and parts in order to recoup the cost of participation.

Concerns were raised about the ability of various levels of government to efficiently coordinate their regulatory requirements in an emergency situation. This concern also includes the ability of the different government agencies to coordinate their demands on industry in a manner that minimizes costs and disruption. Regulatory issues that are disease specific will have to be identified prior to any decision to participate being made. For example testing requirements in disease situations where the possibility of salvaging carcass parts for human consumption need to be clearly explained so that an accurate assessment can be made of the time product must be held prior to test results being made available.

A survey would need to identify establishments that would be considered key potential participants in any livestock cull but, once they have been identified, it will be critical to undertake detailed negotiations between government officials and each individual establishment. This is to enable written agreements between the appropriate government and each individual establishment to be put in place that clearly outline the specific conditions and compensation mechanism under which an establishment would agree to participate in a livestock cull if requested.

Key Items to be addressed in a survey to identify potential participants.

For each active establishment:

- Species normally slaughtered and type of animal within the species (weight range etc.)

- Normal line speed
- Geographical location
- Type of product marketed – whole carcass, bulk cuts, boxed retail ready, fresh, frozen, processed etc.
- The type of cull they would be prepared to participate in:
 - Diseased animals
 - Healthy animals

Amount of short term surge capacity as a percentage of normal slaughter before chiller and storage space become critical.

What parts of the carcass are considered most marketable and which would be disposed of first if storage space becomes critical?

For inactive establishments

- Whether the facility still exists and remains inactive
- The condition of the facility and an assessment of its ability to function as a temporary slaughter facility with respect to equipment, utilities etc.
- Current ownership

For freezers

- Overall capacity
- Geographical location
- Type of product stored under normal conditions by percentage (meat, fish, vegetables etc.)

Labour issues

In the case of layoffs being necessary would establishment employees be available and willing to conduct culls in nearby facilities?

Compensation

Which compensation option would a specific establishment choose?

If more than one compensation option is considered acceptable what conditions or scenarios would make an establishment decide to request a specific option?

Introduction

The key issues around the use of slaughterhouses for participating in a livestock cull are clearly stated in the following direct quote from the 2014 paper entitled “The application of humane slaughterhouse practices to large-scale culling” by A. Gavinelli, T. Kennedy & D. Simonin (*Rev. sci. tech. Off. int. Epiz.*, 2014, 33 (1), 291-301)

“The impetus for the immediate, in situ killing of large numbers of animals is to prevent causal agent multiplication and the spread of disease caused by their movement between farms or the movement of equipment or humans that have been in contact with infected animals. The decision to cull is made at the government level and usually based on economic considerations, to maintain animal and public health and to minimize trade restrictions. However, the cost of eradication and the societal and ethical issues concerned are the subject of much debate. Societal concerns include:

- *an aversion to killing healthy animals*
- *the possible use of alternative control measures, e.g. vaccination*
- *the welfare of animals on holdings subject to quarantine*
- *food waste*
- *environmental concerns about carcass disposal*
- *ensuring that animals are humanely killed*

Conducting mass culling at a slaughterhouse has many advantages, due to the availability of:

- *competent personnel*
- *handling facilities and stunning equipment*
- *measures to maintain biosecurity.*

In addition, the psychological trauma of killing animals in large numbers is less significant at a slaughterhouse. Despite these advantages, the requirement for exemplary planning remains. Planning involves the organization of animal transport and lairage capacities with slaughterhouse throughput, the availability of personnel, and disposal capacities to ensure that backlogs are not created that would compromise welfare.

The suitability of the slaughterhouse for disease control depends on the nature of the causal agent and the location of other susceptible animals in its vicinity. For example, the urgency and biosecurity imperatives when managing an FMD case are very different from those in a bovine spongiform encephalopathy (BSE) outbreak. In Ireland, slaughterhouses were used for culling during the 2008 dioxin crisis, the BSE herd depopulations and during the 2001 FMD outbreak.

Barriers against using slaughterhouses do exist. The disease may be so infectious that any movement from the farm poses an unacceptable risk. Furthermore, it may be so debilitating that humane transportation is impossible. Operators and companies are aware of the public concerns that surround culling and, in the interests of maintaining good business relations, may not wish to be associated with it. Assurances that culled products will not enter the food chain are a further consideration. Identifying a slaughterhouse that can accommodate multiple susceptible species or animals of different ages is also a challenge.

The rationalization of the slaughter industry over the past 20 years has resulted in fewer slaughterhouses. This reduction will restrict options for their use in mass culling.

When developing long-term disease control strategies, particularly in areas with high population densities,

maintaining abattoirs that are positioned to readily supply necessary services at short notice should be investigated. The challenges to such a strategy are the continuing costs of facility upkeep and the payment of retainer fees to operators to secure their participation in mass killing, when required.”

Agreement by owners or managers to any use of a slaughter facility to mitigate a crisis negatively impacting the livestock industry will be motivated by two prime factors:

- The long term maintainance of their raw material supply base, ie; the viability of the livestock producer.
- Sustaining their business and the livelihoods of their employees, suppliers and the local economy in both the short and long term. There would be efforts made to avoid lay offs or shutdowns and to retain their market share and customers in the long term.

The calculation as to what type of support would be provided by industry to mitigate the impact of a crisis in the event of an emergency effecting the livestock and meat industry is a complex economic equation based upon a large number of factors. It is also a calculation that will differ from company to company.

No interviewee indicated that they would not consider participating in a cull if requested but their participation would be conditional. Since the conditions vary from company to company one on one negotiations prior to any crisis are necessary in order to determine a specific role and conditions for each individual company.

Study Objectives

A. Through a series of on-site interviews with senior management and/or establishment owners to discuss, document and compile into a report their willingness and ability to participate in a livestock cull under three scenarios:

1. Humane destruction and disposal of the entire animal
2. Humane destruction of the animal with some parts retained for use and the balance discarded
3. Humane destruction of the animal with retention of all normally retained animal parts for use

and

B. Identify critical issues to be included in a proposed national survey of the slaughter industry, both provincially and federally inspected establishments, to be completed in 2018.

It is not possible to accurately predict either the scale or scope of the next disease outbreak that will negatively impact the livestock industry. The interviewees were not given a highly defined scenario that stated a specific disease or scale of outbreak to react to, nor a “worst case scenario”.

Consequently it is not possible to accurately predict costs that would be incurred but what the results of these interviews are intended for is to provide government officials with a “heads up” as to the major issues and concerns that would be presented in any negotiation with slaughter establishments. Any negotiation should be carried out before a crisis occurs because it is evident that they are somewhat complex and would take time, something that would not be available in a crisis situation. Any agreement between industry and government also has to take into account different levels of possible involvement since this cannot be predicted ahead of time.

Methodology

The study was conducted at the beginning of February, 2018, and consisted of a series of one on one interviews with senior management and/or slaughter establishment owners in Ontario. The establishments selected were composed of both federally inspected and provincially inspected slaughter operations that slaughtered cattle, hogs and small stock (sheep and goats). Poultry establishments were not included in this study.

The interviews consisted of a general discussion around the following topics:

1. Ability to slaughter large numbers of animals in an emergency situation

Elements such as

- Surge capacity
- Flexibility with respect to animal size
- Cost of any necessary equipment modification
- Pen capacity
- Whole carcass disposal issues

2. Ability to salvage whole carcasses and/or parts of carcasses

Elements such as

- Cooler and further processing capacity
- On and off site freezer capacity
- Marketing of excess product

3. Labour and/or union issues

Elements such as

- Ability to find additional trained employees
- Labour costs

4. Export and domestic market concerns

5. Public relations issues

6. Relations with government and contracting/compensation

Elements such as

- Timeframe to get ready
- Government protection/ indemnity needed
- Advance contracting
- The elements that need to be considered when calculating compensation for conducting this type of work.

7. Anything else that is missing from this list?

The purpose of the interviews was to determine the reaction of the interviewees with respect to the practical issues and concerns they would have if requested by government officials to participate in a livestock cull on an emergency basis.

The results of the study represent a compilation of the responses and various points of view that were received and documented, together with recommendations based upon the results.

General issues and concerns if requested to participate in a livestock cull on an emergency basis

Slaughter capacity and options

There were two options identified when considering the use of slaughter establishments for culling livestock.

3. Adapt the establishment to stun and kill the animals and then dispose of the carcass without passing it through the entire operation, ie. remove the carcass from the stunning and bleeding area via some form of conveyor directly to a vehicle for transportation to a disposal site such as rendering or burial.
4. Run the slaughter establishment as normal and pass the carcass through the normal (or slightly modified dressing process if disease is present) with either full or partial marketing of parts of the carcass and disposal of the remainder.

Option 1 requires the building of a conveyance system and modifications to the building in order to make this possible. In most establishments it would take time to do this. Costs and practicality would vary considerably from establishment to establishment and the majority of the establishments interviewed indicated that their layout precluded this option. Previous experience with this option had a minimum cost of over \$50,000 for the set-up and several days to implement it. This option requires whole carcass disposal that means that disposal options will dictate the volume of livestock that can be culled in a given time frame. The majority of interviewees were not in favour of this option.

Option 2 allows the establishment to operate as normal with no layout or equipment modifications. This option increase the number of establishments that could participate in a cull and allows the potential cull rate to be known in advance since it will closely correspond to the normal operating line speed. Any lead time to implement this option will be governed by the requirement to rearrange operating schedules, transportation, labour etc. and not by the need to make physical changes to the establishment or construct specialized equipment. Providing that agreements that govern the conditions under which individual establishments will participate in a cull have already been put in place this option can be implemented within 2 to 3 days. Since timeliness of action is critical to effective emergency management this option was the preferred option by the majority of the interviewees..

Because the carcass undergoes the dressing procedures it permits carcass parts to be salvaged with a corresponding reduction in the volume that must be disposed of through rendering or burial. It does, of course, require some form of marketing strategy for products that are salvaged as well as the means to store this material.

From a species perspective cattle represent a significant challenge due primarily to their size. Straight slaughter and disposal of the entire carcass would present major problems for premature removal from the slaughter line and disposal. This would likely not be an option that a large slaughter plant would consider.

In addition Specified Risk Material (SRM) disposal requirements also create issues for whole carcass disposal of cattle since those parts of the carcass identified as SRM must be removed and destroyed. If they are not removed then the entire carcass would be treated as SRM material greatly increasing disposal volumes.

Hogs that are close to market weight create a challenge due to the necessity to potentially cull large numbers very quickly before their additional growth causes serious welfare issues when they outgrow their housing space.

As previously stated the slaughter of animals using normal establishment operating techniques for dressing etc. is considered to be more practical by the interviewees. The numbers of animals that can be culled in this matter is, however, governed by the following factors.

1. Increasing capacity by adding an additional shift or part of shift is problematic due to;

- Lack of chiller capacity - chiller space is a limiting factor when salvaging product and increasing kill volume. Under normal operations chiller space runs at 10% below absolute maximum. During the year there are market fluctuations of around +/- 10% from the average so, during a low demand period, there could be up to 20% available capacity.
- Lack of freezer space to store salvaged product. There was some debate as to the amount of additional freezer space that could be accessed in an emergency from none to some but it is certainly a limiting factor in how much product could be salvaged.
- Lack of skilled labour and provincial labour regulations regarding working hours.

2. The size of the animals to be culled. This restricts establishments with respect to the size of animal they can slaughter.

Modern high line speed slaughter facilities are designed for specific species and classes of animal within a species. Animals that are larger than normal market weight can damage equipment and those that are smaller can create hazardous conditions for employees who may have to reach further to perform certain tasks.

Some provincially registered establishments have more flexibility because some slaughter a variety of species and a range of weights and sizes. Certain stunning systems such as anoxic systems for hogs also have more flexibility with respect to the size of the animal. Identification of and negotiations with these types of operation should be a high priority.

Slaughter displacement to accommodate livestock identified for immediate culling:

Slaughter displacement means using part of existing slaughter capacity to slaughter healthy animals that are required to be culled as opposed to trying to add additional slaughter capacity. This would probably be the most practical use for existing slaughter facilities.

However if slaughter displacement displaces animals subject to slaughter contracts with producers then this could create issues such as breach of contract by the slaughter establishment and adversely affect relations with producers. It was indicated, for example, that in Ontario approximately 80% of hogs are subject to contract.

Interviewees indicated that kills are scheduled at least a week in advance. Making substantive changes to the schedule in a very short timeframe would be quite disruptive since livestock transportation is booked around 7 days in advance. It would generally take 2 to 3 days to rearrange schedules.

In order to make a slaughter displacement arrangement work it would, depending on the number of animals to be culled, likely be necessary to initially displace no more than 10% of the scheduled slaughter with

gradual increases over time if required to meet the demand for culling. Market weight hogs present the biggest problem in that they cannot be easily held back. 7 days is around the limit.

Inactive Slaughter Facilities

It was indicated that there are a number of unused facilities in Ontario, primarily ones that had been provincially inspected, that could be repurposed to conduct limited slaughter of diseased animals. No specific examples were provided but the suggestion was made that the government should consider identifying any suitable facilities and arrange to keep them maintained to a sufficient level that they could be quickly utilized in an emergency for slaughter only.

It was further indicated that, should an active establishment be completely shut down due to livestock movement controls in a disease emergency, establishment employees could be utilized to operate such an inactive operation. This would avoid layoffs and the requirement to decontaminate an operational establishment that might otherwise be requested to slaughter diseased livestock.

Producer relationships

In a slaughter displacement scenario interviewees would be concerned about trying to balance the interests between producers who are under contract to provide them with regular livestock supplies and the supply of animals to be culled from other sources. Provincial livestock associations would need to be involved in this type of negotiation.

Domestic Customer relationships

There is considerable concern over customer reaction and its impact on marketing product from animals culled from areas close to a disease outbreak. Measures to reassure customers that the product is safe will be critical to being able to market any product.

Labour issues

There is an acute labour shortage in the meat packing industry and programs such as the Foreign Worker Program are utilized to try to mitigate this. This is in a time when there is no emergency and, consequently, there is no means to quickly add labour in the case of a crisis.

Provincial labour laws in Canada as well as some collective agreements govern maximum hours of work that severely restrict the ability to add additional hours of work to an existing workforce. This issue was considered a serious impediment to expanding hours of operation.

Provincial plant employees may have a greater range of skill sets due to their requirement to be able to undertake a greater multitude of specific tasks than in a large operation and continuing labour shortages have required this. It takes at least a year to properly train an employee. Finding additional skilled workers in an emergency would simply not be possible.

There will be a requirement for government (either federal or provincial) inspection to be present in order to assure that humane slaughter and transportation standards have been met as well as for inspection, testing and other regulatory requirements. Consequently CFIA and provincial government work shift agreements need to be reviewed as to their potential impact on crisis management.

Any additional hours worked would require a premium for wages.

Regulatory issues

Concerns were raised about the ability of various levels of government to efficiently coordinate their regulatory requirements in an emergency situation. This concern also includes the ability of the different government agencies to coordinate their demands on industry in a manner that minimizes costs and disruption.

Public relations and communications issues:

The federal government is considered to be the most credible organization with respect to communications to the public regarding food safety and animal disease issues. It is suggested however that any messaging requires detailed industry input and that industry public relations experts and government need to work hand in hand on any public relations issues. In the past this has been a weak point in disease issues.

Recommendations

That governments use the current databases of information on both federally and provincially inspected slaughter establishments (examples in Annex C) to identify the active establishments that would be most useful for culling livestock in an emergency and develop a priority list based upon the following factors.

Provincial livestock demographics and geographical location – what species and volume might need to be culled.

For each establishment:

- Species normally slaughtered and type of animal within the species (weight range etc.)
- Normal line speed
- Geographical location
- Type of product marketed – whole carcass, bulk cuts, boxed retail ready, fresh, frozen, processed etc.

That governments use the historical databases of information on both federally and provincially inspected slaughter establishments to identify the inactive establishments that would be most useful for culling diseased livestock in an emergency and determine:

- Whether the facility still exists and remains inactive
- The condition of the facility and an assessment of its ability to function as a temporary slaughter facility with respect to equipment, utilities etc.
- Current ownership

That governments conduct a survey of commercial freezers to determine the following:

- Overall capacity
- Geographical location
- Type of product stored under normal conditions by percentage (meat, fish, vegetables etc.)

That governments review their regulatory authority under the various emergency measures legislation (example in Annex B) to determine their ability to override legislation or contracts

pertaining to labour issues in order to address the regulations that might restrict hours of work in an emergency

That governments take steps to reassure industry about the ability of various levels of government to efficiently coordinate their regulatory requirements in an emergency situation through transparent emergency planning and exercises that involve industry stakeholders

Key Items to be addressed in a survey

For each active establishment:

- Species normally slaughtered and type of animal within the species (weight range etc.)
- Normal line speed
- Geographical location
- Type of product marketed – whole carcass, bulk cuts, boxed retail ready, fresh, frozen, processed etc.
- The type of cull they would be prepared to participate in:
 - Diseased animals
 - Healthy animals

For inactive establishments

- Whether the facility still exists and remains inactive
- The condition of the facility and an assessment of its ability to function as a temporary slaughter facility with respect to equipment, utilities etc.
- Current ownership

For freezers

- Overall capacity
- Geographical location
- Type of product stored under normal conditions by percentage (meat, fish, vegetables etc.)

Additional issues and concerns specifically regarding the role of slaughter establishments participating in a cull of diseased livestock

Slaughter capacity and options

For diseased animals slaughter on farm would be a preferred option. Governments should consider obtaining portable equipment that could be maintained, stored and operated by a designated provincial establishment. If normal slaughter operations were curtailed due to a disease outbreak then slaughterhouse staff could be utilized for on-farm work.

If zoning is implemented and a company has establishments both inside and outside the zone then the establishment within the disease zone could be used to slaughter diseased animals and the establishments that are outside the zone used to service their domestic customers. (see Export Issues). A factor that needs to be taken into consideration when determining if this will be implemented is the supply of product for specific customer programs, some of which are regionally based.

Large establishments with only a single establishment would tend to avoid this possibility since they would not wish to provide their customer list to a competitor and risk market share after the emergency is over.

Producer relationships

Has the initial case of the disease been detected on farm or at a slaughter establishment? If the disease has been detected at the slaughter establishment then biosecurity concerns impacting livestock transportation and establishment operations will need to be addressed.

Domestic customer relationships

Domestic customer relationships are a serious concern for an establishment that participates in the slaughter of diseased animals. The level of concern will depend somewhat upon the disease and any impact that it would have on actual or perceived customer fears regarding food safety.

Regulatory authorities will need to play a critical communications role with domestic customers in accurately explaining the situation and countering any misconceptions in order for establishments to have confidence that their participation in a cull will not result in damage to their business, either in the short or long term.

Export Issues

The current export market for beef is approximately 48% of production. It is around 70% for hogs. (*LMISSC Workshop – Price Modelling Information Sheet*). If this were to be lost then capacity to undertake a cull would be created in federally inspected establishments. This capacity could be utilized in two ways:

- Slaughter displacement to cull healthy animals
- Dedication of a slaughter plant or plants to slaughter only diseased animals with other establishments servicing the domestic production needs. Designating slaughter establishments to just slaughter diseased animals might work when companies with multiple establishments are involved but an operation with only one establishment would not wish to give up its market or provide its customer list to a competitor.

Some carcass parts only go to export markets so there are carcass parts that are not viable to salvage for the domestic market. These parts would end up being rendered.

Labour issues

In order to make a decision regarding using establishments for slaughtering diseased animals any additional risks to employees that may occur must be clearly identified and the measures necessary to mitigate these risks must be documented and implemented.

Items such as additional protective clothing must be supplied and disease specific sanitizing protocols need to be prepared and published prior to a decision being made. Decontamination guidelines similar to those published for chemicals under the Workplace Safety Insurance Board would be necessary for each specific disease.

The perception of customers and producers is critical and employees have the right to refuse work under health and safety guidelines.

Regulatory issues

Regulatory issues that are disease specific will have to be identified prior to any decision to participate being made. For example testing requirements in disease situations where the possibility of salvaging carcass parts for human consumption need to be clearly explained so that an accurate assessment can be made of the time product must be held prior to test results being made available. This is due, for example, to the different shelf life for muscle cuts versus trim.

Public relations

Regulatory authorities will need to play a critical communications role with both the public and domestic customers in accurately explaining the situation and countering any misconceptions regarding the impact of the disease on food safety, public health and animal welfare. This is in order for not only establishments to have confidence that their participation in a cull will not result in damage to their business, either in the short or long term but extremely important with respect to maintaining public confidence in the safety of meat products. The market would be under extreme pressure and maintaining domestic consumption is a critical factor in trying to stabilize it.

Recommendations

That governments have up to date detailed disease specific information that will be made available to industry regarding:

- Public health and food safety
- Any additional protective equipment or practices that workers must have or understand when working with diseased livestock
- Biosecurity protocols
- Testing protocols and timeframes

That governments examine the possibility of obtaining portable slaughter equipment that can be taken either to a farm or other facility and familiarize a nucleus of establishment employees in its use.

Key Items to be addressed in a survey

In the case of layoffs being necessary would establishment employees be available and willing to conduct culls in nearby facilities?

Additional issues and concerns specifically regarding the role of slaughter establishments participating in a cull of healthy livestock

Slaughter capacity and options

If the objective is to depopulate an area close to a disease outbreak as quickly as possible in order to minimize the possibility of the disease spreading then using large, single species slaughter operations to conduct this type of cull would be the most efficient and fastest option. Generally speaking the cost per head slaughtered in this type of operation is lower than in less efficient operations.

Slaughter displacement agreements should be in place in advance of any need to implement such a cull.

Utilization issues for meat products salvaged from healthy animals

The ability to salvage the carcass or parts thereof will be influenced by the following factors.

- lack of chiller capacity
- lack of freezer capacity
- storage costs
- the type of testing that is required to assure freedom from disease and the length of time the testing takes due to the impact this would have on shelf life. eg. muscle cuts have a greater shelf life than trim

Producer relationships

Negotiations with producers supplying livestock under contract will need to take place if slaughter displacement is required in order to try to reach a mutually acceptable short term solution that minimizes any operational disruption.

If an establishment agrees ahead of time that they would be willing to participate in a cull if requested then their regular livestock suppliers should be informed and some form of emergency plan documented.

Domestic customer relationships

Regulatory authorities will need to play a critical communications role with domestic customers in accurately explaining the situation and countering any misconceptions in order for establishments to have confidence that their participation in a cull will not result in damage to their business, either in the short or long term.

Regulatory issues

The need to assure that apparently healthy animals that are close to a disease outbreak are indeed healthy and do not pose a risk to either animal or public health. If providing this assurance is very disruptive it will negatively impact the ability and willingness of establishments to participate in a cull.

Public relations

Public concerns that healthy animals are being slaughtered and the carcasses might be fully or partially wasted need to be countered. Establishments would not want to be held to account for major wastage so the ability to market product from healthy animals (either fully or partially) and the amount of storage available are limiting factors as to the percentage of slaughter displacement and additional slaughter that they would undertake.

Recommendations

That governments have put in place detailed agreements with selected slaughter establishments in advance of any disease emergency that will allow the establishment to participate quickly if requested but also allow establishments to negotiate with their contract producers as to what may occur in an emergency and what actions may need to be taken.

Key Items to be addressed in a survey

Amount of short term surge capacity as a percentage of normal slaughter before chiller and storage space become critical.

What parts of the carcass are considered most marketable and which would be disposed of first if storage space becomes critical?

Compensation issues

Two methods of compensation for participating in a cull were suggested. The first method would be a per head slaughtered calculation and the second method would allow for healthy livestock to be slaughtered with the establishment being able to market the carcass and parts in order to recoup the cost of participation.

Compensation calculations:

Per Head – diseased or healthy animals

The compensation calculation needs to take into account the following elements.

1. Fixed costs such as

- Building depreciation
- Salaries
- Fixed overhead costs
- Collective agreement requirements

2. Variable costs (up to 300 different items in a large establishment) such as

- Electricity
- Water
- Taxes
- Packaging
- Safety
- Laundry
- Maintenance

Note: Variable costs will vary from province to province and can fluctuate as much as 12% to 18% depending on the size and efficiency of the slaughter establishment and the province where it is located. Provincial and municipal regulatory requirements for, for example, environmental protection also need to be assessed, especially in relation to disease control and sudden production increases.

3. Sector profitability at any given time due to:

- Livestock markets
- Cut out
- Type of customer program
- Shipping costs
- Time of year
- The impact that the disease has on slaughter and dressing efficiency

It would seem that per head calculation methodology may well vary considerably from establishment to establishment and, consequently, specific dollar amounts were not available. It would seem that the business model used by the various establishments in what is a very competitive industry will have a major impact in how a specific dollar amount would be calculated with another significant factor being the efficiency at which the establishment operates.

Discount selling – healthy animals only

This scenario would see the government paying compensation (Annex A) to an affected producer and then providing the animals to an abattoir at a discount. The abattoir conducts the slaughter and sale of the product at market value to cover their costs for conducting this work. This could be one element in keeping the market stable. It was generally felt that industry was in a much better position to utilize the market to dispose of meat products derived from the culled animals rather than having government programs attempt this. Marketing Boards would need to be involved in this process to ensure fairness in the system and the calculation formula would need to take into account the current market price, something that can fluctuate greatly over a short period of time.

For example hog prices fluctuate considerably as illustrated by the following recent prices for Ontario.

16-Feb-2018
167.21CAD / 100kg-0.035
09-Feb-2018
170.72CAD / 100kg0.060
02-Feb-2018
164.74CAD / 100kg-0.001
26-Jan-2018
164.86CAD / 100kg0.009
19-Jan-2018
163.99CAD / 100kg0.105
12-Jan-2018
153.51CAD / 100kg0.107
05-Jan-2018
142.77CAD / 100kg0.018

pig333.com/markets_and_prices/canada-ontario_94/

Compensation negotiation requirements:

Any negotiation will take time and has to be on an individual establishment basis. Due to the complexity of any negotiation and the level of effort that a slaughter establishment would need to engage in to determine an accurate compensation amount it was felt that the time needed by company officials should be reimbursed. Large corporations would likely negotiate at the local level but require sign off at the corporate level whereas smaller establishments with an owner/operator would be able to conduct negotiations in a shorter timeframe.

Given that the extent and impact of a disease outbreak or economic crisis cannot be accurately predicted in advance negotiations need to be based upon a range of scenarios.

Recommended scenarios are as follows:

1. Percentage displacement slaughter in increments of 10%
2. Use of the establishment to slaughter diseased animals only with an indication as to how specific diseases would influence the compensation calculation.

Once negotiations have been completed and contracts signed they should be reviewed annually and updated as necessary.

Recommendations

That federal and provincial government officials meet with industry associations to discuss the compensation options and identify any additional options that have not been identified.

With respect to the discount selling option to attempt to define a flexible formula that could be agreed to by the key stakeholders, ie; government officials, producers, packers and livestock marketing boards.

That once the federal and provincial government authorities have identified slaughter establishments that could participate in a cull, and have indicated their willingness to do so, one on one negotiations take place to determine how compensation would be awarded, under what conditions the establishment would or would not participate in a cull and that a contract be signed such that participation could be implemented within a very short timeframe if required.

Key Items to be addressed in a survey

Which compensation option would a specific establishment choose?

If more than one compensation option is considered acceptable what conditions or scenarios would make an establishment decide to request a specific option?

Summary Chart – Suitability by establishment type and scenario

Type of facility	Diseased livestock	Healthy with partial saving	Healthy with maximum saving
Large federal	Not suitable – see note 1	Suitable	Suitable
Small federal	Not suitable – see note 1	Suitable	Suitable
Large provincial	Suitable – see note 2	Suitable	Suitable
Medium provincial	Suitable – see note 2	Suitable	Suitable
Inactive	Suitable	Not suitable	Not suitable

Note 1:

If zoning is implemented and the company involved has establishments both inside and outside the zone then the establishment within the disease zone could be used to slaughter diseased animals and the establishments that are outside the zone used to service their domestic customers.

Large establishments with only a single establishment would tend to avoid this possibility since they would not wish to provide their customer list to a competitor and risk market share after the emergency is over.

Note 2:

Some provincial establishments are multispecies operations and could be utilized in small scale multispecies emergencies. The identification of these establishments should be a high priority.

Recommendations and list of issues to be included in a proposed survey of federally and provincially inspected slaughter facilities

Recommendations

That governments use the current databases of information on both federally and provincially inspected slaughter establishments to identify the active establishments that would be most useful for culling livestock in an emergency and develop a priority list based upon the following factors.

Provincial livestock demographics and geographical location – what species and volume might need to be culled.

For each establishment:

- Species normally slaughtered and type of animal within the species (weight range etc.)
- Normal line speed
- Geographical location
- Type of product marketed – whole carcass, bulk cuts, boxed retail ready, fresh, frozen, processed etc.

That governments use the historical databases of information on both federally and provincially inspected slaughter establishments to identify the inactive establishments that would be most useful for culling diseased livestock in an emergency and determine:

- Whether the facility still exists and remains inactive
- The condition of the facility and an assessment of its ability to function as a temporary slaughter facility with respect to equipment, utilities etc.
- Current ownership

That governments conduct a survey of commercial freezers to determine the following:

- Overall capacity
- Geographical location
- Type of product stored under normal conditions by percentage (meat, fish, vegetables etc.)

That governments review their regulatory authority under the various emergency measures legislation to determine their ability to override legislation or contracts pertaining to labour issues in order to address the regulations that might restrict hours of work in an emergency

That governments take steps to reassure industry about the ability of various levels of government to efficiently coordinate their regulatory requirements in an emergency situation through transparent emergency planning and exercises that involve industry stakeholders

That governments have up to date detailed disease specific information that will be made available to industry regarding:

- Public health and food safety
- Any additional protective equipment or practices that workers must have or understand when working with diseased livestock
- Biosecurity protocols

- Testing protocols and timeframes

That governments examine the possibility of obtaining portable slaughter equipment that can be taken either to a farm or other facility and familiarize a nucleus of establishment employees in its use.

That governments have put in place detailed agreements with selected slaughter establishments in advance of any disease emergency that will allow the establishment to participate quickly if requested but also allow establishments to negotiate with their contract producers as to what may occur in an emergency and what actions may need to be taken.

That federal and provincial government officials meet with industry associations to discuss the compensation options and identify any additional options that have not been identified.

With respect to the discount selling option to attempt to define a flexible formula that could be agreed to by the key stakeholders, ie; government officials, producers, packers and livestock marketing boards.

That once the federal and provincial government authorities have identified slaughter establishments that could participate in a cull, and have indicated their willingness to do so, one on one negotiations take place to determine how compensation would be awarded, under what conditions the establishment would or would not participate in a cull and that a contract be signed such that participation could be implemented within a very short timeframe if required.

List of issues to be included in a proposed survey of federally and provincially inspected slaughter facilities.

Note: The number of federally registered slaughter establishments is relatively small in comparison to the provincially inspected facilities. An initial survey should probably include all the federal registered establishments whereas a survey of provincial establishments would be much more limited and based upon a shortlist of priority establishments developed using geographical information on livestock demographics and establishment location together with size of establishment and variety of species slaughtered.

The list of suggested issues to be included in a survey is designed to enable a “first cut” to be made and to more accurately identify a shortlist of establishments where one on one negotiations should be conducted.

For each active establishment:

- Species normally slaughtered and type of animal within the species (weight range etc.)
- Normal line speed
- Geographical location
- Type of product marketed – whole carcass, bulk cuts, boxed retail ready, fresh, frozen, processed etc.
- The type of cull they would be prepared to participate in:
 - Diseased animals
 - Healthy animals

Amount of short term surge capacity as a percentage of normal slaughter before chiller and storage space become critical.

What parts of the carcass are considered most marketable and which would be disposed of first if storage space becomes critical?

For inactive establishments

- Whether the facility still exists and remains inactive
- The condition of the facility and an assessment of its ability to function as a temporary slaughter facility with respect to equipment, utilities etc.
- Current ownership

For freezers

- Overall capacity
- Geographical location
- Type of product stored under normal conditions by percentage (meat, fish, vegetables etc.)

Labour issues

In the case of layoffs being necessary would establishment employees be available and willing to conduct culls in nearby facilities?

Compensation

Which compensation option would a specific establishment choose?

If more than one compensation option is considered acceptable what conditions or scenarios would make an establishment decide to request a specific option?

References

The application of humane slaughterhouse practices to large-scale culling

A.Gavinelli, T. Kennedy & D. Simonin Rev. sci. tech. Off. int. Epiz., 2014, 33 (1), 291-301

LMISSC Workshop – Price Modelling Information Sheet – LMISSC meeting February 2018

Hog prices: pig333.com/markets_and_prices/canada-ontario_94/

Annex A

Compensation for Destroyed Animals Regulations under the Health of Animals Act (as of January 2018)

Compensation for Costs of Disposal

FARM ANIMALS

Cattle (<i>Bos taurus</i> and <i>Bos indicus</i>) Registered Bovidae	\$10,000
Cattle (<i>Bos taurus</i> and <i>Bos indicus</i>) Non-registered Bovidae	\$4,500
Sheep (<i>Ovis aires</i>) Registered Bovidae	\$1,200
Sheep (<i>Ovis aires</i>) Non-registered Bovidae	\$825
Goat (<i>Capra hircus</i>) Registered Bovidae	\$1,000
Goat (<i>Capra hircus</i>) Nonregistered Bovidae	\$600
Swine (<i>Sus Scrofa</i>) Registered Suidae	\$5,000
Swine (<i>Sus Scrofa</i>) Nonregistered Suidae	\$2,000

3 (1) Compensation for the following costs related to the disposal of an animal may be paid to the owner of the animal:

(a) subject to subsection (2), if the animal is destroyed or required to be destroyed by slaughter at an abattoir under subsection 48(1) of the Act and it is transported to the abattoir within the period and in the manner specified in the notice of requirement delivered or sent under subsection 48(3) of the Act,

- (i) the reasonable costs of transporting it to the abattoir that were paid or incurred by the owner of the animal, to a maximum amount equal to the amount that a commercial trucker would normally charge for transporting it to the abattoir if it had not been required to be destroyed, and
- (ii) the reasonable costs of slaughtering it at the abattoir that were paid or incurred by its owner and that are related to the reason for which it was required to be destroyed; and

(b) if the animal is destroyed or required to be destroyed under subsection 48(1) of the Act other than by slaughter at an abattoir and it is destroyed and its carcass disposed of within the period and in the manner specified in the notice of requirement delivered or sent under subsection 48(3) of the Act,

- (i) the reasonable costs of transporting the animal or its carcass to the place of destruction and to the place of disposal that were paid or incurred by its owner, to a maximum amount equal to the amount that a commercial trucker would normally charge for that service,
- (ii) the reasonable costs that were paid or incurred by the owner of the animal for cleaning and disinfecting the conveyance used to transport it or its carcass, to a maximum amount equal to the amount that a commercial service would normally charge for that service, and
- (iii) the reasonable costs, to a maximum amount equal to the amount that a commercial service would normally charge to destroy the animal and dispose of its carcass, that were paid or incurred by the owner of the animal

- (A) if the owner destroyed the animal and disposed of its carcass, for the supplies, equipment and labour expended to do so, or
- (B) if a commercial service was used to destroy the animal and dispose of its carcass, for that service

(2) The maximum amount of compensation that may be paid under paragraph (1)(a) is an amount equal to

(a) if the carcass of the animal has not been condemned, the value of the carcass according to paragraph 51(2)(b) of the Act; and

(b) if the carcass of the animal has been condemned, the value that the carcass would have had according to paragraph 51(2)(b) of the Act had it not been condemned.

Annex B

Extracts from the Federal Emergencies Act.

National emergency

3 For the purposes of this Act, a national emergency is an urgent and critical situation of a temporary nature that

- (a) seriously endangers the lives, health or safety of Canadians and is of such proportions or nature as to exceed the capacity or authority of a province to deal with it, or
- (b) seriously threatens the ability of the Government of Canada to preserve the sovereignty, security and territorial integrity of Canada and that cannot be effectively dealt with under any other law of Canada.

Public Welfare Emergency

Interpretation

Definitions

5 In this Part,

declaration of a public welfare emergency means a proclamation issued pursuant to subsection 6(1);

public welfare emergency means an emergency that is caused by a real or imminent

- (a) fire, flood, drought, storm, earthquake or other natural phenomenon,
- (b) **disease in human beings, animals or plants, or**
- (c) accident or pollution

and that results or may result in a danger to life or property, social disruption or a breakdown in the flow of essential goods, services or resources, so serious as to be a national emergency.

Orders and regulations

8 (1) While a declaration of a public welfare emergency is in effect, the Governor in Council may make such orders or regulations with respect to the following matters as the Governor in Council believes, on reasonable grounds, are necessary for dealing with the emergency:

- (a) the regulation or prohibition of travel to, from or within any specified area, where necessary for the protection of the health or safety of individuals;
- (b) the evacuation of persons and the removal of personal property from any specified area and the making of arrangements for the adequate care and protection of the persons and property;
- (c) **the requisition, use or disposition of property;**
- (d) the authorization of or direction to any person, or any person of a class of persons, to render essential services of a type that that person, or a person of that class, is competent to provide and the provision of reasonable compensation in respect of services so rendered;
- (e) the regulation of the distribution and availability of essential goods, services and resources;
- (f) **the authorization and making of emergency payments;**
- (g) the establishment of emergency shelters and hospitals;
- (h) the assessment of damage to any works or undertakings and the repair, replacement or restoration thereof;

Annex C: Examples of government databases (extracts)

CFIA establishment list

Registration Number	Name of the Operator Address(s)	Function Codes	Telephone Number(s)
004	SOFINA FOODS INC./ ALIMENTS SOFINA INC. Also Doing Business As Name : FEARMANS PORK ----- Location Address: : 821 APPLEBY LINE, , BURLINGTON, ON, L7L 4W9	1d, 3x, 4, 5, 6x, 11ADFGIKQRSV,	(905) 637-2301 (905) 333-2941/F (905) 333-2934/I
011	ELBEE MEAT PACKERS LIMITED Also Doing Business As Name : ST. HELEN'S MEAT PACKERS : BEST MEATS ----- Location Address: : 1 GLEN SCARLETT ROAD, , TORONTO, ON, M6N 1P5	1abcijh, 3fx, 6fx, 11ABCDELSVP,	(416) 769-1788 (416) 767-6046/I (416) 769-0649/F
051	CARGILL LIMITED - CARGILL LIMITEE Also Doing Business As Name : CARGILL MEAT SOLUTIONS - GUELPH : CARGILL MEAT SOLUTIONS : CARGILL FOODS : BETTER BEEF - CARGILL MEAT SOLUTIONS ----- Location Address: : 165 DUNLOP DRIVE, , GUELPH, ON, N1L 1P4	1ai, 3x, 6x, 11ACDGKLPQRSVIE,	(519) 823-5200 (519) 823-5451/F

OMAFRA livestock distribution

Number of Cattle by County, July 2016

	Bulls (>1 yr.)	Dairy cows	Dairy heifers (>1 yr.)	Beef cows	Beef heifers for breeding (>1 yr.)	Beef heifers for slaughter (>1 yr.)	Steers (>1 yr.)	Calves (<1 yr.)	Total cattle
Northumberland	279	6,325	3,886	4,723	1,000	81	359	7,373	24,026
Parry Sound	24	X	X	X	43	X	41	796	904
Peterborough	521	6,870	3,724	11,400	2,038	2,398	2,243	13,286	42,480
Prince Edward	118	1,076	1,272	637	237	24	215	1,642	5,221
York	99	1,953	1,175	2,541	238	12	296	3,004	9,318
Central Ontario	2,332	34,476	20,238	44,438	6,291	10,200	18,142	53,572	189,689
Frontenac	399	990	241	8,647	691	6,447	1,946	4,155	23,516
Lanark	145	539	280	4,363	708	521	236	2,836	9,628
Leeds and Grenville	4,891	10,806	5,775	5,746	967	24	622	9,387	38,218
Lennox and Addington	289	1,271	1,129	7,762	1,803	480	2,835	5,322	20,891
Ottawa	153	7,980	4,181	1,729	498	773	706	5,728	21,748
Prescott and Russell	254	19,114	8,783	2,967	1,157	40	549	10,256	43,120
Renfrew	502	7,034	5,307	8,371	1,003	734	1,498	11,245	35,694
Stormont, Dundas and Glengarry	397	23,603	11,668	5,916	691	2,445	1,997	19,668	66,385
Eastern Ontario	7,030	71,337	37,364	45,501	7,518	11,464	10,389	68,597	259,200
Algoma	74	474	378	2,013	361	323	392	1,941	5,956
Cochrane	132	X	X	X	X	431	307	1,258	2,200
Greater Sudbury	51	0	0	928	91	0	0	795	1,865
Kenora	0	X	X	X	X	0	0	0	0
Manitoulin	373	0	0	10,581	1,064	1,554	1,284	5,832	20,688
Nipissing	31	0	141	1,408	624	162	583	1,259	4,208
Rainy River	1,011	1,060	565	21,997	3,842	6,650	1,144	17,936	54,205
Sudbury	62	0	0	1,758	445	113	25	1,207	3,610
Thunder Bay	12	919	519	1,102	433	0	9	1,118	4,112
Timiskaming	511	3,570	1,702	7,619	1,903	406	427	7,465	23,603
Northern Ontario	2,257	6,023	3,305	47,406	8,763	9,639	4,171	38,810	120,374
Ontario	19,400	303,000	167,100	268,100	41,500	168,000	283,200	472,200	1,723,500

Provincial establishments (OMAFRA)

