

RURAL DEVELOPMENT COMMITTEE

Tuesday 3 April 2001
(*Afternoon*)

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RURAL DEVELOPMENT COMMITTEE

10th Meeting 2001, Session 1

CONVENER

*Alex Johnstone (North-East Scotland) (Con)

DEPUTY CONVENER

*Fergus Ewing (Inverness East, Nairn and Lochaber) (SNP)

COMMITTEE MEMBERS

Mrs Margaret Ewing (Moray) (SNP)

*Alex Fergusson (South of Scotland) (Con)

*Rhoda Grant (Highlands and Islands) (Lab)

*Cathy Jamieson (Carrick, Cumnock and Doon Valley) (Lab)

*Richard Lochhead (North-East Scotland) (SNP)

*George Lyon (Argyll and Bute) (LD)

*Dr Elaine Murray (Dumfries) (Lab)

*Mr Mike Rumbles (West Aberdeenshire and Kincardine) (LD)

*Elaine Smith (Coatbridge and Chryston) (Lab)

*attended

THE FOLLOWING ALSO ATTENDED :

David Mundell (South of Scotland) (Con)

John Scott (Ayr) (Con)

WITNESSES

Leslie Gardner (Scottish Executive Rural Affairs Department)

John Graham (Scottish Executive Rural Affairs Department)

David Leggat (Institute of Auctioneers and Appraisers in Scotland)

Dr Dominic Moran (Scottish Agricultural College)

Dr Keith Sumption (University of Edinburgh)

Professor Mark Woolhouse (University of Edinburgh)

CLERK TO THE COMMITTEE

Richard Davies

SENIOR ASSISTANT CLERK

Tracey Haw e

ASSISTANT CLERK

Jake Thomas

LOCATION

The Chamber

Scottish Parliament

Rural Development Committee

Tuesday 3 April 2001

(Afternoon)

[THE CONVENER *opened the meeting at 14:04*]

Interests

The Convener (Alex Johnstone): Good afternoon, ladies and gentlemen. It is my pleasure to welcome you all to the meeting. Since our previous meeting, there have been two changes to the committee's membership. I want to thank Jamie Stone and Mary Mulligan for their help. They were not with the committee for a particularly long time, but they took an active part in its activity while they were members. They have now moved on to other activities.

We have two new members: George Lyon, who has been appointed by the Liberal Democrats, and Elaine Smith, who has been appointed by the Labour party. I invite them to declare any interests.

George Lyon (Argyll and Bute) (LD): I have a farming business on Bute and am a member of the National Farmers Union of Scotland.

The Convener: Thank you. In case members missed it, I should say that Elaine Smith indicated that she had no interests to declare.

Items in Private

The Convener: The next item on the agenda is items in private. We decided at a previous meeting to take item 7 in private. I ask members to consider whether item 6, which is also consideration of a draft report, on last week's business, should be taken in private. Does that meet with the approval of committee members?

Members *indicated agreement.*

Foot-and-mouth Disease

The Convener: Item 3 on the agenda is foot-and-mouth disease. We have a number of witnesses before us today. I welcome them to the meeting, especially those who have busy timetables during the current foot-and-mouth crisis.

The purpose of today's session is to improve understanding of the scientific background to the measures that are being taken and the options for halting the progress of the disease. There is a great deal of talk about the possibility of vaccination, which was not being considered two or three weeks ago. We have with us scientific experts, who will tell us their views on vaccination, and an economic adviser, Dominic Moran, who will assist us with evidence on the consequences of any decision to vaccinate.

We will take evidence from John Graham and Leslie Gardner from the Scottish Executive, Dr Keith Sumption and Professor Mark Woolhouse from the tropical animal health department at the University of Edinburgh, and Dominic Moran from the Scottish Agricultural College. We tried to get one or two other people who have been in the press to come too, but they were unable to be here. Professor Mac Johnston of the Royal Veterinary College has submitted a paper, which was circulated to members this morning.

Dr Elaine Murray (Dumfries) (Lab): My understanding was that we agreed last week to talk today not only about the pros and cons of vaccination, but more generally about the rationale behind the current slaughter policy.

The Convener: The presence of Leslie Gardner and John Graham should give us the opportunity to do that.

I propose to begin by taking an initial statement from the representatives of the Scottish Executive rural affairs department on the current position in relation to the foot-and-mouth outbreak. After questions of clarification, I propose to proceed to discuss scientific opinion on vaccination and associated issues. After that, I propose to return to the Executive representatives, so that they can comment on what they have heard.

I invite Leslie Gardner and John Graham to give us a summary of the current position and to make any other comments.

Leslie Gardner (Scottish Executive Rural Affairs Department): I will give members a thumbnail sketch of foot and mouth, covering how we got where we are and the various policy decisions that have been taken. I will touch on the point raised by Dr Murray and members are free to ask me questions on the detail of that.

I will start with the background. Although I am sure that members know this already, foot-and-mouth disease is a highly contagious viral disease of cloven-hoofed animals, with seven antigenic strains. The disease is endemic in Africa, Asia and parts of the middle east. It produces fever, vesication of the feet and mouth and loss of production. Various allegations have been made in the media during the course of the outbreak that the disease is trivial and causes no problems. That is not strictly true—there can be a large fall, of 25 per cent, in milk production and quite high mortality in young stock, such as lambs and piglets.

The United Kingdom has been free of foot and mouth for 25 years. Our previous outbreak was a single outbreak in the Isle of Wight, which was attributed to aerial spread from the continent, where, at that time, there was a vaccination programme for foot-and-mouth disease control. The last major outbreak in the UK was in 1967.

The present outbreak appears to have resulted from the introduction from abroad of foot-and-mouth disease contaminated food—most likely meat or meat products—to a swill feeding plant. It is a classic scenario, if you like. Meat and meat products that are fed to pigs are subject to strict controls, but any control system has the potential to break down.

From the epidemiological evidence, we believe that the virus was present on the farm in question in Northumberland from 2 February onwards. The disease was suspected on 19 February, when some of the pigs from that farm were sent for slaughter to an abattoir in Essex. The disease was confirmed the following day.

In the interim, and after retrospective consideration of the outbreak, it seems likely that there was aerosol spread from that pig farm to a mixed cattle and sheep farm at some point during the period 6 to 16 February—that is, before the disease was detected in the pigs.

In a way, pigs are public enemy No 1 as far as foot-and-mouth disease is concerned, because they generate a vast amount of the virus—3,000 times as much as cattle—resulting in an aerosol plume that can spread quite a long way downwind. That seems to be what happened in this instance.

The beef and sheep farm was then involved in the sale of sheep through the markets at Hexham and Longtown. The infected sheep commingled with a large number of sheep that went through those markets during the period 13 to 22 February. Huge numbers of sheep were infected and then sold throughout the country, with the result that we have all seen.

As members will be aware, the first case in Scotland occurred on 1 March on a farm in

Lockerbie that had a link to sheep that moved through the Longtown mart. Subsequently, pockets of infection developed in Canonbie, Gretna, Lockerbie, Langholm, Beattock and Twynholm. From those pockets, the disease spread by local spread—people moving between livestock premises—by multiplication of the virus in sheep flocks until it became apparent and by spread of the virus to cattle. Over the past week, there have also been outbreaks in Castle Douglas, New Abbey, Southwick and Crocketford—that is, in places west of the Nith.

As of this morning, there have been 119 confirmed cases on farms in Dumfries and Galloway and the Borders alone. Eighty-one other farms have been designated as dangerous contacts and a large number of herds have been slaughtered out. Those figures compare with approximately 950 outbreaks nationally—again, that was the position this morning.

There are three possible strategies to control the disease worldwide. The first strategy is to do nothing, but to let the disease run and to live with it. The disease is enzootic. That strategy is the third world option, if you like, in situations where there is low productivity and perhaps not much sign of disease, but periodic waves of infection with which the countries can live.

The second strategy is vaccination of livestock, which must be done regularly to boost immunity. That is done in some countries in Africa, south America and Asia. There are problems with vaccination, which I am sure will be explored later. Not least of those problems is the fact that there are seven antigenic strains of the virus and many substrains. Vaccine must therefore be tailored to the particular threat that the country faces.

14:15

The third strategy, which is adopted in the European Union and widely in other developed countries, involves stamping out the disease by slaughter and eradication. After much reflection, that strategy has been considered the most effective option—most recently by the EU in 1990—both to control the disease and in cost benefit terms. The strategy involves early identification of affected animals, their rapid slaughter and destruction, tracing of contacts, patrols, cleansing and disinfection.

The present outbreak in the UK is characterised by a number of features that have made control exceedingly difficult. I have alluded to the wide dissemination of infection by sheep. The infection has been broadly seeded across the whole country, so there have been attacks on multiple fronts. That has led to huge logistical problems.

Another feature of the outbreak is that, in many

instances, the symptoms in sheep have been quite mild and have not been noticed at the first passage of infection. Sheep have come from the markets and nobody has noticed disease. Disease has become apparent only some days or weeks later, after it has cycled through the flock to produce a higher level of intensity in clinical disease, or when it has spilled over into cattle herds.

There has been some limited windborne spread of the disease, but that spread has been quite local.

A feature of the disease that has become apparent recently is its transmission by personnel movements—people moving among their own livestock on different premises to feed and look after their animals. That has been aggravated by the widespread practice of grazing sheep not only on farms but off farms.

From 1 March, the standard procedures for dealing with foot-and-mouth disease—slaughter, destruction, cleansing and disinfection, tracing and examination of animals and patrols—have been in place in Scotland. Prior to that, and shortly after the disease was identified, restriction on the movement of animals was the key control measure to be put in place nationally. That has put a lid on much spread of the disease. In Scotland, the disease is still very largely confined to Dumfries and Galloway. There is some spread within Dumfries and Galloway, but the disease has not escaped to outwith that area.

On 2 March, we introduced a measure to kill as dangerous contacts all pigs within 1km of infected premises because of the high risk that pigs would disseminate disease should they become infected.

As members will recall, on 15 March, the minister made an announcement in Parliament about a cull of all sheep within 3km of existing infected premises. Sheep have been an extremely difficult problem in the outbreak and the purpose of the cull was to remove sheep from the equation and to try to establish a fire-break between infected areas and clean areas to slow down the spread of the disease. It is inevitable that sparks will fly over the fire-break. The aim was to slow the speed of the spread of the disease and to contain any sparks or outbreaks by rigorous action, if and when they occurred.

Members have copies of the map, which shows the distribution of the 3km areas. As yet, we have not managed to produce an indication of where our control measures were directed in the first place—by that, I mean where the cull was implemented. In essence, I can confirm that we have dealt with the eastern end of the Canonbie outbreak and the western end of the Lochmaben/Dumfries outbreak. At the moment,

we are encircling the Beattock outbreak. We have encircled the Castle Douglas and the New Abbey areas and, as a priority, we are dealing with Twynholm. We will deal with yesterday's outbreaks using the same strategy. The idea is to try to create a fire-break around those areas and so slow down the progress of the disease.

On 26 March, we introduced the policy of also slaughtering all stock at premises contiguous to—that is, next to—infected premises. The instruction that was issued went back to 16 March, but in fact we are applying that policy only in areas where the disease is active—where it is spreading into fresh country at the front of the epidemic or into completely fresh areas. As before, the idea is to slow down the spread of the disease.

All those decisions have been informed by various epidemiological analyses that we have received, including analysis from Imperial College, London and from the University of Edinburgh. Decisions have also been informed by the New Zealand veterinary laboratory agency model and taken on advice received from the UK chief scientist.

Dr Murray: On a point of clarification, does that mean that contiguous culls will not go ahead in the Langholm area? According to the map, sheep in that area do not seem to be listed for culling. How will that affect the treatment of sheep in the Langholm area?

Leslie Gardner: Decisions on where to cull are being taken on a priority basis and I have described the priority areas. I do not want to get into detail on the Langholm situation. There has been no evidence of the disease spreading at that end of the outbreak, ergo it becomes a lower priority. Members can imagine the huge resource commitment that is involved; we cannot do everything simultaneously. In disease control terms, it would be ideal for us to be able to do everything in 24 hours, but we have to direct resources to priority areas. At the moment, the Langholm area is not being dealt with as a priority area.

I can now inform members of progress on the sheep cull. Although the announcement was made on 15 March, the sheep cull did not become fully operational until a week later. That was because of the logistics involved, which—as members can imagine—were considerable. Since that time, the army has become involved, which has helped us to take a big step forward in planning and logistics, and that has expedited the cull. As of this morning, approximately 82,000 sheep have been removed as part of that cull. I should mention that the 15 March announcement did not relate only to the 3km cull, but included tracing and culling all Longtown market contacts that we could find. That work is also now complete.

That is all I wish to say for now, unless the convener wants me to say anything about vaccination at this point.

The Convener: We will allow you to comment on that in the next part of the discussion. Do members have any questions or points of clarification in relation to what we have heard so far?

Alex Fergusson (South of Scotland) (Con): With the greatest respect, Mr Gardner, you described the cull as being fully operational a week after the minister's announcement. I live in the area. It would be fair to say that, a week after the announcement, only two sheep flocks had been taken and that the cull has become fully operational only in the past week.

Leslie Gardner: That is absolutely right—I did not mean to mislead the committee. I meant that nothing happened until 22 March, when the cull became operational. I did not mean to imply that it was fully operational. What Mr Fergusson says is correct. It is fair to say that the cull has been fully operational for the past few—or rather several—days.

Alex Fergusson: I accept that it has been operational for the past few days.

Dr Murray: There was one outbreak in the Langholm area on 4 March. Since then, there has been no illness among cattle or sheep there. Is Mr Gardner saying that there is unlikely to be a cull there in the near future?

Leslie Gardner: I am not really prepared to say anything about that during this outbreak; the disease situation is very dynamic. When I addressed the committee two weeks ago, we thought Twynholm was clear. Since then, there has been a spread from there. I cannot give Dr Murray a commitment.

Dr Murray: But the Langholm area is not high up the list at the moment.

Leslie Gardner: No, it is not a high priority at the moment.

Dr Murray: You mentioned that meat might have brought foot-and-mouth disease into the country. That confuses me slightly: I understood that when animals die the pH of the meat falls, killing the virus off, so it seems a little strange that meat could bring the infection in—although the virus can survive in lymph tissue and bone. If the virus can survive in meat, does the way in which bones from infected animals, or from animals in areas where there has been infection, are disposed of pose a hazard? Do particular precautions need to be taken with bone?

I believe that the date of 16 March for the contiguous cull was based on the incubation

period of the virus at the time when the announcement was made. Is there any likelihood that that date will advance as time advances?

Leslie Gardner: I am sorry—I did not catch the last question.

Dr Murray: The date of 16 March was announced in relation to the cull of animals on farms contiguous to those where there have been cases of the disease. It was chosen on the basis of the virus's incubation period. As time goes on, will the cut-off date be put forward?

Leslie Gardner: I will deal with the question on meat first. I have advised members that the meat maturation process kills the virus. That is correct. As meat matures, and as rigor mortis sets in, the pH of the meat falls—it becomes more acid. That kills the virus in the meat, but it does not kill it in the bone marrow. A range of processes, including freezing, chilling and pickling of meat are done before the meat reaches that lower pH value. Therefore, the virus frequently survives in processed or frozen meat.

On farms, animals that are killed undergo rigor mortis, so the virus within the meat will be killed—although not in the bone marrow, but the marrow does not pose a risk of spreading the virus, given the way in which the animals are handled. The risk of contamination from carcasses lying on a farm is due to surface contamination, not contamination of the meat or carcass itself. Meat products or frozen meat from countries where the disease is endemic pose a risk. That is how the disease was introduced in 1967. We do not know exactly, but that is probably the mechanism by which it was introduced this year as well.

Dr Murray: How long does the virus remain active in an animal after death? How long does it take for the pH level of the meat to fall below 5?

14:30

Leslie Gardner: How quickly the acidity and rigor mortis develop depends on how stressed the animal has been. It will be a matter of hours.

On Dr Murray's second question, the date for the contiguous cull was introduced for the reason that she stated. It is academic in a sense, because we are applying the policy in a directed, prioritised way, based on how the disease is likely to spread. We would not go back to the centre of an infected area and start killing animals on contiguous premises; it would be done based on a veterinary assessment. I hope that that is appreciated.

There has been a lot of confusion about the contiguous cull and a lot of people have been upset. It is a key control measure, as the chief scientist identified. It will make a big difference to the ultimate height of the epidemic. The epidemic

will go up and come down in a curve. The height and duration of that curve will be influenced by many factors. Factor No 1 is the time that elapses between the reporting of the disease and the killing of the animal. Factor No 2 is the speed with which animals are killed on contiguous premises. That is relevant in clean country. In the middle of an infected area, the veterinary situation is different.

Fergus Ewing (Inverness East, Nairn and Lochaber) (SNP): I understand that the Northumberland report recommended that burial be used as a method of disposal of carcasses rather than burning. What is the Executive's preferred policy? Is the Executive able to discount the possibility that the use of burning may have caused transmission of the virus to the areas affected by some of the more recent outbreaks?

Leslie Gardner: It is correct that the Northumberland report on the 1967 outbreak recommended burial as the optimum method of disposal. There are many reasons for that, including logistical factors and the fact that the speed of reaction in dealing with foot-and-mouth disease is fundamental to success in the control of it. Burial is obviously much simpler and more straightforward. As far as I am concerned, burial is the optimum method of disposal, but that is subject to other constraints, especially the transmissible spongiform encephalopathy status of cattle and environmental aspects, such as the water table, and the depth of the soil. We must be and are guided by the Scottish Environment Protection Agency in coming to a decision.

The committee will appreciate that we have commissioned a burial site and are using it as our optimum means of disposal.

John Graham (Scottish Executive Rural Affairs Department): Disposal of cattle was one of the potential major constraints on the contiguous cull. In the past few days, we have moved to open all three disposal options: to secure more potential burning sites; to open a burial site; and to send cattle for rendering at the plant in East Kilbride. All three options are open to us. As Leslie Gardner said, that is critical to achieving the pace that we must achieve to reduce the elapsed time between reporting the disease and slaughter on contiguous premises.

Fergus Ewing: Thank you. Can you answer the second part of the question?

Leslie Gardner: The burning concerns people. The fire goes up with a puff and smells of diesel. People see the smoke and it is clear where it is going. Incineration has been used throughout the history of foot-and-mouth disease. I have seen no evidence that it is a means of spreading the disease.

Fergus Ewing: In the first weeks of the outbreak, the minister stated frequently that, although the situation was dreadful, there were crumbs of encouragement, in that all the new outbreaks could be sourced back to Longtown or Hexham. I have not heard the minister say that so often recently. I wonder whether some of the new cases—for example, the one at New Abbey—may have been caused by unknown sources.

Leslie Gardner: It is true that we have a handle on the great majority of confirmed cases—one can choose to say that that is encouraging. Almost invariably, such cases come back to a Longtown contact or to a personnel contact with a Longtown contact with local spread from sheep. There has been some evidence of airborne spread. That cannot be discounted.

I cannot talk about the New Abbey case. It is under investigation, so I cannot give a definitive view on it. However, it is right across the firth—or the river; it is hardly a firth at that stage—from a heavily infected part of Dumfries where a lot of cattle were killed. The case is under investigation; I cannot go beyond that.

Fergus Ewing: Until we know the source of further outbreaks, it seems logical that it is extremely difficult to formulate an effective policy in which we can have 100 per cent or even a high measure of confidence. That is the difficulty.

Leslie Gardner: That statement is not correct. Of the 119 cases that we have had, the only ones about which we are perhaps a little unclear are the ones that we have mentioned. We have a high level of confidence that we have a good understanding of the spread of the disease. We understand only too well the difficulties that the mechanisms have caused, but we will never understand every aspect of an outbreak.

George Lyon: It seems to me that the crucial factors—those that determine whether the policy is working—are the time that elapses between diagnosis and slaughter of the animals and how quickly the contiguous cull takes place. The third issue is the speed with which the cull within the 3km radius is carried out, which helps to control and suppress the disease. Can you give us an idea of, or the exact figures on, the time between diagnosis and slaughter or disposal in Scotland?

Leslie Gardner: We aim to meet a target of 24 hours between not diagnosis but reporting of the disease and killing of the animals. It is apparent that we have kept abreast of the outbreak, in that the animals have been valued, slaughtered and disposed of without delay. Carcasses have not accumulated on farms. Throughout the outbreak, we have done reasonably well. Since we started to record our performance, we have continued to do reasonably well.

The situation varies from day to day. If there are two widely dispersed sheep flocks, we might not meet our target; and only two cases on such a day will mean 100 per cent failure. However, by and large, we are achieving a 60 to 90 per cent success rate in meeting our target of killing animals within 24 hours of a case being reported. The latest figure I reported yesterday was 90 per cent; the figure is slightly less than that today because of the vagaries of the particular herds or flocks involved.

We are not yet meeting the 48-hour target figure for dealing with contiguous premises. That is partly because of the logistical reasons to which we have alluded. Taking contiguous premises may involve 10 herds, which greatly multiplies the disposal problems without the straightforward outlets afforded by burial. As the Army has only just taken over the logistics of the exercise, I cannot give the committee precise figures. Although disposal has happened within 48 hours in some cases, in many others it has taken longer than that. We expect the figure to reduce fairly soon now that we have reached logistical arrangements with the Army.

As for the cull itself, I have said that 82,000 or so sheep have been dealt with. We have talked about a figure of between 150,000 and 200,000—the figure changes as the area increases. However, we should remember that the ones that we have taken have been prioritised in line with the areas that we have prioritised as high risk. In the past week, the cull has begun to progress very well. As a result, I am content with our progress on the cull and on target No 1, but we still need to work at target No 2.

George Lyon: You mentioned the slaughter of all the Longtown market contacts that you know about. Are you concerned that you might not know about some contacts, given the fact that some dealer-to-dealer trading at that market was never formally recorded?

Leslie Gardner: Of course I am concerned. Activities related to the sale and movement of sheep have been critical to the whole outbreak. I have asked my divisional veterinary managers to visit all dealers and to ask them to come clean about any unrecorded movements that they know about. Furthermore, the department issued a press release calling on people to come forward if they had any sheep that had had contact with Longtown; the committee will recall that one of the Ayrshire cases came to light because of that release. Dealers have also volunteered information about movements. Although we are, naturally, concerned about the situation and are pursuing it as actively as we can, we will possibly never trace every movement.

George Lyon: Have you discovered that any confirmed cases were due to unofficial dealer-to-

dealer trade—so-called black trade?

Leslie Gardner: I cannot tell you whether that is the case. Some cases have been associated with Longtown movements, but I honestly cannot say whether all of them were above board. I think that one case might be associated with a movement that we did not know about before.

George Lyon: At the end of last week, there was speculation in the press—some nonsense about the Ministry of Agriculture, Fisheries and Food being able to tell the state veterinary service in Scotland whether it should use vaccines. What is your position on the epidemiology of the outbreak in Scotland? Are you working according to the MAFF epidemiology survey or do you have a separate one in Scotland that gives you advice, such as whether to move towards vaccination or whether you will have control of the disease under your present policies?

14:45

Leslie Gardner: The foot-and-mouth situation varies. We have a different situation from the situation in Devon. The situation here is closely related to the one in Cumbria, but it is different from the situation there, as will be evident to any observer. There are areas in England where the situation is different again, with only one or two pockets of disease. The epidemiology varies. We have commissioned and obtained an epidemiological assessment of the situation in Dumfries and Galloway compared with that in other areas. That will inform the policy decisions that are taken here.

Elaine Smith (Coatbridge and Chryston) (Lab): Correct me if I am wrong, but I believe that you mentioned three possible courses of action: doing nothing, culling and vaccination. I want to consider each of them in turn.

What would happen if we took the do-nothing option? You said that people were saying that animals would not necessarily die—is that generally true? If the animals were left, would they build up some kind of immunity to the different strains of the disease? Is one of the reasons for not doing nothing economic, as the import and export of meats would be difficult? Apart from anything else, there is the look of the animals, although you can, I hope, confirm—this is important—that the disease is not dangerous to human health.

Leslie Gardner: I will answer your last question first, before I forget it. Foot and mouth is not a disease of humans and it poses no health risk to humans. I say that categorically. There are a small number of recorded cases of humans having a flu-like episode as a result of contact with the disease. However, it is not a disease of man and it

does not pose a risk to humans.

On whether the animals will show symptoms and whether those will be ameliorated or reduced if the animals develop immunity, I can say that foot and mouth is an acute disease and that the severity of any outbreak will depend on the strain. This one is quite serious. In a naive population that has never been exposed to the virus, there is no immunity and there will be the maximum number of symptoms. There will be death in lambs and even welfare problems in animals. People who say that it is not a disease have not seen cattle with acute foot and mouth. It is a very unpleasant disease.

If we left the disease to run its course, we would eventually end up with a population of animals in which the clinical symptoms were less obvious. Clinical symptoms would arise periodically and waves of the disease would affect the population, but in general we would just have animals that were not as productive as the animals that we are accustomed to. Economically, there would be a huge effect. There would be loss of productivity—as I mentioned, it is asserted that foot and mouth causes a 25 per cent drop in milk production in cattle. There would be no profit in having cows if that happened.

There is also the input/export factor. Farmers would not be able to export to the rest of the world if they lived with foot-and-mouth disease and animal production would revert to third-world status. I do not think that letting the disease run free is a viable option.

Elaine Smith: You said that incineration had always been the way of dealing with the disease. I would like to know what number of animals have been involved before. A lot of animals seem to be involved now.

I would also like to know your opinion on the environmental issues. There are concerns that the incineration of the animals can cause problems with dioxins in the air of which we were perhaps not aware before, when incineration was the normal way of dealing with the disease. It has been said that such measures are storing up environmental problems for future generations. What are the environmental implications of burying the animals? Those are the issues that I would like you to address, on the subject of culling.

The Convener: You may feel unqualified to speak on those issues. However, if you have any views on them, we would be delighted to hear them.

Leslie Gardner: It is for SEPA and environmental experts to comment on environmental issues.

Large numbers of animals are involved

nationally. Around 630,000 animals have been killed throughout Great Britain. In Scotland, we have so far killed around 160,000 sheep, 27,000 cattle and 2,500 pigs. We are talking about a large number of animals.

The bulk of the sheep will have been buried; the bulk of the cattle will have been incinerated. As John Graham said, we are beginning to dispose of cattle through rendering, which addresses the environmental concerns over burning and burial. All that I can say about burning and burial is that, before we embark on such activities, we liaise with SEPA on the principles. We need specific approval from SEPA for burial sites. On a tailor-made burning site, where we would burn animals from several locations, we would need SEPA's approval before we could start to dispose of the carcasses. We also seek general advice from SEPA on the burning.

Elaine Smith: Were vaccinations ever used in Britain? Why did the Ministry of Agriculture, Fisheries and Food reject the principle of vaccination? Do you know when Europe adopted that policy?

Leslie Gardner: Vaccination has never been practised in Britain. The disease was eradicated in Britain in around 1952, after a series of introductions of the disease from the continent. Each time, it was dealt with by a stamping-out policy. The stamping-out policy was very effective in those days, as there were not huge numbers of movements. To a greater extent, animals stayed where they were born; therefore the control measures were more effective.

The 1967 outbreak gave rise to a considerable amount of introspection and a review of procedures, and a large number of animals were killed. The epidemic continued for six months, with around 2,500 outbreaks, and involved 430,000 animals. A great deal of consideration was given to alternative strategies at that point. The Northumberland committee—along with another committee whose name I cannot remember—considered the economics of the issue and came to the conclusion that, on a cost-benefit and efficiency basis, a stamping-out policy was to be preferred to a vaccination policy.

The European Union had a vaccination policy until 1990 when the 1985 directive that permitted vaccination was reviewed and amended on the advice of the European Union's scientific experts who concluded that a stamping-out policy should be adopted. That is the policy that has been rigorously enforced since then.

Elaine Smith: Is it impossible to implement both policies if outbreaks occur?

Leslie Gardner: In a way, that is a contradiction in terms. It is possible to have both in the sense

that the stamping-out policy allows for the emergency use of vaccination under certain conditions and with the authority and approval of the Standing Veterinary Committee.

The Convener: I am keen to move on to deal specifically with the issue of vaccination. Questions should be kept brief at this point.

Mr Mike Rumbles (West Aberdeenshire and Kincardine) (LD): If the convener will bear with me, I want to concentrate on windborne spread and to ask Leslie Gardner about the evidence he has given us.

The evidence that you have given us today differs markedly from that which you gave us two weeks ago. At that time, you said:

"The disease is spread by close contact with animals ... If people have close contact with animals—if they handle animals or have close contact with the faeces of affected animals—and then mix with other animals, that poses a risk. Walking down a road or along a path does not pose a risk. If people were approaching animals and feeding them—which they should not do—that poses a theoretical risk, but walking across hills and seeing a sheep in the distance does not realistically pose a risk."—[*Official Report, Rural Development Committee*, 20 March 2001; c 1793.]

Today, however, I was surprised to hear what you said about the pig farm.

Leslie Gardner: I do not think that I contradicted what I said before. Today, I said that, increasingly in the past period, personnel movements have been important in the spread of the disease. However, that does not mean people who are out for a walk and see an animal in the distance; it means someone handling their own animal and then going to another group of animals that he owns or has contact with. That is close personal contact.

There has never been any doubt about the fact that pigs are an important risk factor in the spread of disease. They produce a vast amount of virus. In this epidemic, however, pigs have not been an important feature. The most important animals have been sheep. The spread of the disease from sheep appears to require quite close contact.

Mr Rumbles: If the pig population was the most affected group, the attempt to control the disease would be quite a different kettle of fish.

Leslie Gardner: A large pig farm with a few days of disease activity would send a huge plume of virus up in the air and, depending on which way the wind blew, there would be a footprint of infectivity downwind of that. There are well-developed models that can predict the size of that footprint, which we would use.

Mr Rumbles: Of the 119 cases that have been identified in Scotland, how many do you suspect of having been caused by airborne spread?

Leslie Gardner: I am sorry, but I cannot say. It is not an important factor.

Mr Rumbles: Have you any idea?

Leslie Gardner: I do not have the information in front of me.

Mr Rumbles: It seems a reasonable question to ask.

Leslie Gardner: I am giving you a reasonable answer. Only a small number of those cases will have been caused by airborne spread.

Mr Rumbles: Well, you say that it is a small number—

Leslie Gardner: I am sorry, but I do not have an epidemiological assessment of every case. The great bulk of the cases have been caused by local spread.

Mr Rumbles: What does that mean? I am sorry to have to press you, but I think that airborne spread is an important issue and I would like to know about it. Are you saying that you do not have an idea of how many of those cases were caused by airborne spread?

Leslie Gardner: I have an idea of that.

Mr Rumbles: Could you tell us what that idea is?

Leslie Gardner: I have an idea, but I cannot give you a number.

Mr Rumbles: A percentage then. Can you give us an approximate percentage?

Leslie Gardner: I do not know. I cannot tell you that; I can say only that it is a small number.

Mr Rumbles: Less than 10 per cent?

The Convener: Is that information available?

Leslie Gardner: We would have to carry out quite a detailed assessment of the cases, but could give you a written assessment.

Mr Rumbles: I am sorry—I find this amazing. If you are to have adequate measures to defend the country against the spread of the disease, I would have thought that the percentage of cases that have been transmitted by airborne spread is one of the first things that we would have been able to estimate.

15:00

Leslie Gardner: It is a small percentage.

Mr Rumbles: Well—

Leslie Gardner: I am sorry. If you want a specific number, I cannot give you a specific number, other than to say that it is a small percentage of cases. Most of the cases are

attributed to local spread.

We have to consider movements of animals, movements of people and local spread. Local spread can involve an animal sticking its nose through a fence and communicating the disease to another animal or an animal coughing and thereby spreading the disease to animals in an adjacent field.

We know that we do not get a high level of airborne spread with sheep. No one can say with certainty whether local contact is by airborne spread or by nose-to-nose. There has not been a pattern of airborne spread downwind of particular outbreaks; there has been local spread. I hope that that answers Mr Rumbles's question.

The Convener: I am keen to move on and hear from other witnesses. I ask for brief questions from Richard Lochhead and David Mundell.

Richard Lochhead (North-East Scotland) (SNP): I have two brief questions, if that is okay, convener. I have not spoken so far. The statement of 15 March was on the cull of sheep. Why did pigs not come under that statement?

Leslie Gardner: Pigs were not part of that cull because, according to the initial assessment, the clinical disease is more apparent in pigs and cattle—there is no difficulty in diagnosing the disease in those species. The difficulty arises with sheep, which have vague symptoms.

We considered that the cull of pigs within a radius of 1km from infected farms, which was our standing instruction at the time, took care of the maximum risk. We also considered that there are very few pigs in Dumfriesshire—they are not an important factor there. I think that the number of pigs that we have slaughtered is about 2,000. Since then, we have issued an instruction that all pigs within a radius of 3km will also be taken, effectively as part of the sheep cull. That is now our policy.

Richard Lochhead: When did that become policy?

Leslie Gardner: I cannot give you the exact date, but it was about a week ago.

Richard Lochhead: Looking at the situation from a layman's point of view, if pigs are 3,000 times more infectious than cattle, do you perhaps regret that your decision on the cull of pigs was not taken earlier?

Leslie Gardner: You have to remember that, when we carry out an investigation on a farm, we carry out a risk assessment. We take other herds that we deem to be a risk, as dangerous contacts. We have been taking pig herds on that basis—considering them to be dangerous contacts—rather than on the basis of their being within a 3km

radius of infected farms. The end result has been the same.

Richard Lochhead: To get control of the crisis, it has been imperative to get one step ahead of it.

Leslie Gardner: That is absolutely right.

Richard Lochhead: Do you think that we are one step ahead of the crisis now? If so, when did we reach that stage? In short, do we have control of the outbreak in Scotland?

Leslie Gardner: We are not ahead of the disease yet. It would be wrong to say so. We are putting in place the steps that we believe will get us ahead of it. Those include getting the cull finished, getting the fire-break up and getting the animals in the high-risk areas—including those on contiguous premises—killed as quickly as possible. Then we will see a trend of the disease falling, with no new outbreaks appearing in new areas. Although the number of cases is not escalating, as you will have observed, we are still getting cases in new areas. Until we can effectively stamp those out and stop that happening, I will not consider that we are ahead of the disease.

David Mundell (South of Scotland) (Con): Convener, thank you for allowing me to participate. I have three short questions for Leslie Gardner and his colleagues.

First, for the record, can you set out the legal basis on which you are able to remove healthy stock from farms without the consent of the farmers? As you alluded to earlier, many people are unhappy about the cattle cull, and the lack of clarity of the legal position has not helped to smooth over that situation in recent days.

Secondly, what is your epidemiological definition of contiguous? You appear to have adopted a blanket use of "next to", so that regardless of whether there is a motorway, railway, river or wood between uninfected and infected premises, they are counted as contiguous.

Thirdly, how are you co-ordinating your efforts with Cumbria, which is contiguous to Dumfries and Galloway?

Leslie Gardner: Statutory powers are provided by section 32 of the Animal Health Act 1981, which applies when animals are suspected of being affected by, or of having been exposed to, foot-and-mouth disease. I cannot quote the exact wording of section 32, but that is the effect of the section.

David Mundell: So you are satisfied that you can take animals without consent.

Leslie Gardner: That is our interpretation of the powers that are given by section 32.

David Mundell: It is important that people fully understand that.

Leslie Gardner: Yes. We are satisfied that section 32 of the Animal Health Act 1981 provides us with the legal authority to do what we are doing.

John Graham: If I may interject, one of the issues that we are facing at the moment is that the importance of the contiguous cull in controlling the spread of the disease is not fully appreciated by producers. As Leslie Gardner said earlier, epidemiologists are clear that the contiguous cull probably is the most important single step that we need to take but one which, as Leslie said, we are not fully achieving. By whatever means we can, we need to get that message across so that producers—who so far have acted with great understanding and forbearance towards us during this outbreak—understand the importance of this contiguous cull.

David Mundell: What are you doing to ensure that that message gets across? You have sent out a confused message, and by the ways in which you have handled recent cases, you have built up a reservoir of resentment and uncertainty, and a group of unhappy people.

John Graham: We have drawn up a clear statement of our policy, which all those who are fielding inquiries and representations from producers will be able to use, so that there is a clear—and I hope simpler—explanation of the importance of the policy and how it applies.

David Mundell: Will you do that while also taking into account the need to use basic human skills to explain things to people, rather than appear on premises mob-handed and try to drive decisions through? As you say, the epidemiological necessity has to be made clear, but that has to be done in a measured and sensible way.

John Graham: I agree entirely. We have strengthened the team in Dumfries to provide a small dedicated unit to deal with inquiries about this issue. The unit can take time to fully explain the background to farmers, but we cannot get away from the fact that at the end of the day, judgments about which farms need to be taken are epidemiological judgments. You cannot write down the rules in black and white and have an absolutely black-and-white policy, because the circumstances vary from one area to another. One of our points is that at the end of the day, the judgment of the vets on which premises need to be taken must be final.

David Mundell: How is the position in Cumbria developing?

Leslie Gardner: We are directly involved in the Cumbrian situation—we have two infected farms

in the Borders, and we have dealt with the contiguous premises on the Cumbrian side of the border. Our divisional veterinary manager in Galashiels is liaising with the divisional veterinary manager on the Cumbrian side on action that is being taken in relation to specific herds.

At a senior level, we are considering the wider question of the situation in Cumbria vis-à-vis the situation in Scotland. The position in Cumbria is epidemiologically different from the position in Scotland, and we must ensure that we protect our flock and our herd at that interface.

David Mundell: One of my concerns is that the disease is spreading along the other side of the Solway coast in Cumbria. As the disease is airborne, the intensity of the disease in the Cumbrian part of the Solway coast may impact on your efforts in Galloway.

Leslie Gardner: Of course, but we encourage the authorities in Cumbria to take whatever action they can take to deal with the disease in Cumbria. It is clear that the problem there is serious, and everything possible is being done to contain it. I am not quite sure what answer you are looking for.

David Mundell: I am looking for confidence that the operations that you are carrying out in Dumfries and Galloway and those that are being carried out in Cumbria are co-ordinated to a degree.

Leslie Gardner: They are co-ordinated to a degree. However, the operation in Cumbria has its own focus, and the veterinarians there have to focus their efforts on their priority areas. We cannot control the disease for them from Scotland.

David Mundell: That may be a pity.

Leslie Gardner: We have made our position clear. We want action to be taken to protect our position.

Alex Fergusson: I will be brief. A matter of increasing concern to residents and farmers in Galloway, where I live, on the seeming westward drift of the disease, is being drawn to my attention. That drift is bringing the disease ever closer to the large population of deer, which is no longer being culled in the usual way—to the tune of at least 100 deer a week—given the controls that are in place. That means that, already, an extra 500 deer are roaming the area. There are also considerable numbers of feral goats and sheep in the forests of Galloway.

What is the epidemiological or scientific evidence on the extent to which the disease could be spread by those deer, goats and sheep and on whether action to control their movements has been considered?

Leslie Gardner: A risk assessment is being

done on the threat that the deer might pose if they were to become infected with the disease. It appears that they do not carry the disease for as long as sheep or cattle. The assessment is that, without close proximity to animals, the risk is not great. Our advisers have argued that shooting and driving the deer willy-nilly elsewhere possibly poses a greater risk than that of trying to cull them. It is a question of balance.

Alex Fergusson: I presume that the same assessment would apply to feral sheep and goats.

Leslie Gardner: Feral goats and sheep also pose a risk, but they are as much at risk as domestic sheep and goats. In the spread of the disease, risk depends on density and contact, and the level of contact between feral goats and feral sheep with domestic animals is quite low. That must be weighed against the disturbance that would be caused if we were to go out and try to kill them, which might increase the risk of spreading the disease. The view is that they are not a significant factor in the spread of the epidemic at present, although I understand your concerns.

The Convener: We have come to the end of that part of our discussion. We will move on to consider the issues surrounding vaccination, on which members wished to hear further evidence.

We are joined today by Dr Keith Sumption, Professor Mark Woolhouse and Dr Dominic Moran. I propose to hear Dr Sumption first and then Professor Woolhouse. Finally, we will hear from Dominic Moran about the economic arguments for and against vaccination. We will then, with members' agreement, take questions from committee members.

I invite Dr Sumption to address us first.

15:15

Dr Keith Sumption (University of Edinburgh): Thank you, convener. It is an honour to be here.

First, I must say that I am not an expert on this subject. However, for the past 14 years or so, I have taught international animal health and undertaken veterinarian work in Africa on disease control. The views that I express are my own and not necessarily those of the University of Edinburgh.

The decision to vaccinate is difficult, and involves science, economics and politics—the politics of Brussels rather than those of the United Kingdom or Scotland. Conventional vaccines for foot-and-mouth disease are far from ideal. They have been likened to long-acting drugs, the use of which against an infection should be tactical. Success depends on several factors, of which timing, in relation to the outbreak, is very important, as is the potency of the vaccine.

As has been mentioned, the use of foot-and-mouth disease vaccinations ceased in the European Union in 1990. However, the amending directive that was issued then says:

“it may be decided, when foot-and-mouth disease has been confirmed and threatens to become extensive, that emergency vaccination using technical procedures guaranteeing the animals' total immunity may be introduced.”

Emergency vaccination is therefore a tactical response. The directive continues:

“The decision to introduce emergency vaccination shall be taken by the Commission in collaboration with the Member State concerned, acting in accordance with the procedure laid down in Article 16. This decision shall have particular regard to the degree of concentration of animals in certain regions and the need to protect special breeds.”

It is fair to say that there was considerable controversy over that decision and its lack of definition—for example, of whether zoo animals count as special breeds. Research in Europe in the 1990s, in relation to that policy, concentrated on vaccine development and diagnostic tests. The vaccine development was intended to improve the vaccine so that it could be used as a single shot. The diagnostic tests focused on distinguishing between vaccinated and infected animals. Those tests were conducted between 1994 and 1997, as a concerted action, and the project resulted in tests that have been used in more than 20 countries. One of the tests is being launched commercially this summer. The ability to distinguish vaccinated animals from infected ones calls into question the policy of non-vaccination.

Following those developments, the EU Scientific Committee on Animal Health and Animal Welfare, comprising experts on foot-and-mouth disease from the member states, met throughout 1998 and drew up a report called the “Strategy for Emergency Vaccination Against Foot and Mouth Disease”, which was adopted on 10 March 1999. The committee regarded emergency vaccination as an adjunct to the slaughter policy—not an alternative, but an additional measure—due to fears over foot-and-mouth disease outbreaks spreading out of control, the availability of the vaccines and the availability of new tests to differentiate between infected and vaccinated animals. The rationale for emergency vaccination also took into account the need to respond to public opposition to total stamping-out and the need to limit the number of animals that experienced the symptoms of foot-and-mouth disease and the poor welfare that it brings.

The EU Scientific Committee on Animal Health and Animal Welfare saw two ways of using emergency vaccination. The first is to use vaccination to dampen down infection around or within an affected area. That method is currently being used in Holland where 50,000 doses are

being administered, owing to an inability to bury carcasses and the under-capacity of rendering plants. To some extent that is an experiment, as vaccination has not been tried on such a large scale. Vaccination takes four to seven days to work and, in that time, problems may arise. The first method is a process of buying time, as animals must be slaughtered after vaccination.

The second method is protective vaccination. That creates an airborne infection protection zone outside the protection zone, giving longer for the vaccination to work. That method has been used in five major outbreaks around the world between 1996 and 2000. The EU Scientific Committee on Animal Health and Animal Welfare recommended the use of screening tests so that, following vaccination, any remaining infection in an area could be identified and removed. As I understand it, that committee's report is still under consideration in Brussels. The scientists who produced the tests are concerned that their efforts to develop those tests have not yet lead to changes that permit their use except outside of the European Union.

I believe that the Standing Veterinary Committee's acceptance of the use of those tests would have implications for the import and export trade. However, EU experts and laboratories have used those tests outside of Europe in countries that have been affected by foot-and-mouth disease. As a veterinarian, my instincts are to prevent rather than to cure, but FMD is a complicated infection with strong economic aspects. Given the genetic heritage of our livestock, is it ethical to withhold even the most minimal level of vaccination in respect of rare breeds, pedigree breeding stock and endangered species?

The Convener: Thank you. We will move briskly on to Professor Mark Woolhouse for his interpretation of the vaccination strategy.

Professor Mark Woolhouse (University of Edinburgh): I have appeared before the committee once before. I remind members that I am professor of veterinary epidemiology at the University of Edinburgh. For over eight years, I have conducted scientific research into foot-and-mouth disease. My work includes the design of FMD vaccination programmes. Much of that research was undertaken in collaboration with the Institute for Animal Health, which runs the world-referenced laboratory for foot-and-mouth disease. I am also one of the group of independent scientists who are advising the chief scientist on the Government's strategy to control the current epidemic.

Before we move on to questions about how particular decisions were made, I will outline some of the events that were involved in the decision-

making process. First, I want to correct one misconception: vaccination has always been on the agenda of the chief scientist's group, ever since the group was convened. Indeed, vaccination has been under consideration by many parties, both government and independent scientists, ever since the epidemic started. So far, the verdict has been not to use vaccination.

The situation that we find ourselves in is one in which the epidemic is still not definitively under control. That is the case in Dumfries and Galloway. There are signs that transmission rates between farms are beginning to come down. That is encouraging. However, they have not come down far or definitely enough for us to be sure that the epidemic is under control at this point. Although there are provisional signs that the current strategy is having an impact, I should underline that there is a sense of caution in that statement.

One question that is of interest to members is whether vaccination would help the control effort. The chief scientist's group has received independent advice from a number of scientists including myself, groups from Cambridge, Oxford, Imperial College, the University of Warwick and others. That advice is that vaccination would not help the management of the epidemic as a whole.

The reason, as has already been stated, is that, in controlling a foot-and-mouth epidemic, speed is of the essence. Even the best vaccines that we have available—what are called high-potency vaccines, of which we have only 500,000 doses in the country—take four days to induce protection. We are not dealing with intervals as long as four days. We are trying to get culling speeds down to 24 hours and, for the ring cull, 48 hours. If we replace that with a vaccination programme of any form that takes four days to work, we will almost certainly lose control of the epidemic again.

That is not just my own view, but the view of the scientists who advise the chief scientist's group. The delay would be, in this case, fatal. Culling is simply quicker for stopping the transmission of the disease and stopping the whole epidemic in its tracks. The reason is that the vaccines were developed over many years to prevent disease. They are not designed to interrupt transmission. They do not even do that well. Vaccinated animals, if exposed to the virus in the four-day period, can still transmit the disease. The vaccines are not designed to stop a continuing epidemic in its tracks. That is unfortunate. It would be nice if we had a vaccine that had the characteristics necessary to do such a thing, but we do not have one right now.

I will address a couple of points that Keith Sumption raised. He is correct that emergency vaccination is considered an adjunct to attempts to

manage a disease outbreak. He has gone over the areas in which emergency vaccination might be used and that is correct. However, a vaccinated herd is protected against disease. It is not fully protected against continued transmission of the virus and that herd is therefore still a potential risk to any neighbouring stock. The risk is reduced by the vaccine, but it is not diminished entirely. Anyone who chooses, for whatever reason, to vaccinate their herd, should be aware that there is a chance that that herd could transmit the virus to neighbouring stock even if vaccinated. The vaccine is not designed to block transmission; it is designed to prevent disease. That is an important point.

The other point that Keith Sumption made is that it is possible to distinguish vaccinated animals from those that have a natural disease. That is possible. The tests exist, but they are not good, they are not sensitive and they are not reliable. That is a difficulty. If we were to resort to that method of certifying our livestock as free of foot-and-mouth disease, we would need to test individually every animal that we wish to export. We would not be able to certify on statistical grounds. If we went in for vaccination on a large scale, we would need to carry out a major exercise to declare our country free of foot-and-mouth disease.

As Keith Sumption said, the use of vaccination as an adjunct to the main policy in controlling the epidemic raises many issues. The advice that the chief scientist's group has received from a number of independent scientists is that vaccination is not a viable tool with which to control the epidemic at large.

The Convener: Thank you very much. We also have Dr Dominic Moran of the Scottish Agricultural College with us. I have invited him to give us an interpretation of the economic implications of vaccination policies and what it would cost to implement them.

Dr Dominic Moran (Scottish Agricultural College): At the outset I should say that, although I have tried to distil the views of many of my colleagues in the SAC, which is a diverse and interdisciplinary organisation, the attempted distillation is my views on what I have heard. As the committee will appreciate from what it has just heard from two scientists, I too have received a lot of conflicting scientific information, which is the basis of a coherent economic story that is starting to emerge.

My role as an economist is to try to weigh up some of the evidence dispassionately. That evidence changes day by day, it seems to me. Many interpretations of the economics of the foot-and-mouth epidemic unfortunately focus disproportionately on single issues, which often

makes good press. People may well want to know what the cost of the epidemic is in terms of lost tourism, what the cost of compensation is to date or what the likely cost of compensation will be.

Given the current circumstances, it is important not to lose sight of the framework that we should try to use to think about what we should do next. The framework or the way in which we weigh up costs and benefits in the current situation, or even ex post and ex ante cost-benefit analysis that has been mentioned by Leslie Gardner, is not a new framework. It has already provided us with much direction.

In the wake of the 1967 outbreak, the Northumberland committee also commissioned a cost-benefit analysis study from the Ministry of Agriculture, Fisheries and Food that gave credence ex post to the policy of stamping out the infection. For anybody who is interested, an article in the public domain by Power and Harris in the 1973 *Journal of Agricultural Economics* takes lay readers through that story.

15:30

Leslie Gardner also mentioned the 1990 EU document that seems to have used cost-benefit analysis as the basis for justifying a stamping-out policy. I suspect that that was not to the exclusion of other emergency derogations. Again, I want to concentrate on the framework. I am not sure what outbreaks that study was based upon or from which it reached its conclusions, but it is certain that the EU has used case studies to come to a pan-European view of what we should do.

Given that both studies have come down quite firmly in favour of stamping-out, it is important to work out whether we should transfer that conclusion to the current Scottish predicament. I will try to crystallise that. The situation is not the same as in 1967. Changes have occurred in the way that we transport animals and ourselves into and out of the countryside, in what we view as the countryside and in what we want to use the countryside for. To a certain extent, changes have also occurred in the way that we trade. Our trade has become more concentrated on the other 14 EU states.

Given those changes, a back-of-the-envelope cost-benefit analysis has been carried out into the way forward for policy. I think that Keith Sumption was involved in that analysis. At least one of the other members of the group that was hastily convened by Professor Peter Midmore of the University of Aberystwyth to carry out the analysis came down in favour of the view that there was a role for emergency vaccination alongside a stamping-out policy.

It seems that something of a trade-off exists.

The powerful aspect of cost-benefit analysis is that it allows us to see holistically what the trade-offs are—it does not focus on single issues. Certain interest groups and scientists are afraid of vaccination. Our exports are dependent on our status as a foot-and-mouth-free country. Although we do not fully know yet to what extent, we put that status in jeopardy with any move towards a vaccination policy.

However, I feel that our trade is badly dented already. We should therefore start to consider quantifying what our trade is both with and outwith the other 14 EU countries and we should be realistic about the fact that it will take a certain amount of time for that trade to recover, even if we have sanitary regulations that specify that we conduct a stamping-out policy and wait a certain amount of time.

I hoped that a scientist might have come to the committee and explained how long we have to wait to regain our trade status. At least nominally, if we adopt any of those policies—stamping-out, controlled vaccination or prophylactic vaccination—it seems that we will have quite a hard job in regaining our trade status, whatever we do. I can come back to that later.

The committee should bear in mind the fact that we have already lost, certainly in people's perception, an important foothold in maintaining trade. It is also worth while working out the value of trade. I will not put numbers on that, but its share of gross domestic product is not massive. However, I will not rely on GDP, because the agricultural share gives no indication of the trade value of Scottish exports, especially sheepmeat.

In sticking with the stamping-out policy in the hope of eradicating the disease as soon as possible in pursuit of a trade objective, we must weigh up the trade-off in what we lose in perceptions at home, specifically in relation to the next most important issue, which is domestic tourism. Crudely speaking and shrinking down the issue, the trade-off is in stamping out and keeping up appearances for trade purposes but not knowing how long the tail of the distribution will be and therefore where the statutory period at the end of the distribution of the disease will take us.

Meanwhile, we will lose at least one season of tourism, which is an extremely important economic sector in Scotland—twice as important as agriculture. This is almost a rhetorical question, but what matters to tourism is the question whether perceptions of diseased animals, burning animals and eradication by stamping out have a strong impact on tourism. My gut reaction is that they do.

I will cut to my conclusion. I feel that Dumfries and Galloway have almost been lost to the

disease and that a cordon may be emerging around those areas to stop the disease from stretching further north into areas that are important to tourism. If we do not adopt an emergency vaccination procedure to stop the disease from spreading further north, those areas could be jeopardised. However, in doing that, we would lose our foot-and-mouth free status. Another set of conditions governs how long we must wait until the last injection and the last animal that has been injected or vaccinated has been culled. Those conditions again are governed by international sanitary and phyllosanitary regulations.

However, members must bear it in mind that we have maintained one economic interest at the expense of another—at least that is how it seems to me. At present, the argument is to maintain rural tourism further north while throwing a cordon around the infected areas and finding out about trade allowances in the form of regional derogations. Even though I poured cold water on the value of trade, that remains important. That is the trade-off. I reiterate that we should throw a cordon around the diseased area and limit the spread or the sparking if possible—given my limited understanding of the epidemiology of the disease, I expect to be corrected on that point. However, tourism is more important to GDP.

The Convener: Thank you. I invite questions for the witnesses. I ask members to direct fairly concise questions to witnesses, but I will allow some cross-questioning if necessary.

Cathy Jamieson (Carrick, Cumnock and Doon Valley) (Lab): My first question is about the potential for using vaccination. At a previous meeting, I said that I had an open mind on the issue, because I have no vested interest in the process. I asked whether vaccination could be used as part of fire-break procedures to stop the disease spreading. The information that I received was that that would be tantamount to admitting that the disease was out of control and could not be brought under control. However, today I heard that vaccination has always been on the agenda. I am now somewhat confused about where we might take that in future. Is serious consideration being given to vaccination? If so, would it be used as a fire-break or would it be used to dampen down the infected areas?

The Convener: We will allow the two scientific representatives to express their views on that. I remind those who are here from the Scottish Executive rural affairs department that they will get a chance to sum up at the end of the discussion.

Dr Sumption: I think that I had better ask Professor Woolhouse to answer that, as he is more closely connected with the Government's position.

Professor Woolhouse: Vaccination has always been considered as a possible control option. For the reasons I gave, it has been rejected as an effective control option for managing the epidemic at large. One of the main reasons is that it takes too long—four days—to work. Vaccination would not happen instantly. If we decide to vaccinate a region or a herd, there will inevitably be a delay before the vaccination is implemented and there will be a further delay of four days before that vaccination is effective. Even then it will not block transmission entirely.

Culling cuts short those time lags. We can cull more quickly and the effect, obviously, is instant. While that remains the case, the rationale for choosing culling over vaccination is that it is a better means of controlling the epidemic at large.

Cathy Jamieson: I am sure that other people will wish to come back on that point, but I want to be absolutely clear about something that Dr Moran mentioned. I recoiled in horror at the notion of sacrificing the south-west of Scotland in order to protect the tourism trade in other areas. I do not represent Dumfries and Galloway, but I come from a constituency that borders the area. A couple of things have struck me. First, thankfully, the disease has so far not been transmitted northwards. It might be worth considering the reasons for that, as well as the reasons for the spread of the disease. Secondly, in an area such as the south-west of Scotland, surely the tourism trade and the traditional rural industries, including agriculture, are so interlinked that it is not possible to sacrifice one of them in order to save the other.

Dr Moran: I hesitate to say that I would have put Dumfries and Galloway up as a sacrificial lamb to the rest of the country, but the damage has been done, in terms of the public perception of what is going on in Dumfries and Galloway and in Cumbria. We will start to notice a drop in tourism. There is a trade-off. The way in which I couched the trade-off is the way in which I would hope—certainly from an economic perspective—that the public policy issue will be addressed. I am asking myself whether, taking into account the scientific evidence, the disease can be contained. If it can be with some certainty, it makes sense to me to use vaccination and at least to try to maintain what is economically valuable further north and to try to contain the disease within the area that is already—I should not call it lost—damaged.

I am sympathetic to the fact that there is a link between tourism and the agriculture sector in Dumfries and Galloway. I am not sure what the damage will be in the longer term or how long the area will take to resurrect itself or come good again. I apologise if I have made it sound like a sacrifice.

Cathy Jamieson: The difficulty with that

statement is that it will inevitably be interpreted as being about the sacrifice of one area. I am sure that the local representatives will want to come in on that. Surely the issue about Scotland as a whole is not as simple as saying that Dumfries and Galloway has been irrevocably damaged. The whole of the economy of the south-west of Scotland would be put at risk if that one area were to be sacrificed. How would the economy get back on a stable footing in the future without agriculture being part of it?

15:45

Dr Moran: Obviously, people on farms in Dumfries and Galloway are shellshocked. I cannot remember the exact details of the aid package, but the question of how to get the economy back on a stable footing will be addressed after the dust has settled. It sounds almost like ambulance chasing for officials to go to farms now to try to sell recovery packages and business plans to traumatised farmers.

In some sense, we are witnessing a shake-out that was happening anyway but that is now moving at an accelerated rate. It is brutal to say that, and I am not suggesting for a minute that Dumfries and Galloway has a future without agriculture in some shape or form. However, on the trade-off, I would put the question back to you: if Scottish society wants to share the risk or economic burden, there is an argument for not emergency vaccinating livestock but for continuing with the stamping-out policy and trusting to luck and to the best epidemiological evidence to contain the disease. The map is incontrovertible. Look at it—there is a concentration of incidence.

Cathy Jamieson: I am sure that I could prolong this all day, but I am aware that my colleagues wish to contribute, so I will not ask any more questions.

Dr Murray: I was interested in your definition of touristically important areas. I would argue forcefully that the south-west of Scotland is a touristically important area. It has not been exploited to the extent that it could be, but it has great tourism potential and can offer much of what the rest of Scotland can offer. I totally reject the point of view that the south-west can be written off as unimportant in terms of tourism.

Although farmers and others in my constituency—the worst affected by the outbreak—may be shellshocked, communities throughout Dumfriesshire are already looking to the future. People are meeting and considering ways in which they can fight back, in both tourism and agriculture. It is not just a question of people having sympathy dispensed to them by the Scottish Agriculture College or anybody else.

People are capable of fighting back and regenerating the economy.

I ask you to consider—and possibly comment on—what the effects on tourism would be of not having FMD-free status. The vast majority of tourists come to Scotland from the United States of America and the European Union. The issue is not just people not wanting to see burning carcasses or being prevented from going near farm animals; people are deterred because they fear the disease and the possibility of transmitting it back to their own country. It is a fear—and misunderstanding—about whether the disease can be transmitted to people. I suspect that the loss of FMD-free status would have economic impacts on tourism as well as on agriculture.

Dr Moran: That is an interesting hypothesis. How many countries around the world do not have FMD-free status yet have a fairly healthy tourist industry? Take Botswana and either Tanzania or South Africa—I am not sure which.

I am not sure which question of yours to address, Dr Murray. Perceptions are incredibly important. The stamping-out policy has led to an almost apocalyptic scene, shown on television not just here but overseas. I do not think for a minute that the right perception or information has filtered to some of our more important overseas markets. However, we cannot legislate for people's perceptions. It is true that the process of dealing with the outbreak has appeared cataclysmic and that dealing with the aftermath of the stamping-out policy has put in people's minds some very negative images, which are associated with Dumfries and Galloway and with Cumbria. Unfortunately, one logic that I have not unfurled—perhaps a warped logic; I am full of those—is that, if I do not want to go to the lake district, I might well decide to go to the Highlands of Scotland.

Dr Murray: So your definition of a touristically important area is an area that is important for tourism for Scotland.

Dr Moran: Which places do people who come over here visit? They are the lake district, the Highlands of Scotland, Edinburgh, London and so on.

Dr Murray: Surely that could be changed by the way in which places are advertised.

Dr Moran: Of course. We can advertise and promote any area touristically. It turns out that the background tourist promotion of the area that you are battling gallantly for is swamped by—

Dr Murray: The solution that you are proposing would write off certain areas of Scotland, which would not be able to be promoted touristically.

Dr Moran: I would not go so far as to suggest that the powers that be for tourist promotion in

Dumfries and Galloway and the other areas of Scotland would not have a tough job to do under my proposal. However, they would be ably supported in the aftermath of clearing up the disease. I am not suggesting that those places will become wastelands—far from it. Many farmers, operators and tourist entrepreneurs will want to stay in the area, promote it and exploit its natural heritage.

George Lyon: In the evidence that Professor Woolhouse gave us on the pros and cons for vaccination, the key issue was whether vaccination could speed up the process. Does it facilitate control, by getting in front of the disease? We heard evidence from Leslie Gardner that the 24-hour interval from recognising the disease to slaughtering the diseased animals is close to being met. You are clearly saying, Professor Woolhouse, that the use of vaccination would mean that the time scale would increase to about five days. Your conclusion, therefore, would be that the decision to use vaccination would be taken only if the time from the recognition of the disease to the slaughter of the animals was up to five days. Is that the right conclusion for us to draw from your evidence?

Professor Woolhouse: Sorry, are you arguing that, from the time of reporting of the disease—after which the infected herd would of course not be vaccinated—

George Lyon: I am saying that you are clearly stating that the problem with vaccination is the four-day incubation period before it is fully operational and the animals are resistant.

Professor Woolhouse: Yes. Hypothetically, people could consider the option of ring vaccination—the vaccination of animals around the infected premises—instead of ring culling. The difficulty with that is that the original infected premises have been infectious before the report is made. Some farms in the vicinity could already be incubating the disease. Vaccination would not prevent that. In a sense, the disease would already be ahead of us—vaccination would simply be keeping us further behind.

George Lyon: In that case, and in the light of the definitions for the disease running out of control, on what basis would advice be given to ministers to use vaccination? Would it be based on the interval between recognition and slaughter being three, four or five days? In other words, would it relate to a lack of resources to contain the disease and to slaughter the animals quickly enough? Would that be a case in which we should consider whether vaccination has a role to play?

Professor Woolhouse: Yes—I see your argument. Of the three possible arms of policy, the first is the rapid slaughter of animals at affected

premises. The attempt is being made to get that done within 24 hours directly after scientific advice. The second is the rapid extended cull in the vicinity of the premises, which should be done within 48 hours. If you are asking me whether I can guarantee that those two measures alone will bring the epidemic under control at this stage, I would say that we are still waiting for the evidence. The improved slaughter times and the ring cull were instigated only just over a week ago. It takes of the order of one to two weeks for the effects of such a policy to come through. We will not know for a little while yet whether those policies are working.

If, for any reason, those two measures are not working or not working adequately, we could consider what else we might do. That is when the argument about vaccination—the third arm—might come in. The difficulty with vaccination is one of resources. Every time that the chief scientist's group has met, MAFF officials—and now the Army officials—have raised the question of resources. If implementing a vaccination programme—which, as I am sure you can imagine, is an enormous logistical task in itself—interferes with the efficacy of the culling programme, particularly the rapid slaughter at infected premises and the effective culling in the vicinity of affected premises, that will clearly have a detrimental effect. The logistical issues have to be carefully balanced. It is too soon to say whether the improved culling policy has had the desired effect. I hope that we will know quite soon.

George Lyon: That takes us back to the question that was asked of Dominic Moran, who, I think, was making the case that we should use vaccination and sacrifice agriculture to save tourism. If what Professor Woolhouse is saying is true, that hypothesis is complete mince.

Dr Moran: Let me clarify what I said. I certainly was not suggesting sacrificing agriculture for tourism; I was arguing for containment in an area to avoid spread into another area that was touristically valuable. Let me rephrase what I said: we should not fixate on the need to avoid vaccination for the maintenance of trade or in the hope that we can minimise the impact on trade. What we would lose in trade is probably lost anyway, regardless of whether we try for containment through vaccination or whether we try to stamp out the disease. By going for containment through some limited form of vaccination, we would at least be working on public perceptions of what is going on in the country. Those perceptions are important for tourism. We do not know how important they are, but they are sufficiently important for tourism to be already feeling the ripples. The industry is on the back foot.

The containment that I referred to happens to be in an area of high incidence of the disease. That would be the area that we would—if you wanted to use the word “sacrifice”, which is not my word but yours—sacrifice.

George Lyon: You have just said that we should consider using vaccination because of public perception. We surely cannot make policy about such a disease by using public perception as one of the factors. Surely we must listen to the scientific experts such as Professor Woolhouse, who has given evidence that vaccination will not help to contain the disease at this stage in the process.

Dr Moran: There is a difference of opinion—one on which I cannot adjudicate. Public perception matters. I do not demand stuff if I perceive it to be bad. I do not come to your country if I perceive it to be dangerous. It matters.

The Convener: Every member of the committee has indicated that they want to comment.

Elaine Smith: Dr Moran, given that vaccinations take four days to take effect, are you suggesting that we should be vaccinating further up the country, away from Dumfries and Galloway? The disease is concentrated in Dumfries and Galloway and, from what we have heard, the distance that the disease can travel by air is limited to as far as the next-door neighbours.

Dr Moran: Yes, I am suggesting that.

Alex Fergusson: To a degree, Dumfries and Galloway has already sacrificed itself to prevent the spread of the disease. All the efforts of Dumfries and Galloway Council at the outset, and of all the other agencies that have been involved since, have been aimed at stopping the spread of the disease to points north, east and west. It is important to make that point.

Professor Woolhouse said that he feels that we are nearly on top of that situation. From that, from my own feelings and from a discussion that I had with the Minister for Environment and Rural Development, I think that we are coming to a defining period. The next week or 10 days may tell us that we are on top of the disease. I hope that we are.

I wonder whether other committee members agree that there would be huge practical difficulties—especially in the hills—with a vaccination programme at this time in the farming calendar, when a considerable number of cows are calving and virtually all the sheep are lambing. As I understand it, unless 100 per cent of the stock in an area is vaccinated, there is no point in vaccinating at all. Perhaps the witnesses will clarify that.

Almost everybody has rightly said that speed is

of the essence—speed from original suspicion to diagnosis, speed from diagnosis to slaughter, and, although perhaps to a lesser extent, speed from slaughter to disposal of the carcase. Why did it take so long before a fire-break policy was introduced? Several people were talking about such a policy well before the announcement was made. After the announcement was made, why did it take so long before the policy was up to speed? I presume that the policy was not new and that its efficacy was known from previous outbreaks. Why has it taken us so long? It has been five weeks, and we are only just really getting going on the cull.

16:00

The Convener: I think that that is a question for the representatives of the Executive.

Alex Fergusson: The first part of it was not.

The Convener: Would the representatives of the Executive like to comment on those points before we ask the rest of our questions? We will return to you later.

John Graham: If I may, I will comment at the end.

Rhoda Grant (Highlands and Islands) (Lab): I wonder how good a fire-break vaccination will be, bearing in mind the fact that animals can become infected and spread the disease even if they are vaccinated. Creating a fire-break with vaccination might even spread the disease further. That is my understanding, but correct me if I am wrong.

Tourism and agriculture are interdependent: farmers manage the rural land for tourists to enjoy. I do not see much point in pitting one industry against the other when they are so interdependent.

Professor Woolhouse: I will answer the first part of that question and pass the second part to Dr Moran.

It is unlikely that vaccination will spread the disease, given the vaccines that are available; it has happened in the past but the risk is very low. One of the problems with a vaccination fire-break is not only that vaccinated flocks and herds can still transmit the virus but that, because the vaccine is effective in reducing the incidence of disease, if natural foot-and-mouth disease is present, people will not know about it. That makes controlling foot and mouth in a vaccinated population extremely difficult. If the fire-break works, that is fine; if it does not work, or is not fully effective, controlling the disease further is a major problem. In that respect, the strategy is very risky.

Dr Moran: It was a bit disingenuous of me to suggest that, economically, the two sectors are

separate. Clearly, the 150,000 people who are involved in agriculture are part of the roughly 180,000 people who are involved in rural tourism. However, the intertwined nature of the industries still suggests that we should try to prevent the spread of the disease outwith the affected area, in order to maintain both industries.

Fergus Ewing: We have before us a paper by Dr Keith Sumption. It is entitled "Why we have to vaccinate". However, in his opening remarks, Dr Sumption said that he was not an expert and that vaccination was "far from ideal". Is he still urging a vaccination policy?

Dr Sumption: The title "Why we have to vaccinate" was not put on the paper by me; it was added by another, so I do not own to it. As I said, the decision is difficult to take and involves weighing up a number of considerations. We talked about the difficulties of applying vaccination in certain ways.

Fergus Ewing: Let me ask you a simple question. Are you urging that vaccination should be used in this outbreak and, if so, how?

Dr Sumption: I am not urging that vaccination be used in this outbreak, although there are some situations in the outbreak where there may be a role for it. For example, we talked about the need for the extended cull to be carried out extremely quickly. The question is what should be done if the cull cannot be done extremely quickly, or if the logistical problems are so great that we cannot cull the animals that we wish to cull within a five-day period. If we can vaccinate without diverting resources, we must consider whether there is a role for vaccination, given that the culling process is so difficult and that we may not be able to do it in the time available.

We have a rich genetic resource, which is at risk. There is a question about whether we can use vaccination to keep certain animals for long enough to save germ plasma from them. That point has been raised in papers from the United States regarding emergency vaccination, which might have a role in keeping pedigree rams for a small number of weeks until semen can be taken from them that could be used to rebuild flocks after—

Fergus Ewing: I am sorry to cut you off, Dr Sumption. I am sure that we are concerned in a theoretical way about what might be done in the United States, but we are concerned in a more practical way about what we do in Scotland and in the rest of the UK. You said that you are no longer advocating vaccination, despite the fact that, as we understand it, your report has been well circulated—even to the desk of the Prime Minister. Are you now advocating that vaccination should not be used in connection with the current

outbreak in any part of the UK?

Dr Sumption: As I said, the paper's titles were not of my writing. What I was keen to illustrate to people was that there are specific ways in which vaccines might be useful in this outbreak. It is for other people to decide exactly how they might best be used in mitigating the effects of the current policies.

Fergus Ewing: Professor Woolhouse has clearly explained the problems with the vaccine, particularly the fact that it does not block transmission. Is there any part of his evidence, or Professor Brownlie's or Leslie Gardner's, with which you would take issue?

Dr Sumption: I have not seen the evidence from Professor Brownlie. In countries around the world where the vaccines are used in a barrier or ring form, allowing animals to develop a strong immune response, that use of vaccines has been found to be an effective adjunct to a slaughter policy.

Fergus Ewing: Could it be an effective adjunct now, in this outbreak—not round the world, but right now? It seems to me that you are on your own, Dr Sumption, as the other scientific advice from those who are experts—unlike you, as you have admitted—says that vaccination is not appropriate and should not be used in this outbreak. That advice says that we should have the courage to stick to the current policy, which is being advocated by all parties and all experts.

Dr Sumption: If we could take out the economic aspects of the implications of vaccination on trade, I would say that vaccination has a role. As I said, its role is as part of the slaughter policy and it would be used away from and around the affected areas. That is my view on the use of vaccination. However, once we start bringing in the economic aspects, we have to weigh up those disadvantages.

Fergus Ewing: You are talking about the use of vaccination in theory. Do you accept that, in relation to the current circumstances of this crisis, you are not actually able to express an opinion?

Dr Sumption: I do not have the full facts for every part of the UK that would enable me to make that type of recommendation at this point.

Richard Lochhead: I have two questions, one for the scientists and one for the SERAD officials, who can perhaps comment at the end.

First, I understand that we are discussing vaccination today because it has come on to the agenda south of the border. We are looking at the implications of vaccination for Scotland, although it has not yet come on to the Scottish agenda as such. That takes me on to the relationship between the situation south of the border and the

Scottish situation. Is this debate more relevant to what is happening south of the border? Perhaps it is much less relevant for Scotland.

Secondly, the cases south of the border happen to be just south of the border, right next to Scotland. If the English proceed with a vaccination programme, would not that be a disaster for Scotland, given the risks that you have attached to vaccination, because there would be no control over the disease's spread into Scotland?

Professor Woolhouse: The analyses that have been done on behalf of the chief scientist pay great attention to regional variations in the course of the epidemic. Our own analyses indicate that there is nothing special about the epidemiology of the disease beyond the fact that it got a huge head start because of the connections with Longtown market. Once Longtown market had been removed as a source, we have no evidence that the disease spread faster or that the control efforts here were any worse. In fact, some evidence suggests that the control efforts here have been slightly better than those elsewhere in the UK.

There is no evidence at all that Scotland is a special case in terms of managing the epidemic. Cumbria might be, although the evidence is still ambivalent about that, but there is no evidence that Dumfries and Galloway is. What was unfortunate was the huge head start that the Dumfries and Galloway epidemic got from Longtown market.

Dr Sumption: My point is not about epidemiology, but about regionalisation. One thing that has surprised me about the European response to the foot-and-mouth outbreak is the situation that has arisen in Northern Ireland, where the district council area of Newry and Mourne is now considered a different part of Northern Ireland from the rest of the province. The Standing Veterinary Committee has moved quite quickly to remove trading barriers for areas that are free. An even more extreme example is the situation in Holland, where two provinces are allowed to trade livestock with the rest of the EU and four provinces have foot-and-mouth cases. A number of precedents have been set in Europe regarding regionalisation. I do not know what the implications of a regionalised policy in the UK would be, but it is something that must be considered.

Richard Lochhead: My question for the SERAD officials concerns resources. The cull that was announced on 15 March did not actually begin until a few days ago because of what were classed as logistical reasons. I presume that those reasons would still apply to any vaccination programme in Scotland. Would the vets have to carry out the vaccinations? Is not it the case that there is a shortage of vets and that resources are

extremely stretched? Surely, therefore, it would be impossible to set up a fire-break, because we do not have the resources.

John Graham: Leslie Gardner will correct me if I am wrong, but I believe that vaccination would have to be carried out by people who are experienced in handling livestock, although I do not think that they would have to have a veterinary qualification. It is absolutely right to say that resources would be a serious issue if we were to go down the road of vaccination, because a lot of SERAD's agricultural staff are heavily tied up in the existing management of the outbreak.

Leslie Gardner: If we went down the vaccination road, there would be veterinary resource implications because, although the vets would not do the vaccination, we would want them to examine herds closely prior to vaccination. As Mark Woolhouse has pointed out, there would be no point in vaccinating a herd that was already infected. There would therefore need to be a preliminary examination of each herd.

Richard Lochhead: Do you favour a vaccination programme in Scotland?

Leslie Gardner: At the moment, I do not favour a vaccination programme. As has been pointed out, vaccination has always been an option; it is built into European legislation, so under certain conditions and in certain situations it is allowed under the EU policy. Contingency planning has always involved the possibility of vaccination.

The Convener: It is my intention to allow the SERAD officials to comment on what they have heard before we finish.

16:15

John Scott (Ayr) (Con): Is it fair to say that the distillation of what the SERAD officials said is that they do not have a suitable vaccine, so there is no point in vaccinating animals? Should not we accept what Dr Moran said, which is that we need to pursue the existing policy? Only by the end of this week or by the middle of next week will we know whether that policy is correct. He also said that we need to do a great deal more to help the tourism industry. That is a matter of resources and although extra resources do not always mean extra money, money is required in this case. Perhaps the Executive needs to consider what it can do to help the tourism industry in the most affected areas and across Scotland. People who work in the agriculture industry are, to some extent, being compensated; a similar attitude needs to be taken towards those who work in the tourism industry. Do the officials agree?

The Convener: I ask the SERAD officials to note that question. Are there any further questions

for our scientific witnesses, before we allow the SERAD officials to finish up?

Mr Rumbles: Are not committee members allowed to question the SERAD officials?

The Convener: Members will have that opportunity, but I hope to be able to direct questions initially at the scientific witnesses before going on to the witnesses from SERAD. Are there any further questions for the scientific witnesses?

Dr Murray: I would like clarification on the implications of use of the vaccine on our status as a foot-and-mouth-free country. First, if we vaccinated animals prior to slaughtering them, what would the consequences be on trade restrictions? Secondly, what would be the effect on our trading status if the vaccine were used only on animals that were not used in the food chain—to sustain pedigree animals and to maintain the gene pool?

The Convener: Again, that is a question that John Graham would need to address. Are there any further questions for our scientific witnesses?

Dr Murray: Do the scientific witnesses not know what consequences the policy would have?

Dr Sumption: I can try to comment on those questions. As far as I understand it, under the European regulations, it is not a problem to vaccinate pedigree rams so that they can be kept for a number of weeks for the purpose of collecting semen—so that there is some chance of restoring the gene line—and to cull them afterwards, so animals with antibodies to foot-and-mouth disease are not left in the population. To some extent, that is the sort of system that is currently used in Holland.

Vaccination is an issue not because it affects the food chain, but because the policy is to maintain herds throughout Europe that are free of antibodies to foot-and-mouth disease. That policy will change only if the tests that I mentioned are adopted, but that would be quite a step for Brussels to take.

The Convener: Are there any further questions for the scientific witnesses?

David Mundell: I have a question, although it is also relevant to SERAD. The one group of people who are sympathetic to vaccination are those who have dairy herds on farms that are contiguous to the outbreak. When the SERAD officials are given the opportunity to respond, I would like to ask how Mr Graham or Leslie Gardner would explain to those people why vaccination should not be used.

Will Professor Woolhouse say why vaccination cannot be used on specific sectors, such as the dairy sector? The dairy sector in Dumfries and Galloway appears particularly vulnerable. I

understand—although I may be wrong—that it is much more difficult to replace dairy herds within a reasonable time scale. Can he set out why farmers should not vaccinate their dairy herds?

Professor Woolhouse: That is an extremely important question. I suspect that the policy answer will weigh up not only the epidemiology, which I will address, but many other factors—no doubt colleagues from SERAD will address those.

The epidemiological issue is that a herd that is vaccinated rather than culled—one which should have been culled under a culling programme—is more of a risk to its neighbours. That risk needs to be balanced. The risk is not only that the herd will develop the disease—in however mild a form—but that it will transmit the disease to its neighbours.

David Mundell: Does the herd pose a greater risk vaccinated than unvaccinated?

Professor Woolhouse: No. Culling effectively eliminates the risk—and quickly. Vaccination does not fully eliminate the risk and certainly does not do it quickly.

David Mundell: What if the animals were left unvaccinated?

Professor Woolhouse: Leaving them unvaccinated would be worse still. Vaccination has some effect, but not a complete effect. Culling has a complete effect on the future transmission of the virus and that effect is quick. That is the issue that must be balanced. If herds are allowed to remain in an area where the disease is active, whether they are vaccinated or not, neighbouring herds are put at risk. I fully accept that the equation is difficult to balance.

The Convener: I would like now to deal with the SERAD officials once again. Sorry, does Mike Rumbles have a question for the scientific witnesses?

Mr Rumbles: I would have liked to ask my question of the scientists, but I can ask the SERAD officials.

The Convener: I hope to allow the SERAD officials to react to what they have heard. I will allow brief questioning immediately afterwards.

Mr Rumbles: In that case, may I ask my question this side of the process? I would like to hear briefly from the scientists and then from SERAD on this question. The area north of the Clyde-Forth line is designated as a provisionally free area. Bearing in mind that it is two months since the disease arrived, will the advisers say when it will be possible to drop the word “provisionally”? Could it be dropped relatively soon?

Dr Sumption: I cannot really comment. If two provinces in Holland are free to trade in livestock

when the neighbouring provinces are infected, there would seem to be a case, by parallel, for the area north of the Forth-Clyde canal to be recognised as free. That is only a personal view.

Professor Woolhouse: I will give my own short answer to that. We have examined closely the data that show how far the virus has jumped from one premises to another—Mr Gardner was quizzed quite closely about the nature of and mechanism for those jumps. The important point is that the virus is still popping up in areas well beyond the 3km cull zone and well beyond even 10km and tens of kilometres; it is still popping up in new places.

As an epidemiologist, I would be much happier to designate an area safe from disease if those long-range jumps were no longer occurring. The mechanism for those jumps is still unclear. One of the complications is the possibility that some outbreaks exist that have not yet been diagnosed.

Mr Rumbles: That is why my earlier question was pertinent. I wanted to know the answer and I did not seem to be getting one.

Professor Woolhouse: I am sorry about that. We would find out whether the antibodies of the foot-and-mouth virus were present in the animals in the target area by conducting a mass antibody screening of the stock. That would be a huge logistic exercise; it would be no trivial task.

The Convener: As I said, I intend to allow the SERAD officials to reply to what they have heard. A number of questions have been put and I invite Leslie Gardner and John Graham to make any comments that they feel are appropriate.

John Graham: I will set out the Scottish Executive's position on the issues that we have discussed before picking up on some of the questions that have been asked.

The Executive's objective is to check and eradicate the disease in Dumfries and Galloway. We are trying to find the most effective and swift way of doing that. We are satisfied at the moment—and I stress that it is only at the moment—that the mix of policies that we have described this afternoon, such as dealing with the infected premises within 24 hours, trying to deal with contiguous cases within 48 hours and the 3km cull, stands a good chance of delivering the objective. The epidemiological study that Leslie Gardner referred to earlier backs up that judgment.

In a sense, we agree with what Professor Woolhouse said: as long as a culling approach is quick, it is the better policy. The Executive has never ruled out vaccination any more than the Westminster Government has ruled it out during the processes in which Professor Woolhouse has

been involved. We have kept it in mind as an option that could be used to dampen down the disease and buy time. We have taken steps to ensure that, if we want to exercise that option, we will be able to do so relatively quickly. We would have to think seriously about that option only if the mix of policies that we are currently using demonstrably was not working. We do not think that we are in that position. As Leslie Gardner said, we are beginning to think that the mix stands a good chance of getting on top of the disease.

The possibility of vaccinating in Cumbria is being considered seriously because it is less clear that the mix of policies that has been adopted in that area is getting on top of the outbreak. In response to Richard Lochhead's point, I say that we are actively considering how the border would be treated if the option of vaccination were put into effect in Cumbria. We would be keen to ensure that measures were in place to minimise the risk of infection spreading across the border as a consequence of vaccination being used in Cumbria and we would want also to maximise our chances of getting back into markets as soon as possible.

Alex Fergusson asked why it took so long to get the cull policy started. As Leslie Gardner said, it took a week before the first cases were dealt with and it took about another week for the cull to build up. That was to do with logistics. The decision to find a large burial site for sheep was a key step forward, as was the involvement of the Army, but those developments took time to put in place. When it first became involved, the Army said that it hoped to work up reasonably quickly to killing 10,000 or so sheep a day. That has been delivered.

Mr Scott, I think, raised the question of resources and tourism. Tourism is not formally within my responsibilities but I know that the Executive made an announcement yesterday about assistance to the tourism industry. Some of that assistance will be specifically focused on Dumfries and Galloway.

I am not an expert on the details of when the provisionally disease-free area might be classed as disease-free but, essentially, that will depend on the tests that the European Commission sets for the achievement of disease-free status. We are not entirely clear what hurdles we would have to go through—perhaps we would have to go through a testing process. I do not think that disease-free status will be achieved within the next few weeks.

Mr Mundell asked what one says to the dairy farmer. The answer has come through in this afternoon's discussion: all the advice that we are getting from the epidemiologists suggests that the contiguous cull is a critical step in the effort to contain the spread of the disease and that if that

cull can be done promptly, it is a more effective way of checking the spread of the disease than vaccination would be. That is the line that I would take with the dairy farmers.

I hope that I have covered most of the points that were raised.

16:30

The Convener: My question follows on from the point that Richard Lochhead was trying to make. If a decision was made to implement the vaccination policy in Cumbria but not in Dumfries and Galloway, would it subsequently be necessary to consider closing the border to livestock movements in order to achieve a different status on either side?

John Graham: I said that we were giving active consideration as to exactly what measures would have to be taken in that eventuality and I do not want to go beyond that. No decisions have yet been made about exactly what we would do in that hypothetical situation.

Fergus Ewing: It goes without saying that everyone hopes that the disease is eradicated from the UK. Leslie Gardner said that vaccination is not being proposed in Scotland at this point and will be used only if matters take an unexpected turn. Vaccination is being considered in Cumbria, however, because it is less clear that the situation there is progressing satisfactorily. That raises the question of whether, if we bring the outbreak under control in Scotland, the export market can be regained if vaccination has been used in Cumbria. What is the answer to that question and has the matter been raised with the European Commission?

John Graham: It is not possible to give a definitive answer to that question because, as we discovered in the case of beef, it is impossible to predict which export markets will open and when. It would be our objective, in the hypothetical situation that Mr Ewing describes, to do everything that we could to keep open the possibility of our early access to export markets.

Fergus Ewing: If the European Commission has already said no to the possibility of Scotland entering the export market without England, we should be made aware of that. Are we aware of the view that the European Commission would take if the disease was under control in Scotland, but vaccination had been used in England?

John Graham: We do not have a black-and-white answer to that.

Fergus Ewing: Have we got a grey answer? Any sort of answer?

John Graham: We have not discussed the

question with the European Commission as it concerns a hypothetical situation.

Fergus Ewing: I suggest that the issue be raised with the European Commission at this stage, as the answer is extremely important to the future of Scottish agriculture.

The Convener: Would it be fair to say that SERAD is considering the implications for the Scottish market of a vaccination policy in England?

John Graham: As I said, we are giving active consideration to the measures that we would need to implement if vaccination were used in Cumbria. We have the export market very much in mind.

George Lyon: I want to follow the same line of questioning that Fergus Ewing pursued. The issue that he raised is important and we need some clear answers. Huge numbers of lambs are being born at the moment and we would expect to export around 1 million of them to the European market in July, August and September. Some 12,000 producers in Scotland are reliant on that market and we are staring another crisis in the face if we cannot make it happen.

You say that SERAD is unsure how the European Commission will react to a request for the regionalisation of Scotland to allow us to export, yet we have already seen Northern Ireland, the Republic of Ireland, France and Holland do it—and I understand that the Dutch are using vaccination. Surely, there is a precedent. The arguments have been made by the Irish, the French and the Dutch. Surely, if you make the argument, the precedent will apply to Scotland.

John Graham: I hope that that would be the case.

George Lyon: Is there active contact with the Irish, the French and the Dutch as to what process they went through to achieve that outcome?

John Graham: I have to keep saying that we are discussing a theoretical possibility. We are aware of all the issues, and we will pursue them actively if and when a decision is taken to go down the vaccination route south of the border, but we are not yet at that point. We are fully seized of the huge significance of the export trade, for the sheep industry in particular.

George Lyon: There are 12,000 producers out there who are hoping that you are successful when you make the bid.

The Convener: You have my sympathy on that, because the committee has discovered that the Irish Government likes to play its cards close to its chest.

Richard Lochhead: As well as speaking to other European countries, can the department

speak to Brussels and find out exactly what its view is of the situation, because speed is of the essence? I met a group of farmers from north-east Scotland on Friday, who said that this is the most critical period of the year for them. In the next two weeks they will have to decide what they will use each field for and what they will budget for on the farm. This is the decision-making period for the coming year.

Some areas of the north-east of Scotland and the Highlands and Islands are further away from the outbreak than the continent is, yet they have the same restrictions as elsewhere in the country, to a certain degree. Is it possible to speak to Brussels so that we have a plan for export markets up our sleeves that can be put into action for certain parts of Scotland as soon as the green light is received? Can you speak to Brussels and find out its view on the implications for the Scottish market if vaccination is introduced south of the border?

John Graham: I beg you to leave the judgments on the tactics of this to us to some extent. If vaccination were introduced in Cumbria, we do not know what form it would take. There are a number of approaches, and they could have different implications for Dumfries and Galloway, which is just across the border. We do not have a firm view on the kind of protective measures, for want of a better term, that we might put in place between Dumfries and Galloway and Cumbria, therefore we could not put a fully worked out proposition to the European Commission at this juncture. Frankly, I am doubtful of the value of close engagement with the Commission in what, as I keep saying, is a hypothetical situation.

Richard Lochhead: It is hypothetical as far as vaccination is concerned, but putting vaccination aside, is there a case for regionalisation in Scotland?

John Graham: Yes, there is a case, and we take it extremely seriously.

Mr Rumbles: You are confusing vaccination and the points that Richard Lochhead and George Lyon raised, which relate to my point on when the word "provisionally" will be removed from the designation of the provisionally free area north of the Forth-Clyde line. You give the impression that nothing is being done to speak to the Commission about getting rid of the provisional designation from Scotland's three areas.

The northern provisionally free area is extremely important for several reasons, one of which is, as outlined by George Lyon, that trade will soon come down the line. The livelihoods of many people north of the line are linked with tourism, which is extremely important. I hope that the minister and officials will communicate loudly with

Brussels. Frankly, I am disappointed by the impression that SERAD is giving that nothing is being done because the situation is hypothetical. It certainly is not hypothetical. Action must be taken now. I would prefer it if you said that SERAD was actively looking at ways in which to withdraw the provisional designation.

John Graham: My reference to hypothetical was in the context of vaccination.

Mr Rumbles: I am not talking about vaccination.

John Graham: I appreciate that there is nothing hypothetical about provisionally free status. Leslie Gardner may wish to comment, but I am not sure that we are yet in a position to mount a convincing case to move from provisionally free status.

Mr Rumbles: Why? Are not areas in Holland and elsewhere doing just that?

Leslie Gardner: It is wrong to say that there is no communication with the Commission.

Mr Rumbles: So there is communication.

Leslie Gardner: There is constant communication with the Commission on a UK basis.

Mr Rumbles: On this issue?

Leslie Gardner: The UK is in constant contact with the Commission on the progress of the epidemic. That includes measures to release the UK from the current situation. It is wrong to compare the situation in Ireland with the situation in which we find ourselves. We have a huge, widely dispersed problem, but Ireland does not, and neither does Holland.

Mr Rumbles: Neither do we in Scotland. That is what we are discussing.

Leslie Gardner: UK officials and the Commission constantly discuss the progress of the epidemic and the release of regions. However, I cannot tell you what conditions the Commission will lay down for us to move from the designation of a provisionally free area to a completely free area. I cannot tell you that at the moment.

Mr Rumbles: You cannot give any indication at all? I find that remarkable.

Leslie Gardner: The Commission is likely to ask us to carry out some level of surveillance. That has to be decided. I cannot tell you what the Commission will say. All I can say is that the UK Government is in constant communication with the Commission.

Mr Rumbles: If there are other European examples, why is it so difficult?

Leslie Gardner: I have given you my answer. I cannot tell you what the Commission will say. All I

can say is that we, the UK, are in constant discussion with the Commission on the progress of the epidemic, which includes the stages at which it would be appropriate, in the view of the Standing Veterinary Committee, to withdraw restrictions from some or all of the UK.

If I may return to the question of vaccination, for clarification. If one part of the UK decided to go ahead with vaccination, it would have trade sanctions applied to it for the duration of the period until it became vaccine free. That could be as little as three months if the vaccinated animals were killed, or as little as 12 months if they were not. Those are the shortest periods. Conditions would be applied to the movement of livestock, meat and milk from within the area to without, as part of UK trade.

The Convener: If there are no other questions, I thank Leslie Gardner and John Graham for their assistance today. I also thank Dr Dominic Moran, Dr Keith Sumption and Professor Mark Woolhouse for helping us on vaccination.

We now welcome David Leggat, who has sat through a rather longer session than we might have expected. He is here representing the interests of the auction marts in Scotland. That sector is experiencing one or two problems, and we are lucky that David Leggat is here to explain those problems and one or two others that he may wish to bring to our attention.

16:45

David Leggat (Institute of Auctioneers and Appraisers in Scotland): Good afternoon, convener, ladies and gentlemen. I represent the Institute of Auctioneers and Appraisers in Scotland, not the Perth farmers market, which is a separate organisation that, sadly, is closed down at present. The institute understands the serious nature of FMD and recognises that the priority is to arrest and eradicate the disease. It would not want to promote any movement that would interrupt that process.

Foot-and-mouth disease has closed down our industry, bringing about the most serious ever threat to the auction system in Scotland. The majority of auction companies are reviewing the situation daily, and most have either laid off staff or have staff working on a reduced week. This is the first time in the industry's history that that has happened. In my company, staff have been laid off for three weeks; in other companies, they have been laid off for as long as five weeks. The situation follows five difficult years of trading, during which livestock values have been affected by BSE and by exchange rates.

The institute represents 17 corporate members and operates 25 weekly and 20 seasonal markets

throughout Scotland, as far north as Shetland. We employ approximately 960 people, of whom 450 work part time. The function of markets is to transfer the ownership of stock from willing sellers to buyers. The market price is established by a competitive bidding system, for which service the auctioneers charge a commission of between 3 and 3.5 per cent. Having sold stock on behalf of the vendor, the auctioneer guarantees the proceeds of the sale—that is, the auctioneer ensures that the seller gets paid for his produce and that the sale warranties and conditions are respected.

Markets act as collection and sorting centres, enabling buyers to obtain a selection of the stock that they require. That is especially important in the remoter parts of Scotland and for sheep, which come in a variety of shapes, weights and breeds. We handle three sorts of stock: prime stock, which is for immediate slaughter; store stock, which farmers keep and fatten up for their prime sales; and breeding and pedigree stock, for replacements. Prime-stock sales are mostly staged separately from store-stock and breeding-stock sales.

I have circulated a table showing the annual turnover of the institute. Last year, we handled 4.468 million head of stock, valued at £355 million, compared to 4.46 million head of stock, valued at £346 million, in the previous year. That £355 million translates into about £12.5 million of commission. Scottish markets handle 70 per cent of all prime lambs that are produced, 40 to 50 per cent of prime cattle and approximately 90 per cent of store cattle.

There is no good time to experience an FMD epidemic. The timing of the present one, however, is especially damaging to our business, as March, April and May are our highest-earning months. Our commission in March 2000 was £1.16 million. This year, we have earned virtually nothing and markets are at a standstill. April last year produced £1.34 million in commission; under the present circumstances, it is estimated that we will earn only a small percentage of that this year.

Most markets handle an element of prime stock privately between farm and abattoir. What is missing is the income from store and breeding stock, which cannot be moved at present due to the restrictions. That store-stock income is an essential contributing factor to the viability of Scotland's markets. Our immediate worry is the loss of our April and May income, but a bigger issue is the likely impact that the disease will have on sales in the autumn. Markets in the infected areas fear for their survival, in the light of the number of stock that are being slaughtered in their localities and the time scale to which they have to work. Markets in Dumfriesshire and

Kirkcudbrightshire are vital to their local economy.

It is hoped that private, farm-to-farm sales of cattle will be possible under licence. There is a huge backlog of stock, and telephones at the various auction companies throughout the country are almost blocked by people who want to move their stock. The situation will lead to welfare problems and it is already causing cash-flow difficulties for farm businesses. Many markets have been approved as disinfecting stations, to assist in welfare movements. That scheme has been up and running for just over a week and is going well. The institute has also been actively encouraging the use of markets as licensed collection centres for prime and over-30-months stock. It is hoped that, when those are up and running, they will pave the way for the resumption of normal auction trade.

The current situation is very serious and is likely to cause markets to close. That prospect is becoming increasingly likely as the crisis goes on. We are deeply concerned about the effect that the epidemic is having on our business and its future. We hope that the Scottish Parliament understands our concerns and that it will support measures to ensure the continuation of our business, which has served agriculture well for around 150 years—socially as well as economically. Markets perform a useful social function in that they are among the few places where farmers can speak to each other. We also feel that the situation deserves support in the form of compensation in respect of income that has been lost because of the standstill that has been imposed on our business.

I have omitted many details from my opening statement, as I realise that time is getting on, but I am happy to answer any questions that members may care to ask.

The Convener: Thank you. You have made it clear that markets have been able to get involved in the trading of fat and finished stock during the period leading up to today. However, the movement of store stock and—my own speciality—dairy stock is approaching one of its yearly peaks. What impact will there be on the farms as well as the marts, as a result of your not being able to get involved in that trading?

David Leggat: We estimate that approximately 82,000 store cattle that would normally have been marketed in March and April are waiting to move. It is a very complex situation. The farmers are running out of food and accommodation for the stock and they want to bring in lambing ewes. They are also running out of a commodity that keeps their businesses going—money. The situation is causing severe cash-flow problems.

The Convener: Can you foresee ways in which auction marts might be able to begin trading in

store and dairy stock by some other means than collecting them at single points?

David Leggat: Yes. The last time that there was an outbreak of foot-and-mouth disease in this country, prime-stock sales continued and store stock was marketed from farm to farm with the auctioneer acting as an intermediary. The great problem is in establishing the price of stock; therefore, the auction system establishes a competitive, independent price. That is how we view our function.

Richard Lochhead: I met some farmers from the north-east on Friday. One had store cattle that could not be taken to a finisher on a neighbouring farm; he had too many cattle and his neighbour was waiting for cattle. What relaxations could be made in the coming weeks that would not compromise the efforts to curb foot-and-mouth disease?

Concern has been expressed that, because the auction marts are not in operation, farmers are having to take those beasts that they can move straight to the slaughterhouses, which offer different prices for them. Farmers are unable to know which slaughterhouse is offering which price as there has been no collation of information from the slaughterhouses around the country. Are you aware of that problem?

David Leggat: Your first point is very relevant. Many farmers have a lot of feed in for stock, a lot of room and some money—I would not say a lot of money—and they would easily take that stock.

I stress that a system of licensing would be policed from farm to farm. I go back to my opening statement—we do not want to become involved in anything that will spread this condition. A system of strict licensing that uses the markets as disinfecting centres seems to me to be the logical way forward. The Scottish Executive is actively considering that approach, particularly for the area north of the Clyde and Forth.

Your second point was about price information. It is our experience that prices are fairly stable in the beef sector. Information about that should be available. Even before FMD, there were always variations in prices, depending on which factory or type of animal was being dealt with. That is always a concern. For the committee's information, I have done some research on cattle prices, which are about 2.5 per cent down on this time last year. Sheep prices have been more affected, and are down 20 to 25 per cent on last year's prices. As members will be aware, most of the lambs from Scotland are exported to France, but such movement is banned at present.

Richard Lochhead: I will ask a final, but brief, question.

The farmers also expressed concern about the lack of information on which animals have been taken out of the system through culling and slaughtering, which will influence the breeding stock and so on that is available on the market next year. Are you aware of that concern?

David Leggat: It is clear that in Dumfries and Galloway and in Cumbria, huge numbers of animals have been culled—I think Mr Gardner said that the current total is 640,000. That will have an effect on the availability of breeding stock and, with that number of animals out of the market, pressure will be put on sales and prices.

While the MAFF website illustrates the number of animals that have been culled on individual farms, it does not specify whether, for example, they are dairy or beef cattle. It is early days for getting information about stock for next year. However, we know that a lot of breeding sheep, beef cattle and dairy cattle are coming out of the system, and those animals will have to be replaced.

George Lyon: I should declare an interest, as I do substantial business with David Leggat and his company.

David Leggat was right to describe farmers as being stuck with no cash flow because they are unable to shift their stock. Severe welfare problems are developing on farms because stock cannot be shifted off.

The scenario that you outlined earlier, David, was of a lot of farmers looking for stock and a huge number of farmers with stock to sell. As I recall, many years ago we had an electronic auction system that did not require the physical movement of animals to a centre for those animals to be marketed. However, that system died off due to lack of use—perhaps vested interests came into play, as some people did not want the system to work properly.

In this day and age, electronic trading platforms are set up for business-to-business trade throughout all sectors of industry and business. Is not the key to getting the market to operate again—allowing businesses such as yours to enjoy a return—co-operative working among the auction centres? The auctioneers should get an electronic trading platform—whether the old electronic auction system or a new one—up and running as soon as possible. That would allow you to put willing sellers and willing buyers in touch with one another once the rollback of movement restrictions begins. That is your role, and it might also take out the dealers who sometimes interfere in the middle.

David Leggat: George Lyon raises a valid point. Some of our members operate electronic auction systems; I have a vested interest, as my company

operates one. A number of our members are considering electronic trading platforms and alternative ways of moving stock from farm to farm.

The Convener: Could such electronic systems contribute to the recovery of the markets in the short term?

David Leggat: I think that that is likely. However, the auction system is a great network of buyers and sellers, and the first movements will probably be arranged over the telephone. We will then move to electronic auctions, and then perhaps to something more advanced.

17:00

The Convener: Should the committee encourage the Executive to examine how such an approach can be developed in the short term?

David Leggat: I would say so.

George Lyon: Huge numbers of movements throughout the country have made the foot-and-mouth epidemic much worse. Would proper electronic trading not provide an utterly transparent marketplace and do away with the need for dealers to travel animals round and round the country to establish a market price? Surely in this day and age that would provide a much more welfare-friendly system.

David Leggat: It is important to consider what happened up to the outbreak of this epidemic. The current British Cattle Movement Service system requires cows to have two ear tags that are recognisable from a distance and a passport that provides a clear picture of where the animal has been. Over the years, we have staged many hundreds of thousands of sales where the stock has landed in a perfectly healthy state. Scotland—and the Highlands in particular—has a reputation for selling high-health stock. We have great skill in that direction, and the whole industry has been saddened by the fact that a couple of markets have been catalysts for the spread of the disease. However, we should remember that many of the stock that comes through the markets with which I am involved are moved only once, from the breeding farm to the market. They are then moved to the feeding farm. Such information can be easily picked up through the BCMS.

Although the sheep situation is rather different, all the lambs born now will be subject to tagging, which will mean more traceability.

George Lyon: One of the great dangers is that a lot of knee-jerk regulation might be introduced, which is what happened in 1996 after the BSE outbreak. Such a reaction curtailed the industry's ability to survive. We have to look beyond that approach at modern trading systems that could

deal with the situation at the Longtown and Hexham markets, where huge numbers of animals were being traded by dealers.

The Convener: I would like to give you the opportunity to clarify a point. An auction mart has been implicated in spreading the disease, particularly into the Dumfries area. Was the auction mart system at fault, or was the crisis caused as much by economic circumstances that have been partially dictated by European regulation? Does such regulation put pressure on dealers to move small numbers of stock long distances?

David Leggat: We must consider the basis of the problem, which is the fact that this country imports meat products from every other part of the world. In New Zealand, for example, a bunch of bananas would be confiscated before it got into the country—I have witnessed that myself. It was particularly unfortunate that the movements hit that time of year in a very busy market. A large percentage of the sheep from Scotland and Cumbria are slaughtered in specialist sheep abattoirs in the south to fulfil export and home demands. Furthermore, stock bought from slaughter markets have continued to live for various purposes, one of which is to keep numbers right for subsidies. Sheep die and have to be replaced.

The Convener: If members have no further questions or comments, I will thank David Leggat for attending the committee and explaining the position of the auction marts. Those of us who are particularly close to the farming industry are concerned that the auction marts have been forgotten as one of the victims of the crisis, and we are grateful that you have made us understand the position in which your industry finds itself.

David Leggat: On behalf of my organisation's members, I want to say that we appreciate the time that the committee has given us.

Subordinate Legislation

The Convener: As long as we still have a quorum, we will plough on. The next item on the agenda is consideration of various items of subordinate legislation. Because we are approaching a recess—during which the committee will not meet—the final dates for consideration of these instruments fall before our next meeting. As a result, we must deal with them now.

The first instrument is the Pesticides (Maximum Residue Levels in Crops, Food and Feeding Stuffs) (Scotland) Amendment Regulations 2001 (SSI 2001/84). We have been designated the lead committee on the instrument, which was laid on 5 March. We are required to report on it by 23 April. The order was laid under the negative procedure, which means that the Parliament has the power to annul the order by resolution within 40 days, excluding recess. The time limit for parliamentary action expires on 28 April. The Subordinate Legislation Committee considered the instrument in its 13th report, which has been circulated to members. The clerk has received no comments from members asking for officials to be present. Are members content with this instrument?

Members indicated agreement.

The Convener: The next instrument is the Import and Export Restrictions (Foot-and-Mouth Disease) (Scotland) Regulations 2001 (SSI 2001/95). The Subordinate Legislation Committee considered the instrument in its 13th report and made no recommendations. The clerks have received no comments from members asking for officials to be present. Are we content with this instrument?

Members indicated agreement.

The Convener: The next instrument is the Feeding Stuffs (Sampling and Analysis) Amendment (Scotland) Regulations 2001 (SSI 2001/104). The Health and Community Care Committee has been designated as the lead committee on this instrument, which was laid on 16 March. We are required to make any comments in a report to that committee before 24 April. The clerks have received no comments from members. Are we content not to make any comment to the Health and Community Care Committee?

Members indicated agreement.

The Convener: The final instrument for consideration is the Import and Export Restrictions (Foot-and-Mouth Disease) (Scotland) Amendment Regulations 2001 (SSI 2001/112). The committee has been designated as the lead committee on this instrument, which was laid on 21 March. The

Subordinate Legislation Committee considered the instrument in its 14th report, and has made no recommendation to us. The clerks have received no comments from other committee members. Are we content with this instrument?

Members indicated agreement.

The Convener: That brings us to item 6 on the agenda, which we have previously agreed to take in private.

17:09

Meeting continued in private until 17:12.

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