

Who are the stakeholders involved in the decision-making process regarding intra-EU cattle trade and non-EU-mandatory-regulated diseases?

Rachel Cerf, Maria Guelbenzu Gonzalo, Luis Pedro Carmo, John Berezowski

The COST action (CA17110) “Standardising output-based surveillance to control non-regulated diseases of cattle in the European Union (SOUND control),” aims to harmonise the results of surveillance and control programmes (CPs) for selected cattle diseases to facilitate safe trade and increase overall control of cattle infectious diseases.

The aim of SOUND control is to coordinate, stimulate and assist with the initiatives to explore and implement a widely adaptable output-based framework applicable to substantiate the confidence of freedom and cost-effectiveness in current surveillance, control or eradication programmes for non-regulated cattle diseases in the EU. This output-based surveillance should help reducing the risk of transmission of non-EU-mandatory-regulated diseases (such as BVD, IBR, Paratuberculosis, etc.) via EU intracommunity cattle trade. The control of the selected cattle diseases is very heterogenous in Europe and several stakeholders are involved in the implementation of control programmes and therefore they are likely to influence to a greater or lesser extent the cattle trade decision-making process.

Introduction

When a farmer decides to purchase one or more cattle from another EU country, different stakeholders are likely to have a degree of influence on the decision-making process.

At present, the scientific literature does not identify the stakeholders nor explains the processes related to the decision making for cattle trade. This review should enable us to understand the trade decision process, the mechanisms to influence decision-makers and finally to appreciate how control programmes influence countries in their decision to import cattle from other European countries regarding non-EU-mandatory-regulated diseases.

In this paper we are collecting data of 15 countries in order to better understand the trade decision-making process.

Materials and Methods

A questionnaire was designed to collect information about the influence of the stakeholders in each country and the influence of the CPs on the cattle trade decision-making process regarding non-EU-mandatory-regulated diseases. In order to obtain as much detail as possible about the process, it was decided to interview different sectors from the 15 participating countries:

Action members from the participating countries were asked to send the survey to the sectors that may be involved in the process. In total we received 146 responses.

The questionnaire is a combination of free text and scale questions scored from 1 to 5.

Definitions and Development of the Questionnaire on Existing Control Programmes for Selected Cattle Diseases

The definitions for the survey were agreed upon at a series of meetings involving members of SOUND Control. First the stakeholders involved in the cattle trade decision-making process have to be defined. The final selected stakeholders are followed with their definition.

Definition	Description
Beef industry	suckler cows, fattening bulls, veal calves, etc.
Dairy industry	Included dairy cattle, that are used for milk production but also processing of milk, quality control of milk.
Breeding Association	An organisation established to promote and develop a breed of animals.
Cattle trade organisation	The rearing, buying, selling, or transport of cattle.
Auction sale company	An auction is a sale in which buyers compete for an asset by placing bids.
Private practice veterinarian	Clinical examination of cattle, sampling and analysis, herd monitoring.
Government	Veterinary services, Chief Veterinary Office ensures the good sanitary state of the department's livestock and the respect of animal welfare.
Animal Health organization	An organisation recognised by breeders for its expertise and experience in disease surveillance, prevention and control.
Academia	Research centre or veterinary university
National reference laboratory	Laboratory responsible for the development, optimisation and validation of analytical methods and participation in their standardisation
Private laboratory	Tests (e.g., biochemical, bacteriological, parasitological, viral) that help to guide or confirm a medical diagnosis.

Table 1 : Definition for the selected stakeholders that may be involved in the cattle trade decision-making process

Then the mechanisms to influence decision-makers have to be analysed. This part aims to better understand the influence of the CPs on the cattle trade decision-making process regarding non-EU-mandatory-regulated diseases. The objective is also to find out whether CPs contribute to building trust between trade partners.

All 33 Sound Control member countries were surveyed to participate in this study. It turns out that 15 responded positively and applied the questionnaire in their own country. The countries participating are followed:

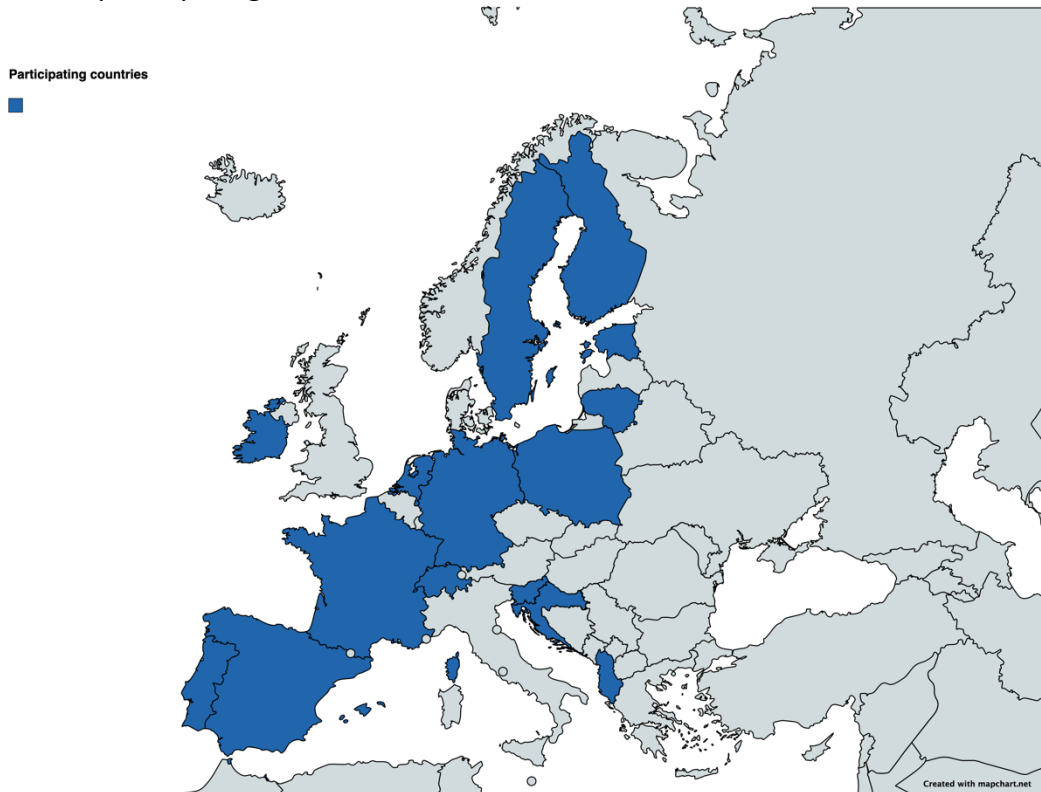


Figure 1: Participating countries

Below is a graph showing the different stakeholders who responded to the questionnaire.

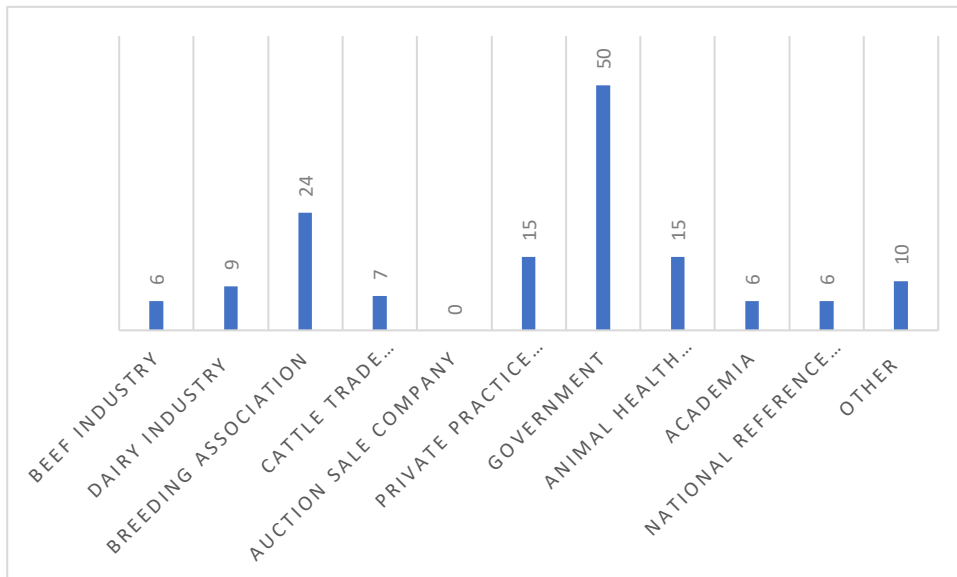


Figure 2 : Stakeholders who replied to the questionnaire.

Results

When a farmer decides to purchase one or more cattle from another EU country, how do the stakeholders contribute to the farmer's decision to purchase the cattle?

Regarding intra-EU cattle trade, the conditions for trade are harmonised between the EU countries. All live animals must travel with a health certificate validated by an official veterinarian specifying that the animals fulfil the basic animal health requirements as set out in the relevant Regulations. This Regulation, however, specifies the tests to be carried out only for diseases that are regulated at the European level (for example tuberculosis).

For non-EU-mandatory-regulated diseases, there is no harmonised Regulation at the EU-level, therefore each country has implemented control programmes for selected diseases.

As a consequence, there are heterogeneous CPs between countries for non-EU-mandatory-regulated diseases under Category C, D or E in the Animal Health Law.

The application of these control programmes depends on several actors in each country, that is why it is very interesting to know the actors who can positively or negatively interfere in the decision-making process of purchasing cattle in Europe. The same stakeholders may have a different role in the process depending on the country.

Control programmes are mostly run by the government and/or private services such as beef or dairy industries.

In general, the government has an important role with regard to diseases regulated at European level but limited influence with regard to non-regulated diseases. However, they are a key player in the traceability of cattle imported into countries through the TRACES system. However, the government allows some control programmes to be harmonised at national level. Most of these control programmes are voluntary and do not impose financial penalties on farmers.

Since the dairy industry (sometimes also the beef industry) has addressed the problem of unregulated diseases in some countries by setting up control programmes and imposing penalties on farmers, they seem to have an important role in the decision-making process.

Breeding Associations often have an important role in advising and warning farmers about the risks of importing cattle from other countries.

As the Breeding Associations, the Animal Health Organisation has to inform the producer about the health situation of the country, region or establishment, if necessary, it can carry out research and request additional information. This association often gives some advice on documentation, additional procedures and testing, quarantine, disinsectisation on arrival, vaccination and testing plans to be implemented.

Auction sale companies are not very present or even non-existent in some countries such as Sweden, Finland, Slovenia or Albania. Where they do exist, they can have a great influence

on the farmer, as they determine the price of the cattle. Moreover, they often organize the meeting of the actors of the sector and increase due to the presence of many animals from different farms the risks through many contacts.

Regarding the influence of veterinarians on the cattle trade, all respondents to the survey answered in the same direction. Indeed, it seems that veterinarians have an important role in information, prevention and advice related to the import of cattle from other European countries. Veterinarians are often considered as trusted persons for farmers and therefore their role is essential but not decisive in the decision-making process, because to be decisive they should always be asked by the farmer, which is not always the case. As health veterinarians, they are always called in when regulated or non-regulated diseases break out and are therefore on the front line when it comes to risk prevention and sampling. When they are consulted for herd management after the outbreak of a disease such as Johne's disease, they are key players in "sanitising" the herd and anticipating the outbreak of new diseases.

Friends, family and neighbours, when consulted by farmers, can have an emotional impact on the farmer and possibly share their experience.

Stakeholder's opinion

In the Netherland, the government has little influence in the process. The government does take part in a small way in the CPs; Cps are most of the time driven by the dairy industry, so that all Dutch dairy herds have to control most of the non-EU-regulated diseases such as BVD, BoHV-1 and paratuberculosis in their herds. For non-dairy herds, participation in the CP remains voluntary. Moreover, the SKV board, for the veal calves' industry seems to have an important role in the decision-making process since they can decide on implementing import restrictions or import limiting measures based on the health situation of the considered country. The breeding association may have a limited role even if they are regularly buying bulls from other European countries. Their decision is based on the breeding value and the approval of a veterinarian. The Animal Health Organization seems to have a monitoring and an advising role.

In Poland, the farmers are followed the EU regulations for importing cattle. Breeding Association has an advisory, training and information role. One person also pointed out that "the mass media and social media can have a significant impact on decisions to buy cattle from a particular country (or not). The reliability of such messages may be a problem."

In Lithuania, breeding association seem to contribute the most to the cattle trade decision-making process. Indeed, Cattle breeding association recommends sources to buy heifers considering the breed, breeding value and health status in the selling countries. Government contributes within the limits of regulated diseases in Europe.

In Portugal, the government implement intra-community control rules but for the non-EU-regulated diseases there is no mandatory control. The only compulsory requirements are screening for brucellosis and tuberculosis. As a consequence, their influence in the decision-making process is limited. Breeding associations have no legal basis or autonomy, therefore

they only influence the farmers through advice and support. For example, they could advise the buyer, according to their health status, whether to make the purchase or not according to risk and whether there are additional guarantees that should be requested from the seller. However, they are rarely consulted by farmers

In addition, laboratory such as SEGALAB advises its customers to request freedom from Neospora, BVD, IBR and Paratuberculosis, therefore most of the time upon arrival the animals are tested for these diseases; for farmers included in the BOVICONTROL Program all animals imported and purchased on the national market are tested for the followed diseases: IBR, BoHV-1, Neospora and paratuberculosis).

The laboratories play also an important role. Some work for official services and others for producer associations. They provide a competent service because they play an significant role in identifying sick animals as a correct diagnosis will allow a correct choice of effective measures. An important factor is the speed of response of laboratories and they must be accredited to increase confidence and transparency in the trade.

In France, there are different possibilities for each GDS, depending on the funding available, the epidemiological situation of their departments with regard to other diseases, the expectations of livestock farmers, the types of farming, the constraints, etc. Compulsory national programmes are underway (IBR, BVD) which are the responsibility of livestock owners. In terms of voluntary actions, the priorities are not necessarily the same from one department to another, or from one region to another. Breeder Association and Animal Health Organization seem to have in France an important role in advice and prevention. As Animal Health Organisation do not have easy access to the different statuses of foreign herds for the different diseases (regulated or not), they could advise a breeder to buy a bovine from France, with a known or accessible health history.

Germany has a general trend of progress, IBR has a compulsory eradication programme and BVD has a compulsory control programme for all farmers. Although there is no national control programme for the other, some regions have measures in place against Johne's disease. The government seems to carry a lot of weight in the decision-making process, especially with the existence of the "Tierseuchenkasse". Indeed, the legal basis in Germany is the Animal Health Law and the execution laws of the federal states. According to these laws, the "Tierseuchenkasse" (animal health insurance funds) is predominantly organised as institutions under public law at the state level. Its most important mission is to collect contributions from livestock farmers in order to provide compensation when an animal disease occurs and to offer aid for preventive measures. In addition, they play a fundamental role in informing farmers of the risks associated with the introduction of new animals that could potentially transmit non-regulated diseases. For example, In the case of BVD, the cattle must arrive with a "NON IPI status", which is not always the case and the buying breeder must then incur additional costs.

In Spain, the Livestock Health Defence Associations seems to play a significant role. They advise, with regard to diseases not under "detailed" official control, that the farmer requests health certificate at the origin. The Livestock Health Defence Associations give advice in particular on IBR, BVD and paratuberculosis. Breeders' associations contribute significantly to the purchase of specific genetic material. On the other hand, traders or auction sale

companies are many times the ones that are more influential to buy one or another animal depending on their economic interests, not the interest of the buyer.

In Estonia, Breeders Association, help to find suitable animals and recommend to breeders to further examine the animals if necessary, as well as to carry out post-transport quarantine. Furthermore, a large part of the trade in breeding cattle takes place through the breeding organization. They can offer all-round assistance to animal breeders in organizing the importation of animals.

In Switzerland, according to bilateral treaties, the rules governing exchanges between EU Member States and Switzerland are the same as for intracommunity movements. However, supplementary rules are laid down in further acts. It is recognised that Switzerland has a higher health status than some EU countries in relation to certain animal diseases and can therefore require additional safeguard measures for certain imports. This concerns brucellosis and IBR (infectious bovine rhinotracheitis). These measures are defined by the government and can partly influence farmers in their decision-making process.

In Sweden, the government, make different types of risk assessments to support decisions about surveillance, control programmes, preventive measures and disease outbreak management. The probability of introduction and route of transmission are both included in this work. The Animal Health organization, indeed, attempts to avoid introduction of diseases. The dairy industry is an important part of the decision-making process, since it has even decided to not buy any live animals from other countries. They have kept this strategy since 1995 when Sweden joined the EU. In Sweden, there is a special organisation that actively contacts farmers that plan this type of trade. They inform about testing and about the risk to introduce infections absent in Sweden. In conclusion, the import of animals into Sweden is extremely limited (10-50 animals per year).

In Finland, there are two main actors that can influence the decision-making process. A large part of the prevention related to the risk of introducing non-EU-regulated diseases is carried out by the Animal Health ETT. ETT gives risk management instructions to farmers and stakeholders about biosecurity, animal health care and import of production animals, semen, embryos and animal feed etc. Their measure is on the one hand to steer import of production animals as well as their embryos, semen and feeds so as to control the risk of disease. On the other hand, to share information on preventive measures related to animal diseases, to do consultation related to eradication of infectious diseases and developing insurance schemes against animal diseases.

The government is also an important stakeholder regarding the influence of the cattle trade decision-making process. In fact, there are several control programs for non-EU-regulated diseases in Finland compared to other EU countries. These control programmes are controlled by the government, and for some of them, reimbursements are paid for the culled animals.

In Slovenia, the government support free trade so that often all categories of cattle can be brought to Slovenia, regardless of their health status, genetic defects and peculiarities of breeding animals, without official pedigrees (which have to be paid for abroad).

In Ireland, the conditions for importing animals are regulated exclusively by Regulation 2016/429 ('Animal Health Law') and Commission Delegated Regulation 2020/692. The Breeder Association brings great value to Breed and Pedigree.

In Albania and in Croatia, there is no restriction for non-EU-regulated diseases. The imported animals have only to respect the EU import rules. In both countries, the government play an important role in advising farmers about the risks.

Perceived risk of non-EU-regulated disease introduction via intra-EU trade

EU member states are not allowed to set trade restrictions on intracommunity trade for some selected cattle diseases. Unfortunately, countries that have achieved freedom from specific diseases such as Sweden, Germany and Finland are at risk of their reintroduction with imported animals from other EU countries, which freedom status is undefined.

The answers to the question "How concerned are you about introducing a disease into your country when cattle are purchased from other EU countries?" are listed in the following diagram.

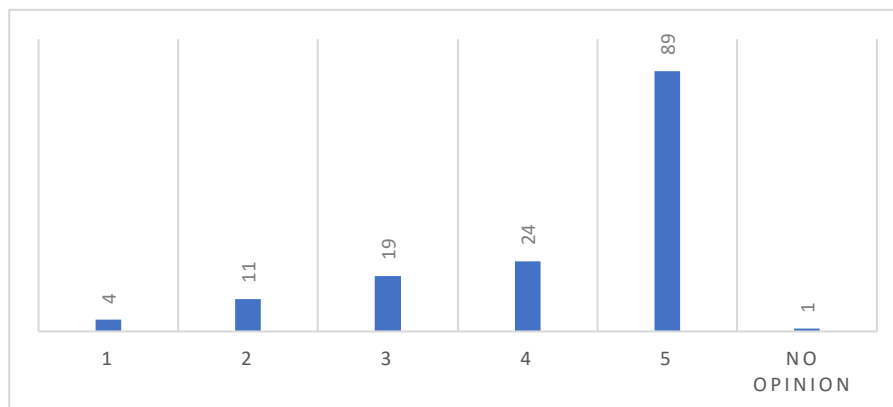


Figure 3 : How concerned are you about introducing a disease into your country when cattle are purchased from other EU countries?" (1 = Not concerned, 2 = A little concerned, 3 = Neutral, 4 = concerned, 5 = very concerned)

In general, it is observed that the various stakeholders in the cattle industry are concerned about the introduction of a disease in their country via the intra-EU cattle trade.

If we look at the results for each stakeholder, it seems to be a difference in risk assessment depending on the sector asked.

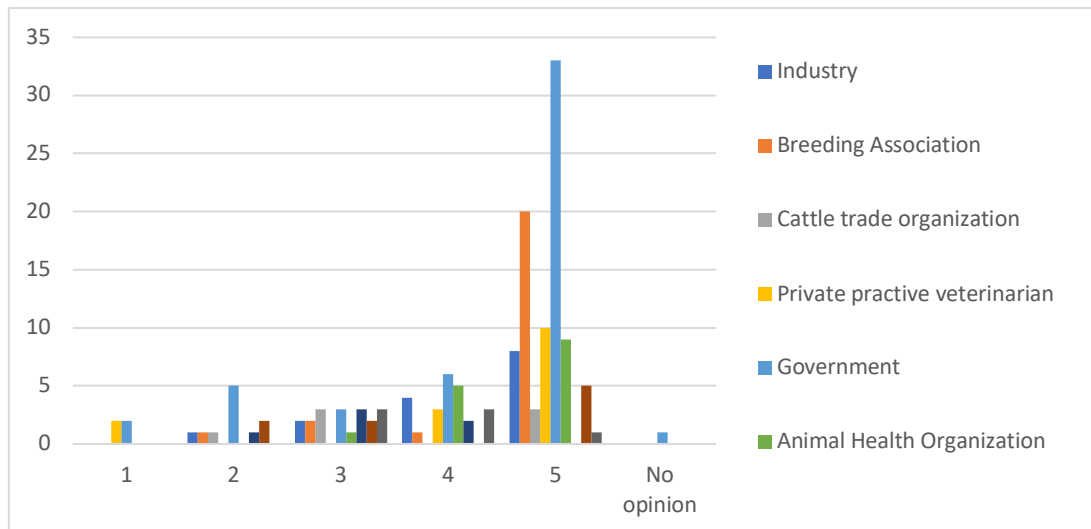


Figure 4 : How concerned are the different stakeholders about introducing a disease into your country when cattle are purchased from other EU countries?" (1 = Not concerned, 2 = A little concerned, 3 = Neutral, 4 = concerned, 5 = very concerned)

The stakeholders interviewed from the animal health organisation sector all agree that they are concerned about the risk of introducing a non-regulated disease via the intra-EU cattle trade. Although most members of the government are concerned about the introduction of a disease via the cattle trade, it seems that some do not fully agree with this.

The government respondents who were least concerned about the introduction of disease through the purchase of cattle outside their country were Croatia and Albania.

Information taken into consideration when a decision is made about whether to purchase cattle from another country

All cattle traded within Europe; must above all fulfil the requirement set in EU regulation (EU 2020/688). Most of the countries also ask the cattle imported to be tested or come from countries free of bovine tuberculosis, brucellosis, BT and EBL.

When importing cattle, most countries responded that farmers enquire about the status of various non-regulated diseases before importing animals. The non-regulated diseases, for which the health status is often asked, that are most frequently mentioned in the answers are BVD, IBR, paratuberculosis and neosporosis. However, some regret that there are still breeders who unfortunately only look at price, genetic qualities and practicality such as transport.

Control programmes are also sometimes looked at, but in most cases, it is difficult to know what they ensure in terms of health status. In addition, the existence of many different control programmes and their different guarantees are often not easy to understand for the farmer.

For countries free of certain regulated diseases, additional guarantees are always required for imported animals when they are imported from non-free countries. This is the case for Finland with BVD in particular, where animals must be tested before arrival in the country and then

on arrival and must also undergo a 30-day quarantine. These rules in Finland are imposed by the ETT. In Germany, which is officially IBR-free, there is no such requirement.

Through the national BVD control programme in Germany, BVD control is harmonised nationwide. Animals are then required to arrive with a non-IPI status, unfortunately this is not always the case and the buyer has to pay additional costs. The additional costs caused by such importation may lead the farmer to be more careful about the cattle he buys, as well as the country of origin of the cattle.

Mechanisms to influence decision-makers

After having seen the different stakeholders that can influence the decision-making process, it is also important to consider the part that control programmes for non-EU-regulated diseases play in this process.

Influence of the Control Programmes on the import from certain other EU Countries

There are over 20 cattle diseases that are not EU regulated but for which European Countries have locally applied control programmes. Control programmes are very different from each other which can make it difficult for the farmer to decide whether or not to import cattle from another country.

The health status of the countries may be different; some countries being considered free of certain diseases, others not, the control programmes may limit intra-EU cattle trade or even discourage some breeders to import cattle from another country.

The following sentence was submitted to the different stakeholders: “There are disease control programmes in my country that in some way discourage the import of cattle from certain other EU countries.”

The responses obtained are in the following diagrams.

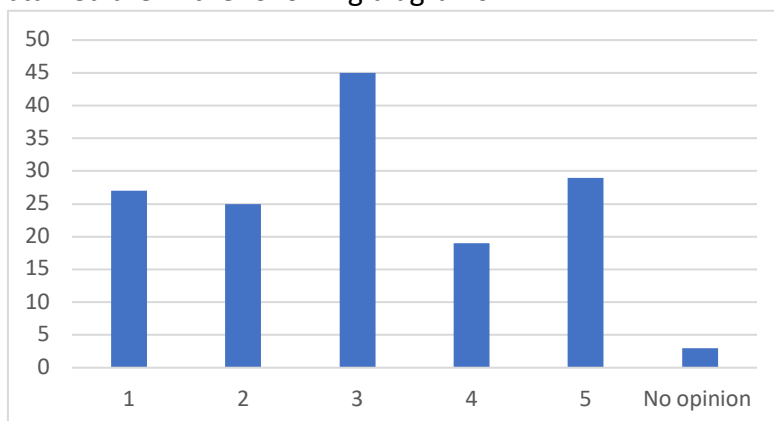


Figure 5: There are disease control programmes in my country that in some way discourage the import of cattle from certain other EU countries. (1 = Strongly Disagree; 5 = Strongly Agree)

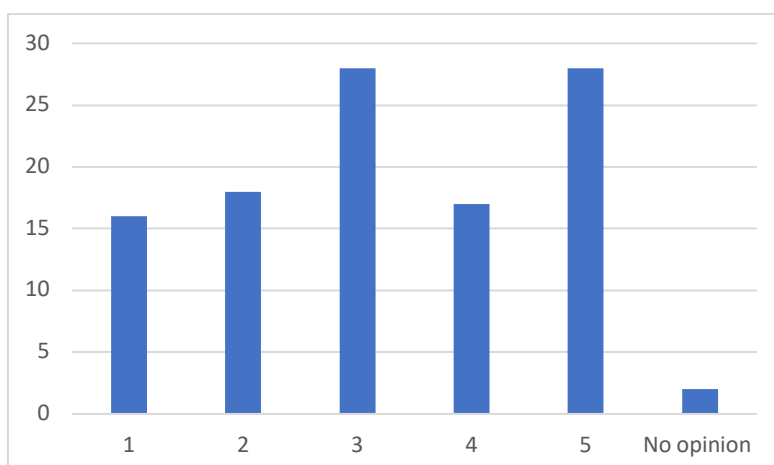


Figure 6 : There are disease control programmes in my country that in some way discourage the import of cattle from certain other EU countries. (without Poland) (1 = Strongly Disagree; 5 = Strongly Agree)

There are two different diagrams because with the large participation of Poland (39 responses) it was possible that the overall results were biased by it.

If we look at the results by averaging the responses, we get the following table:

Countries	Average
Netherland	3,7
Poland	2,3
Lithuania	2,3
Portugal	2,5
France	3,3
Germany	4
Spain	3,8
Estonia	4
Switzerland	3,8
Sweden	4,3
Finland	4,3
Slovenia	2,9
Ireland	5
Albania	1,7
Croatia	1,8

Table 2 : Average per country response to the question: There are disease control programmes in my country that in some way discourage the import of cattle from certain other EU countries

Responses are divided, some countries do think that control programmes discourage trade in some way, others do not think that imports are discouraged by them and others think that 'discourage' is the inappropriate term.

Countries that do not believe that control programmes discourage intra-EU cattle trade are: Poland, Lithuania, Portugal, Slovenia, Albania and Croatia.

Countries that do believe that CPs discourage intra-EU cattle trade are: the Netherlands, France, Germany, Spain, Estonia, Switzerland, Sweden, Finland and Ireland.

Control programmes are generally an integral part of the decision-making process for trade in cattle between different European countries. Indeed, depending on the country, they can be a guarantee for the purchasing countries. The Portuguese respondents to the questionnaire pointed out many times that it is rather the lack of control programmes in Portugal, in particular for IBR, BVD and paratuberculosis, that could discourage other countries from buying from them. Indeed, Portugal often finds it difficult to export its cattle because of its lack of certification for some diseases.

On the other hand, the Netherlands believes that control programmes do not discourage trade in cattle, but assumes that when they have to export their cattle to BVD and IBR free countries, they have to fulfil additional conditions and that this can be more complicated.

Spain favours imports from countries with IBR and BVD control programmes because they have a national IBR control programme, and farmers participating in the voluntary BVD control programme try to limit the risk of introducing BVD by requiring more guarantees when importing.

According to the respondents, the control programmes in Switzerland in no way hinder trade with other countries, although additional guarantees for some diseases are requested.

For Sweden, many responded that the word "discourage" is not adequate. For them, all trade should take into account the health of the cattle and the control programmes are a way to underline this importance. In addition, the paratuberculosis programme, which is voluntary in Sweden, requires for farms participating in the programme to import cattle with the same status, and this requires validation from the industries that run the programme, which in some ways discourages imports with some countries that do not ensure the necessary paratuberculosis guarantees, and this is also the case between farms in Sweden.

In Finland the recommendations are simple, farmers are strongly advised to import cattle only from non-risk areas. In a way it is recommended not to import cattle from other countries, because the risk is too high. The countries from which the cattle come must be free of IBR and BVD. In addition, there is a control programme for *Mycoplasma bovis* which requires testing of imported cattle and of the herd of origin. Vaccinations against ringworm are also recommended.

In Slovenia it is not possible to import cattle from countries with a lower health status for some diseases than them. However, some point out that the additional guarantees in some countries with control programmes lead to an increase in the number of cattle they offer for sale and this may discourage the breeder from buying animals from countries where control programmes have been put in place.

In Slovenia it is not possible to import cattle from countries with a lower health status for some diseases than them. However, some point out that the additional guarantees in some

countries with control programmes lead to an increase in the number of cattle they offer for sale and this may discourage the breeder from buying animals from countries where control programmes have been put in place.

Building trust between trading countries: CPs an important role?

A CP was defined as surveillance and/or intervention strategies designed to lower the incidence, prevalence, mortality or prove freedom from a specific disease in a region or country¹.

Although it is easy to get lost because of all the different control programmes in Europe, it is possible to imagine that the more control or even surveillance programmes a country has, the easier it is for it to ensure a certain quality of non-regulated disease-free status for their cattle. This is not so obvious; the following paragraphs will discuss the role of control programmes in establishing trust or not between possible trading partners.

The following pie chart shows that there are countries that prefer to trade with certain partners rather than others.

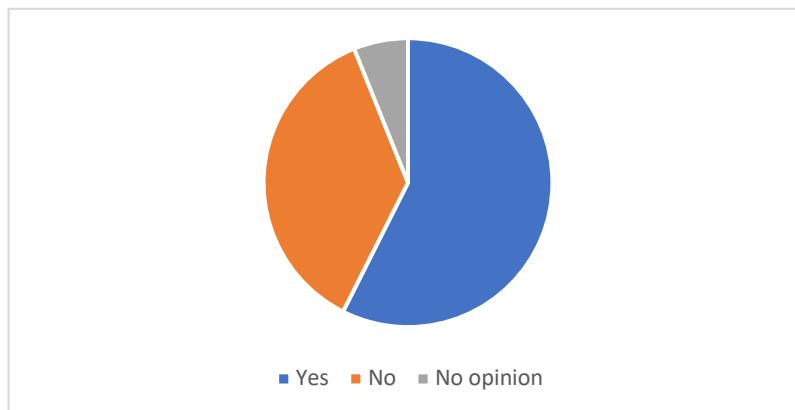


Figure 7 : Are there countries that are particularly trusted in your country for which cattle trade is encouraged?

The countries that have shown specific interest with one or more particular partners are the following: the Netherland, Lithuania, Portugal, Germany, Spain, Estonia and Finland.

For the other countries, the results diverge, or they do not think that some countries are favoured for cattle trade regarding non-regulated diseases over others.

In the Netherland, for example they give preference to trade with Scandinavia or with Germany because of the same culture and their high quality of cattle. The Netherlands always tries to purchase cattle from disease-free countries e.g., BVD, IBR, Paratuberculosis, etc.

Lithuania will prefer to trade with the Norway or the Switzerland by unowning their free status for certain non-EU-regulated diseases.

¹ Overview of Cattle Diseases Listed Under Category C, D or E in the Animal Health Law for Which Control Programmes Are in Place Within Europe

Although France's responses differ on this point, it is clear that France favours its imports with Belgium, Germany and Switzerland for their proximity and reputation for control programmes.

Germany will give priority to cattle trade with Scandinavia, Austria or Switzerland because of their high freedom status and consistent implantation of control programmes.

For all the countries, transparency around disease status and performance of surveillance and control programmes are an essential link to build trust between countries.

Cooperation between other organizations is also guiding the import of cattle as also a long-time cooperation between similar organisations.

Even if, today control of some cattle diseases in the European Union (EU) is currently founded on input-based standards, some countries, thanks to the high reputation of their control programme, are able to stand out from the others.

To know, if “disease control programmes have an important role in building trust between cattle trading partners from different EU countries”, we ask people to determine their opinion on a scale of 1 to 5 to the previous sentence, where 1 means they do not agree and 5 means they strongly agree.

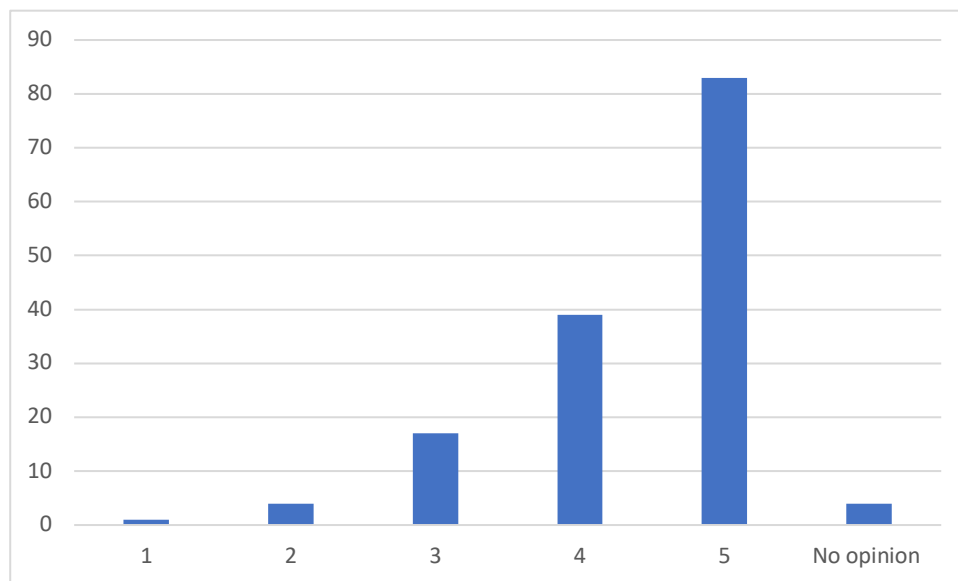


Figure 8 : Disease control programmes have an important role in building trust between cattle trading partners from different EU countries. (1 = Strongly Disagree; 5= Strongly Agree)

In general, it appears that control programmes have a role to build trust between trading partners and therefore have a role in the decision-making process.

Discussion

More of the time, Breeders themselves decide on the purchase of cattle but as we see in the different paragraphs, there are different elements that can influence their decision-making process.

The Netherlands has compulsory control programmes for leptospirosis, paratuberculosis and salmonella. The risk of importing these diseases from other European countries is high as not many other European countries have decided to set up control programmes for these diseases. Farmers would therefore always prefer countries, which try to control these diseases in order to limit the risk as much as possible. The control programmes thus indirectly guide the intra-EU cattle trade.

It is noted that some people feel that control programmes are sometimes perceived as an administrative constraint rather than an element of reassurance in the cattle trade.

In addition, in some cases because diseases are not regulated, even if a cattle tests positive, it cannot cancel the trade if the farmer takes the risk of importing it anyway. This is obviously the case if no financial compensation is requested by the importing country to penalise the breeder who bought the cattle. For this reason, many countries see the financial penalties outlined in the control programmes as an important element in preventing some farmers from importing cattle of unknown health status.

It is interesting to note that control programmes have a positive effect on cattle trade. Indeed, for countries with many control programmes, it is often observed that they also have a reassuring health status with regard to diseases not regulated in Europe. This makes it easier for these countries to export their cattle to countries that require guarantees.

The measures to be taken in case of positive results for some diseases not regulated in Europe should be clearly specified in the control programmes.

Another point that came up frequently in the responses was whether or not there was a national reference laboratory for the diseases indicated. These laboratories can provide an expert view of the diseases and are a guarantee of the test's quality. They are designated for one or more fields of competence by order of the Minister of Agriculture.

The national reference laboratories are responsible, in their field of competence, for

- the development, optimisation and validation of analytical methods and participation in their standardisation
- The technical coordination of the network of approved laboratories;
- Where appropriate, carrying out official analyses and in particular confirming the results of analyses carried out by approved or recognised laboratories;
- Ensuring scientific and technical monitoring;
- Responding to any request for scientific or technical expertise from the Ministry of Agriculture and other interested ministries.

Therefore, there are an essential organism to ensure the guarantees provided by a given control programme.

It is sometimes the case that some farmers are aware of the diseases endemic in their country but are not aware of the diseases that are endemic in other countries and therefore do not ask for additional information on these diseases.

In general, it is not only the control programmes but also the different health status in the countries that discourage trade.

Regarding the different responses, it should be noted that the difference between regulated and non-regulated diseases in Europe is not always clear in the minds of different people in the cattle sector. For this reason, many responses had to be dropped from the analysis because the respondents were talking about regulated diseases, which could bias the survey. Lack of knowledge on this subject can also be a hindrance to intra-EU cattle trade or even a risk. It would be also interesting to know if farmers know the difference between regulated EU and non-EU-regulated diseases.

Countries are asking for more transparency on animal trade between countries, such as easily accessible information on the farm of origin, the health status for the various non-EU-regulated diseases of the animals concerned and the country of origin. There was often a reported desire to have imported animals accompanied by a genetic card (including genetic defects as well as genetic peculiarities), all animals must be accompanied by an official multi-generation pedigree

Conclusion

This survey provides an overview of the different stakeholders, who can influence the decision-making process when importing cattle from other European countries. This could be useful for farmers and veterinary authorities when evaluating the risks associated with importing live cattle from the studied countries.

Although control programmes sometimes have an effect on trade in cattle between countries, they should not force farmers to consider the health and welfare of the cattle, but should only be a means of highlighting this importance.

The Animal Health Law still for many respondents open in many aspects. The harmonisation health data in all member states rendering comparative information like available data on status and design of ongoing control programmes should reassure the intra-EU cattle trade.

Table of figures

Figure 1: Participating countries	3
Figure 2 : Stakeholders who replied to the questionnaire.....	3
Figure 3 : How concerned are you about introducing a disease into your country when cattle are purchased from other EU countries?" (1 = Not concerned, 2 = A little concerned, 3 = Neutral, 4 = concerned, 5 = very concerned).....	8
Figure 4 : How concerned are the different stakeholders about introducing a disease into your country when cattle are purchased from other EU countries?" (1 = Not concerned, 2 = A little concerned, 3 = Neutral, 4 = concerned, 5 = very concerned).....	9
Figure 5: There are disease control programmes in my country that in some way discourage the import of cattle from certain other EU countries. (1 = Strongly Disagree; 5 = Strongly Agree)	10
Figure 6 : There are disease control programmes in my country that in some way discourage the import of cattle from certain other EU countries. (without Poland) (1 = Strongly Disagree; 5 = Strongly Agree).....	11
Figure 7 : Are there countries that are particularly trusted in your country for which cattle trade is encouraged?	13
Figure 8 : Disease control programmes have an important role in building trust between cattle trading partners from different EU countries. (1 = Strongly Disagree; 5= Strongly Agree)	14
Table 1 : Definition for the selected stakeholders that may be involved in the cattle trade decision-making process.....	2
Table 2 : Average per country response to the question: There are disease control programmes in my country that in some way discourage the import of cattle from certain other EU countries	11

Supplementary Material

The Supplementary Material for this article can be found online at: https://forms.office.com/pages/designpagev2.aspx?lang=fr-FR&origin=OfficeDotCom&route=Start&subpage=design&id=DQSIkWdsW0yxEjajBLZtrQAAA_AAAAAAAMAAD97Q0BUREJRVkoxTE1JVjlxVVFEUzBNMExGMINBNC4u

Footnotes

1. ^<https://sound-control.eu/>
2. ^www.cost.eu

References

1. Overview of Cattle Diseases Listed Under Category C, D or E in the Animal Health Law for Which Control Programmes Are in Place Within Europe. Available online at: <https://www.frontiersin.org/articles/10.3389/fvets.2021.688078/full#F4>

2. Overview of Control Programs for Non-EU-regulated Cattle Diseases in Finland, Tiina Autio, Erja Tuunainen, Hannele Nauholz, Hertta Pirkkalainen, Laura London and Sinikka Pelkonen. Available online at: https://www.ett.fi/wp-content/uploads/2021/07/Autio_2021_Cattle_diseases_Fin.pdf