

Workshop 2

Outbreaks in densely populated poultry areas

Chairman: Guus Koch

Issue 1. Legislation to decrease density

Guus Koch: The main issue would be: what to do to control AI in regions with a high density? The first question would be: is there a minimum density? I want to provoke you a little bit and say: we need legislation to get the density down. Who doesn't agree with this axiom?

Ina Enting: It depends on the reasons why you want to get the density down. Does it decrease the risk of an infection or does it decrease the risk of the spread of an infection?

Guus Koch: We talk about secondary spread here. It is just to reduce the risk of spreading the disease because the introduction has been discussed earlier. So the real issue is: have we other measures to control the secondary spread of the disease than lowering the density of the farms?

Dennis Alexander: It seems to me that from that what I saw in The Netherlands; often what you're talking about is separate farms having buildings which are closer together than some farms in the UK and possibly in the USA. It is hard to think of them as separate farms in many of those areas. If you got densities that are that high it probably is much too high and something has to be done to control it. You could say that within a disease outbreak all farms which are above a certain density will be treated as a single farm; in other words they will all be slaughtered automatically.

Guus Koch: Do you think that is acceptable? We already did this with pre-emptive culling.

Dennis Alexander: You already did pre-emptive culling, but only after the thing had taken off. If people are aware of that they would be much more careful about visiting each other's farms, even if within the same family.

Erhard Kaleta: Density is defined as the number of birds per square km?

Guus Koch: I would define it as the number of farms per square km.

Erhard Kaleta: In some countries there is a discussion about the minimum distance between farms. In case that you put up minimum distance you get problems with private property. The farmer cannot take his land or farm and go somewhere else. The idea might be good but it is difficult to realize lowering density or increasing the distance between farms.

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Albert Laddomada: In the new directive on the control of classical swine fever in the new regulation of the EU, we managed to give a definition of what is an area with a high density of pigs. It might be that in the future we will do the same for AI and poultry. But the decision to reduce the density of poultry is a very political and social one, which goes beyond the powers of you as scientists and people like myself. We are not entitled to make that kind of decision. All of us must make clear which are the risks in relation to very densely populated areas and then inform the politicians at higher level about possible measures, both prevention and preparedness in case of an emergency. I don't think that we can go beyond that.

Guus Koch: But we could make a clear advice to those who are responsible.

Peter Cargill: I think we have to be careful that we don't just focus on density. It is not just important how many birds there are in one area and how close they are, it is the infrastructure that is serving those birds that has a bigger impact; that we have already decided. So it is not just the density that is important, it is the whole operating system for that company. Secondly I think it is an academic point to discuss density and whether you should reduce it to control AI because, as Laddomada is saying, it is an economic decision. You can legislate to reduce density and you will destroy the poultry industry because we won't be competitive.

Albert Laddomada: I agree. But to remind you what we did with swine fever in the end of the day: in relation with this definition in the directive for the control of classical swine fever there is only one compulsory measure: the member states must ensure in their national contingency plans higher levels of preparedness in areas with a high density of pigs. Then in the directive itself high density is recognized as a risk factor to be considered in the application of disease control measures.

Arjan Stegeman: A comment on the question: if there is a minimum density based on transmission calculations that have been made, you can try to extrapolate that and from that define a threshold density in which, given the control strategy you apply, the disease will not spread anymore. Whether you want to do that is more a political decision, so we must think of other things to reduce it. There are two options: it is not about density alone but also about contact structure, as Cargill told us, so we should have more an idea about that. What is striking to me having experienced three epidemics in three different species: if you look at the results of tracings of official veterinarians in such epidemics and you find out with which contacts they come up it is always limited to studies that have been done in disease-free periods in which scientists go into herds and look which persons come into these herds and which deliveries are being brought. So there is something really troublesome in getting good information on that contact structure. That is inevitable. Shall we be able to do anything about it? The difference between the broiler flocks and layer flocks in The Netherlands suggests that it had something to do with the contact structure, whereas the farmers come up with aerogenic transmission, so then we can't do anything about it. We are talking about density of susceptible herds. By vaccination you can reduce the density of susceptible herds by making them less susceptible.

Remco Schrijver: Concerning the contact structure being a very critical element, can we come up with certain recommendations? Is it feasible that we can get more hold of that? What can we do to control the contact structure better?

Arjan Stegeman:

One of the problems, at least in The Netherlands, is that it is not clear to everybody that they really want to control the contact structure. As you also know there is also a debate here that farming has to be a more visible part of society, that the structure should be more open. So, we shall have the chickens back into the countryside. That discussion goes towards having more contacts between different flocks whereas from a disease point of view you would go more to isolation in big stables. From an epidemiological kind of view it is simple: you make it in three parts. You say what is important for disease transmission: the number of contacts between flocks per unit of time, the number of flocks that have contact with each other, and the transmission rate, given contacts, which depends on the type of contact you're discussing. So considering this you could give an advice if you would work that out.

Tjep de Vries: I would like to comment on the statement of Stegeman that scientists have no role in defining density and these kinds of things.

Arjan Stegeman: No, I said they cannot decide on that.

Tjep de Vries: But if you don't investigate in that direction politicians will not have a basis to make rules on. For example, if you want to have a minimum distance you first have to prove that that is enough to keep birds free of the disease, as we did ten years ago for *Salmonella enteritidis*: 1 km between farms and you will have no detectable influence of the surroundings anymore as far as the risk of *Salmonella* is concerned.

Arjan Stegeman: But I did not say that we didn't do research on it; in the slide I presented on the different densities over The Netherlands, the areas with the red dots were the ones that we predict (given the transmission we found in The Netherlands), that we are unable to control the disease given the measures we have at this moment. I think we have to advise to the government: given this knowledge it would not be wise to repopulate an area like the Gelderse Vallei in the same density as it was done previously. Other interests like economics and politics make that such a statement is not a critical one in deciding the repopulation programme.

Tjep de Vries: It would be helpful if we could define a minimum density. Beyond that there is no real risk for farms in that area.

Arjan Stegeman: That will all be done.

Goossen van den Bosch: I think also having multi-age farms is a bigger risk. When you have a farm with 100,000 birds all in all out, the risk is lower than when you have the same farm which introduces a new flock every month; that is a much bigger risk. The same with broiler farms. When we talk about density we also should consider all in all out.

Guus Koch:

We can take that as a recommendation.