

Pigs vaccination to reduce the prevalence of Salmonella

Summary

Contamination of pork Salmonella is a real threat to the Catalan pig meat sector and all areas of Spain. Most studies show high prevalence rate of Salmonella spp in both farms and slaughterhouses and later stages in the sale of pork and dairy products.

In Catalonia, INNOVACC coordinated a working group (with the collaboration of DARP, ACSA, FECIC, PORCAT, ASFAC, and many other companies and institutions in the sector) to launch a voluntary Plan to control swine salmonellosis. Since 2016 the corresponding certification (PSP) is available for farms and slaughterhouses. During 2013, 2014 and 2015 was made a pilot study to determine the status of farms and slaughterhouses in relation to salmonella contamination and to define, among all participants, the minimum requirements that should be met within this voluntary program to control the level of prevalence and to have good practices in farms and slaughterhouses facilities.

Data from the pilot study coordinated by INNOVACC, show an average prevalence of 38% for 186 representative farms sector in Catalonia and Aragon (part of 30 different companies). The results comes from the average of samples taken from two consecutive fattened. We have also obtained data from 9 representative slaughterhouses sector in Catalonia, taking quarterly samples of juice in carcasses before cooling, with an average overall prevalence of 26%.

This project is another step in all the work done in this pilot study coordinated by INNOVACC, previous projects have allowed to know the status of the infection and what is now seeks is to assess the effect of applying control measures and control, specifically assess whether vaccination in pig holdings can help to significantly reduce cases of prevalence of *S. typhimurium*. If successful lower the prevalence farm may also reduce salmonella in meat, provided that the application of good biosecurity practices, hygiene, proper management is neglected at any stage, etc.

Objectives

Vaccination against salmonella, together with the application of control measures, should allow the operation to reduce the prevalence carcass at the slaughterhouse.

It plans to use the vaccine to reduce the prevalence of *Salmonella typhimurium* in farms with endemic infection, where the usual measures of control, biosecurity, increased hygiene, strict management and use of additives, has not been enough.

S. typhimurium serotype of Salmonella is one of the most often in pig farms in Spain and is the most common when there is Salmonella contamination in the slaughterhouses and meat processing industry swine. It is also the serotype isolated more frequently in cases where people have suffered food poisoning caused by the salmonella.

This pilot project is intended to be reproducible for other Catalan pork companies.

Description of project activities

The main activities of the project focus on the identification of the appropriate pork farm with presence of Salmonella typhimurium, through faecal and environmental samples. Serotyping of the samples was also performed. Once the farm was selected, vaccinations could not be performed since the farm was suffering from an outbreak of PRRS, and one of the incompatibilities of the vaccine is that the vaccine can not be administered in cases where animals are experiencing a problem with Health caused by an immunopress agent, as is the case of the PRSS.

Final results and practical recommendations

After the visit to 3 farms and the extraction of samples were obtained negative results or with very low prevalence of Salmonella Typhimurium. In the fourth farm could identify enough samples of S. Typhimurium and therefore, could begin to vaccinate.

Once the farm where there was sufficient presence of S. Typhimurium was chosen there was a health problem, a long-term PRRS outbreak, which prevented the planned vaccination. The vaccine to be applied is incompatible in cases of diseases or phases of stress of the animals.

The intended vaccine to administer is effective for S. Typhimurium. In the case of the chosen farm, a low prevalence of S. Typhimurium was found. To the set of Catalan farms could have less percentage of S. Typhimurium with respect to studies previous to the beginning of the project. And as it shows, in this study in 4 farms has been found that the serotype Typhimurium was not so frequent.

Noel Alimentaria, leader of the project, has detected an improvement in the prevalence of Salmonella in her animals. This means less pressure from customers in this regard. Having to vaccinate all the animals on a maternity farm (sows and piglets) and in different doses, the overall cost of vaccination would be quite high and difficult to pass on from the livestock company in the meat industry. The vaccine appeared to be most interesting in a highly prevalent situation of Salmonella • and knowing that the main serotype was Typhimurium, but at this time, the situation is apparently better.

Conclusions

As indicated, different tasks have been developed and results have been obtained that have allowed us to conclude that the initially planned tasks are not viable.

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Keyword-category

Animal husbandry and welfare
Food quality / processing and nutrition
Pest / disease control

Territorial scope

Province	County
Lleida	Garrotxa
Girona	

Project dissemination (publications, seminars, multimedia...)

Pàgina web del projecte

Other project information

Projecte period

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