Incoming air PRRS virus filter

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PRRS Virus Filter for Incoming Air

Porcine Reproductive and Respiratory Syndrome (PRRS) is a swine disease responsible for some of the highest economic losses in global pig production. In particular, breeding companies, multipliers and centers for artificial insemination must do everything possible to make sure that they maintain a negative PRRS status.

PRRS Virus

PRRS was first isolated and classified as an antivirus as recently as 1991 but first recognized in the USA in the mid 1980's and was called "mystery swine disease". It has also been called blue ear disease.

The virus of PRRS has the greatest affect on the pig's lungs and reproductive system. A major part of the bodies defense mechanism is destroyed and allows

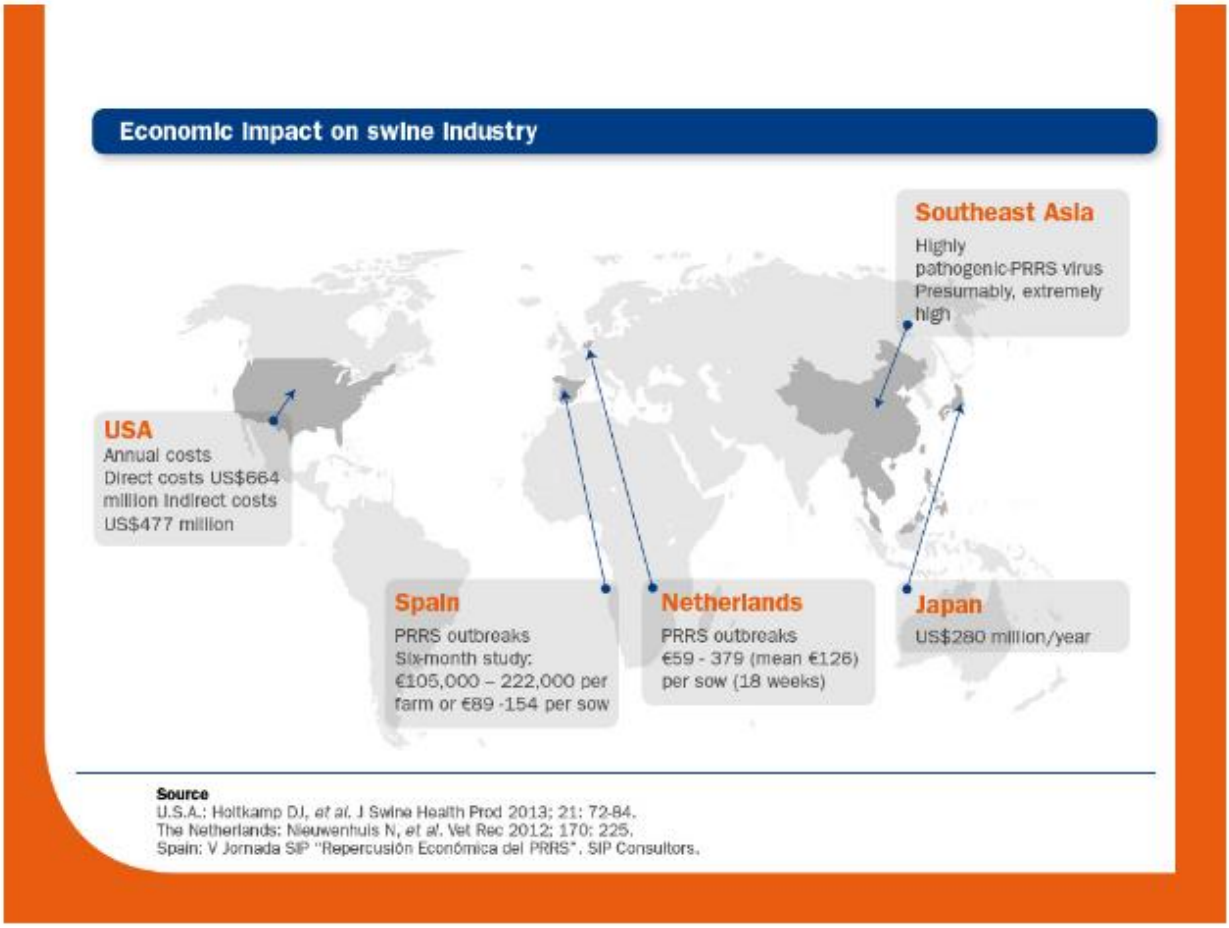
bacteria and other viruses to proliferate and do damage. PRRS tends to remain present and active indefinitely.

The clinical picture can vary tremendously from one herd to another. As a guide, for every three herds that are exposed to PRRS for the first time one will show no recognizable disease, the second would show mild disease and the third moderate to severe disease. The reasons for this are not clearly understood. However the higher the health status of the herd, the less severe are the disease effects. It may be that the virus is mutating as it multiplies, throwing up some strains that are highly virulent and some that are not.

PRRS infects all types of herd including high or ordinary health status and both indoor and outdoor units, irrespective of size.

The main affects are decreased farrowing rates, increased mortality, attrition, and increased respiratory disease.

To read the entire article (www.thepigsite.com) including an extensive list of symptoms CLICK HERE



PRRS is the most economically important disease now affecting swine producers.

According to The Economic and Production Impact of Porcine Reproductive and Respiratory Syndrome on Nursery and Grower-Finisher Pigs by Radu Zorzolan, A Thesis Presented to The University of Guelph

“The reduction of profits due to a PRRS outbreak was best replica watches US $236 / female, which represented an 80% reduction in expected profits in the year of the outbreak.”

The same study estimated the cost of PRRS infection in the grower-finisher population to average $6.25-15.25 per pig (combined nursery and finishing stage).

For the complete thesis CLICK HERE

Throughout the swine industry, extensive efforts have been made to protect genetic and commercial swine herds from infection with different pathogens. However, local spread of certain pathogens such as PRRSV between farms still occurs due to aerosol transmission (Dee et al. 2006c). To reduce the risk of airborne spread, swine producers around the world are beginning to implement systems to filter the air entering their facilities. France was the first country that reported the use of air filtration in nucleus herds and boar studs. Since 1996, Cooperl- Hunaudaye, implemented air filtration in 11 herds that were populated with PRRSV negative animals after the system was installed. Air Filtration for PRRS Control 155 These herds are situated in Brittany, the most populated swine area in France; all have preserved their PRRSV negative status since then. As of today a considerable number of artificial insemination centers and farms in Europe, Quebec and the United States have implemented this technology since, in spite of extreme biosecurity rules, they experienced among others PRRS outbreaks without finding a logical explanation (Desrosiers, 2004a).

To read entire article from the Priarie Swine Centre CLICK HERE

Big Dutchman

AirProTec®

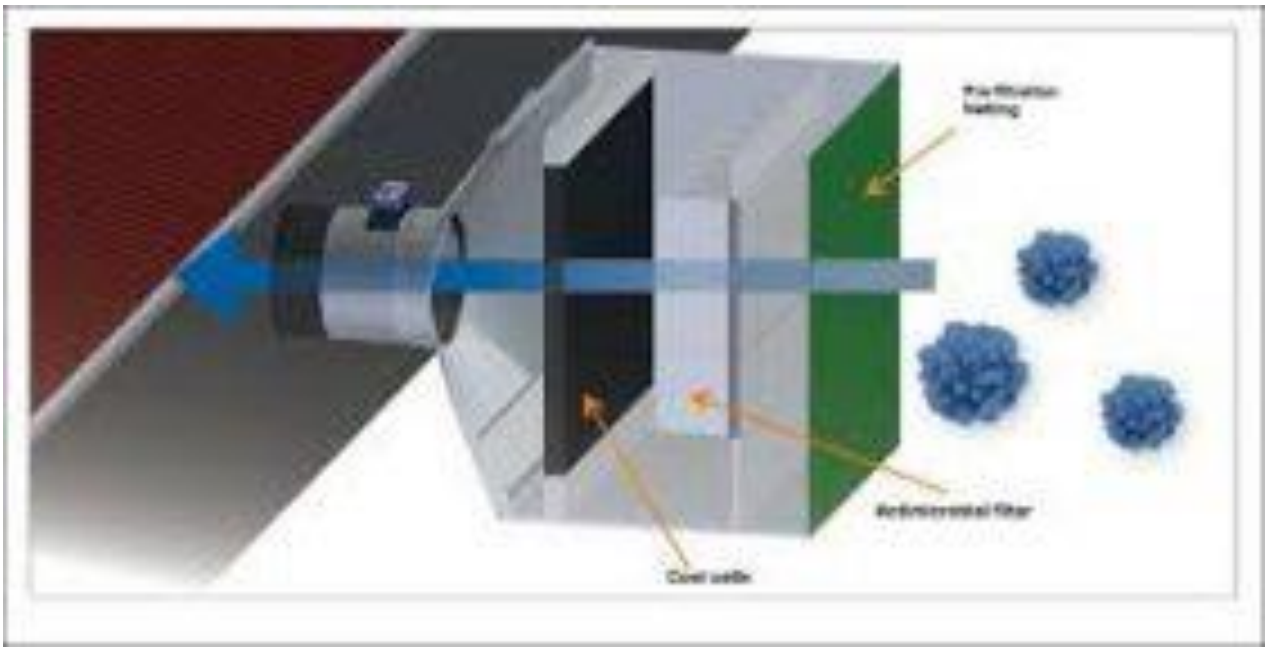
PRRS fresh air filter for healthy stock

Dwyer Manufacturing offers an PRRS virus air filtraton system designed by Big Dutchman, Germany.

Below is a summary of information on Big Dutchman's Air Pro Tec system. CLICK HERE to find complete brochure

With Air Pro Tec, Big Dutchman offers an efficient fresh air filter which significantly reduces the introduction of PRRS viruses – by up to 95%

With Big Dutchman's pressurized system, there are no exacting requirements regarding the air-tightness of the building.



The air filters consist of the following main parts:

1. Wind protection netting – prevents the entry of coarse foreign matter
2. Prefilter – filters particles with a diameter of 3 microns and any PRRS viruses adhering to them
3. Main Filter – filter fine particles up to 0.3 microns and any PRRS viruses adhering to them
4. Cooling Module – fresh air can be cooled as required
5. Ventilation pipe with fan and cover flap

Special filter unit prevents the introduction of the PRRS virus

Pre-filter (MERV 8)


Main filter (MERV 16)

The filter unit consists of a combination of two separate filter inserts. The pre-filter cleans the fresh air by filtering particles with a diameter of up to 3.0 µm (MERV* 8). The main filter prevents fine particles with a diameter of up to 0.3 µm (MERV 16) from entering the house.
All filters used are made of 100 percent synthetic material which repels moisture permanently and has a very low air resistance.
Depending on its contamination, the pre-filter should be changed annually, the main filter every three years.

* MERV – measurement scale to rate the efficiency of air filters

The Air Pro Tec filters come in three sizes to be used in a centralized or decentralized systems.

The centralized systems (APT 10 000 and APT 20 000) works well in facilities where cooling is necessary. Air capacity of each is 10,000 and 20,000 m3/hour respectively.

The decentralized system is build to fit Big D's CL wall air inlets but can also be retrofitted for existing wall inlets. Air capacity is 1500 m3/hour

In Summary,

While the additional capital cost of a PRRS virus air filtration system can be significant, the cost benefit of keeping your PRRS virus negative status can be more over the lifetime of the filtration system. Remember the study that shows $236 / sow / year in production lose is possible the first year of outbreak.

$236 x 500 sows = $118,000 in the first year alone plus over 10 years = $1,180,000 in production lose plus the value of a negative PRRS status.

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