

Controllo integrato della PRRS e utilizzo degli strumenti

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I numeri della PRRSv

26

#5



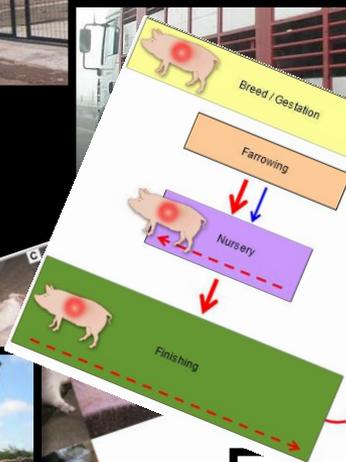
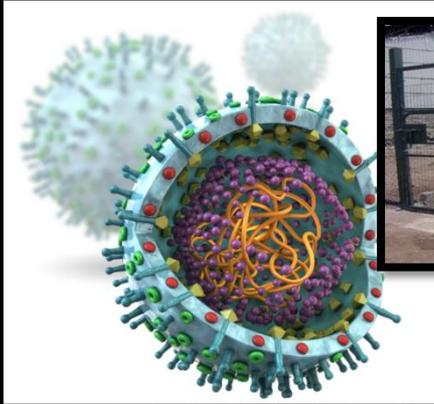
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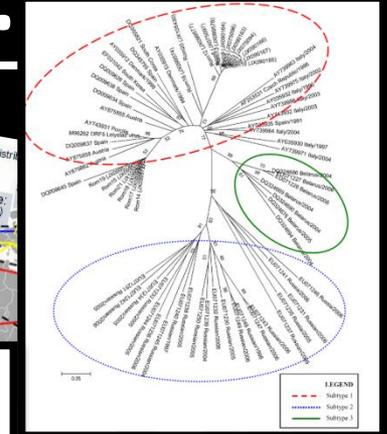
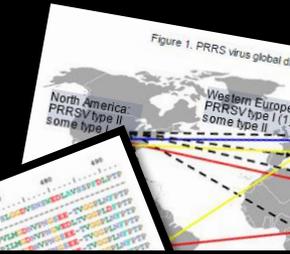
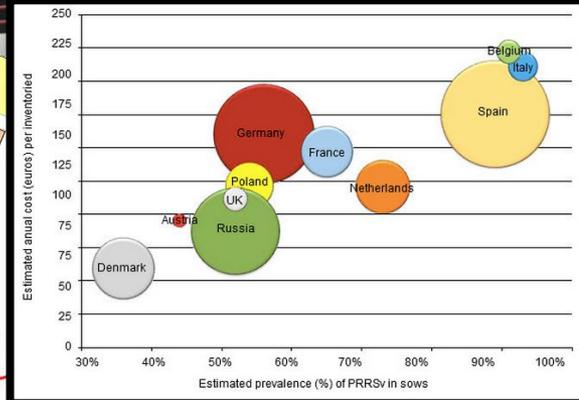
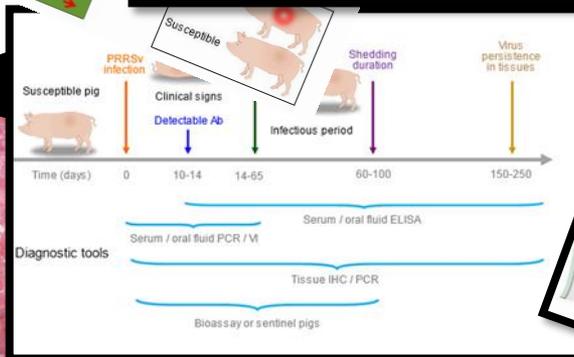
668

26,468

Le differenti faccine della PRRSV.



Porcine Respiratory "Blue Ear"



Oltre a differenti opzioni di controllo

PRRSv

Regional Control

Depop/Repop

Biosecurity

Herd Closure

(MASS) VACCINATION

Gilt Management

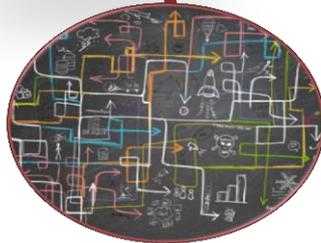
McRebel

Eradication

Che cosa abbiamo imparato?



❶ Dopo 26 anni la PRRS risulta essere ancora malattia responsabile di consistenti danni economici a livello globale

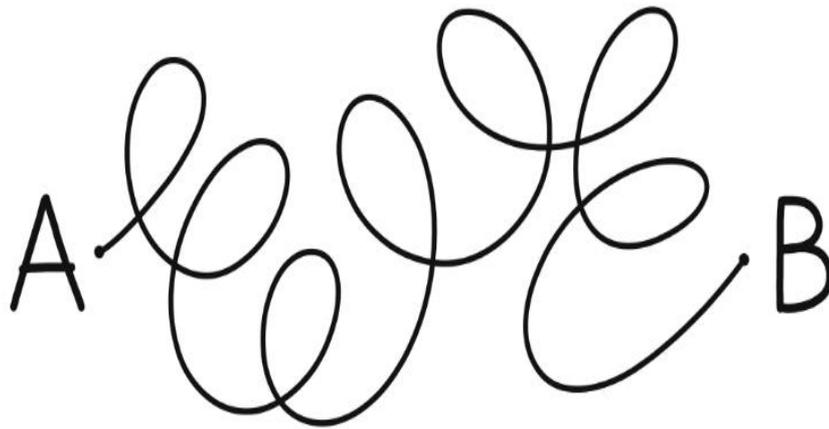


❷ La PRRS è una patologia complessa



❸ Non esiste un approccio unico per il controllo della malattia

Come semplificare la complessità?

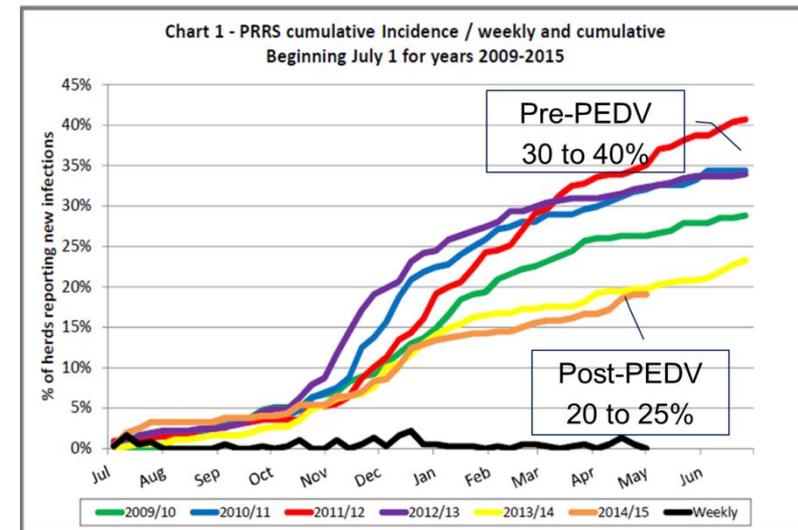
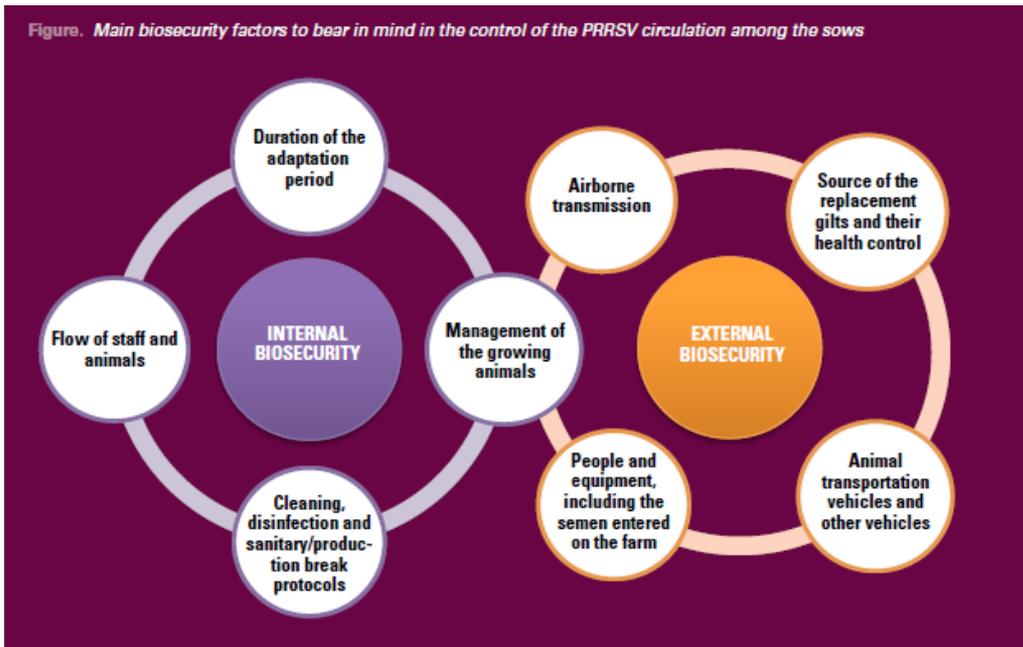


I capitoli importanti del controllo della PRRS



Obiettivo – ridurre il rischio del ingresso del virus dall'esterno (B. esterna) o della circolazione attiva all'interno dell'azienda (b. esterna)

Figure. Main biosecurity factors to bear in mind in the control of the PRRSV circulation among the sows



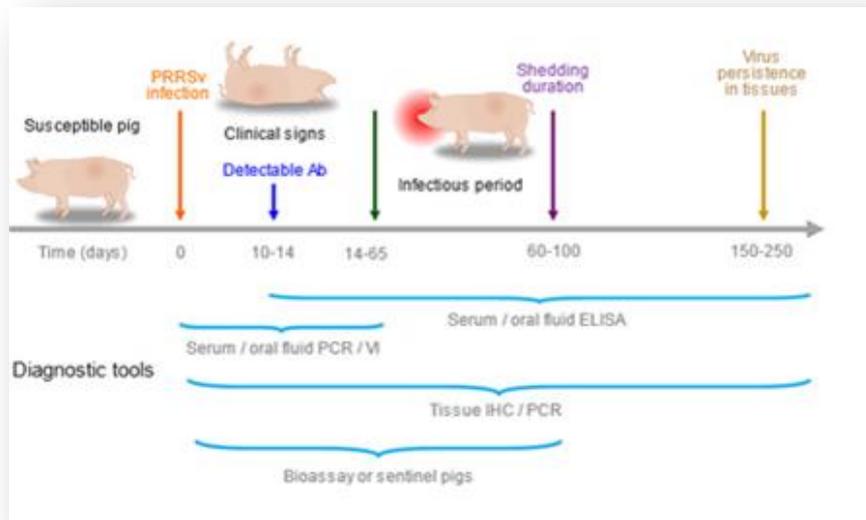
Courtesy Dr D. Holtkamp, 2015

Drs E. Mateu & C. Prieto; Q&A about PRRS – The Expert Opinion, 2016

Diagnosi



Obiettivo – verificare e monitorare la presenza e circolazione del virus in allevamento attraverso la sierologia e la PRC.



Cano, www.pig333.com, 2013



□ Classificazione dell'azienda



Obiettivo – classificare l'azienda sulla base della esposizione e circolazione per la successiva implementazione del piano di controllo

Figure 1: Breeding-herd classification for porcine reproductive and respiratory syndrome virus (PRRSV) according to shedding and exposure status.

Herd category	Shedding status	Exposure status
Positive Unstable (I)	Positive	Positive
Positive Stable (II-A)	Uncertain	Positive
Positive Stable (II-B) (Undergoing Elimination)	Uncertain – undergoing elimination	Positive
Provisional Negative (III)	Negative	Positive
Negative (IV)	Negative	Negative

Holtkamp et al.; JSHAP – Jan/Feb 2011

Strategie di intervento

Obiettivo – impostare un piano di intervento specificamente riferito ad una specifica azienda.



Biosecurity



Management



Vaccination



Economics



Goal



Risk

Monitoraggio

Obiettivo – Confermare che l'obiettivo definito è stato raggiunto

Table. Monitoring of a PRRS control program according to its stage of development.

<i>Stage of the program</i>	<i>Parameters</i>	<i>Number of animals</i>	<i>Goal</i>
Ending of the reproductive clinical signs	<p>Primary</p> <ul style="list-style-type: none"> • % of sows with abortions (> 70th day of gestation) • % of premature/late farrowings • Total born, live born, stillborn and mummified piglets • Piglets with a low birth weight or with a low viability <p>Secondary</p> <ul style="list-style-type: none"> • Suckling piglets mortality • Mortality in the nursery • Runts at weaning 	Farm records	Return to the previous records (bear in mind the average and standard deviation of at least the 6 previous months)
Stabilization	<ul style="list-style-type: none"> • Clinical signs (reproductive mainly) • PCR testing of the piglets at weaning 	Take samples of all the litters of a farrowing batch: at least 1 piglet from each litter (2 preferably), better from the weakest piglets in the litter. Repeat at least for 2-3 consecutive months.	<ul style="list-style-type: none"> • Absence of clinical signs • Piglets virologically negative
Negativization	<ul style="list-style-type: none"> • Absence of antibodies 	≥ 60 sows (classify them by parity) and 60 pigs at the end of the fattening period	<ul style="list-style-type: none"> • All the farm is seronegative

□ Costo/beneficio



Obiettivo – calcolare con accuratezza il costo iniziale della malattia e il ROI conseguente alle differenti strategie di controllo.

Estimating the costs of Porcine Reproductive & Respiratory Syndrome (PRRS) and return on investment of interventions with a PRRS economic simulator

Nathues C¹, Alarcon P², Rushton J², Schüpbach-Regula G¹, Jolie R³, Fiebig K⁴, Jimenez M,⁵ Geurts V⁶, Nathues H⁷

¹Veterinary Public Health Institute, Vetsuisse Faculty, University of Bern, Switzerland, ²Veterinary Epidemiology, Economics and Public Health Group, Royal Veterinary College of London, United Kingdom, ³Merck Animal Health, New Jersey, USA, MSD Animal Health, ⁴Germany, ⁵ The Netherlands, ⁶Spain, ⁷Clinic for Swine, Vetsuisse Faculty, University of Bern, Switzerland



La APP



An effective PRRS control program consists of a comprehensive approach that includes implementation of biosecurity protocols, diagnostics, reduced disease transmission, application of control programs and preventive medicine.

The **PRRS Integrated Solutions program** is a tool that brings together the more than 15 years PRRS experience and extensive scientific knowledge at MSD Animal Health. The PRRS Integrated Solutions program allows for a systematic review of the PRRS status in a production system based on:

- 1. Biosciences
- 2. Diagnostics
- 3. Review of standard farm management according to the herd status
- 4. Customized intervention strategies
- 5. Economic audits



Biosecurity Audit

Biosecurity is considered an integral part of PRRS control.

Action 1 is an audit that reviews both external and internal Biosecurity processes throughout 20 questions. Based on a weighted score for every question, the overall result is categorized on a scale from excellent (no to low risk) to severe (immediate action needed). Pending the final audit score, more or less corrective measurements may need to be implemented to ensure overall success of any PRRS intervention strategy.



Diagnostic Investigation

Diagnostics play an essential role in establishing the correct PRRS herd classification and in monitoring the success of any PRRS intervention strategy.

In **Action 2**, a diagnostic protocol is included that combines antibody testing to measure exposure and PCR to measure virus shedding. The results from this diagnostic protocol are then used to establish the herd status and to develop an intervention program that includes proper placement of vaccination.



Herd Status

Herd classification is essential for setting a PRRS control goal and for developing and implementing a customized intervention strategy.

Herd classification is based on establishing shedding (via PCR) or virus isolation and exposure status of sub-populations in a herd (laboratory testing via ELISA). According to the results from Action 2 the application assigns the farm the most likely herd status based on the Hiltkamp SHAP 2011 PRRS Herd Classification terminology.



Customized intervention strategy

In **Action 3**, a customized PRRS intervention strategy is developed that incorporates the learning from the previous Actions taking into account the producer's goals, risk and economic balance.

The results from the diagnostics are key in deciding on a customized vaccination strategy. The benefits, costs and ROI of the vaccination strategy for a given farm can be estimated in the PRRS Economic Simulator.



Post-intervention follow up

Action 4 confirms if the set goal was achieved and the effectiveness of the implemented PRRS intervention strategy. In most cases, this evaluation will indicate continuation that PRRS no longer continues in the given, sows and boars housed in the (newly) set region. This action may indicate a retest of the Biosciences audit (Action 1), diagnostics (Action 2) and classification of the herd (Action 3) to estimate the PRRS Economic Simulator.



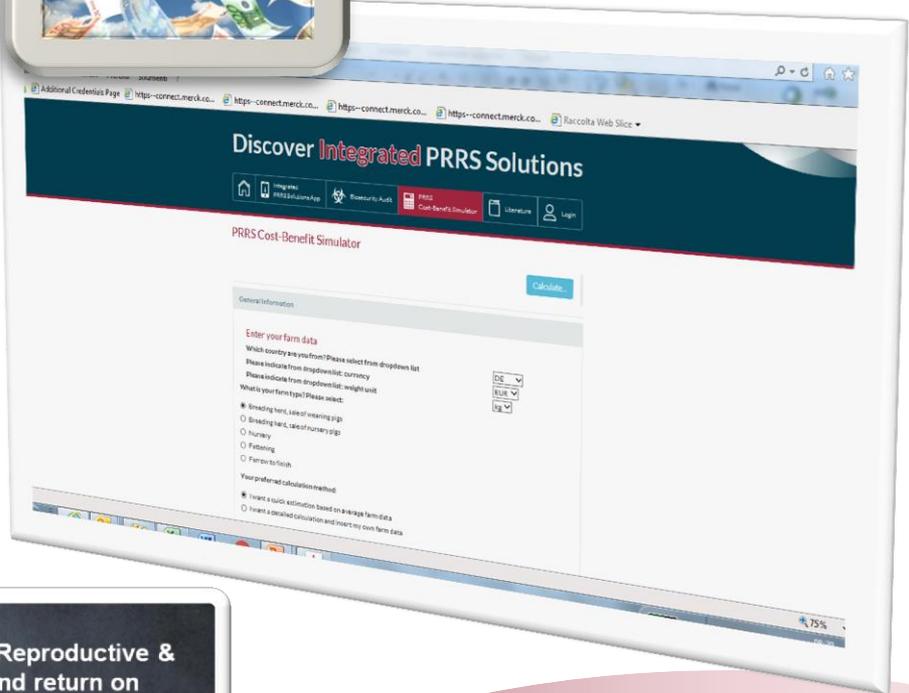
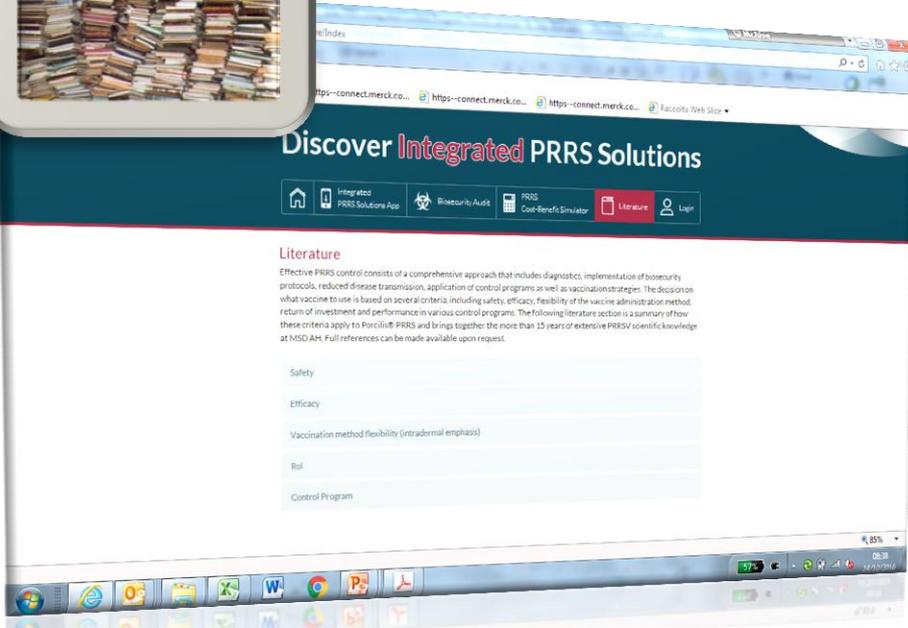
PRRS Economic Simulator

A proprietary feature of this tool is a PRRS Economic Simulator that allows for the estimation of PRRS cost within a farm as well as the return on investment of PRRS interventions.

The results of the simulation combined with the findings of the other audits form the basis for the development of a customized intervention and action plan.



La bibliogarfia e il simulatore economico



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Ed ora passiamo alla fase
interattiva

