



PHYLOGENETIC ANALYSIS OF DUTCH PRRSV STRAINS

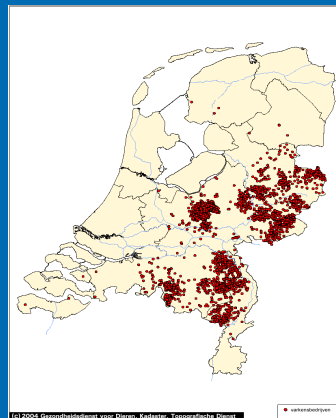
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Pigs in the Netherlands



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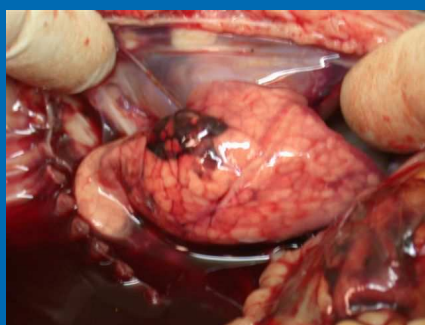


PRRSV – Introduction

- Member of family *Arteriviridae*
- Respiratory distress/reproductive disorders
- Worldwide distribution
- In the Netherlands since 1992
- Two genotypes, high degree of genetic variability
- In many European countries, including in North-America: infections of European- and American-type PRRSV strains
- Despite vaccination: still a relevant problem for the Dutch swine industry



PRRSV: lung lesions, stillbirth and abortion



Courtesy: T. Cruijssen Intervet / SP



PRRSV diagnosis

- Serology tests:
 - General ELISA (Idexx)
 - EU- and US-type PRRSV specific antibody ELISA's
 - EU- and US-type PRRSV IPMA (antibody titer)
- Virus isolation
- PCR techniques:
 - General PRRSV rt-PCR
 - Type specific EU / US PRRSV rt-PCR
- Sequence analyses (molecular – epidemiology)



Genetic diversity EU-type PRRSV Stadejek (IPVS 2006)

- The European type is divided in 4 subtypes:
 - subtype 1: (Danish, Lelystad, Italian): found mostly in Western Europe
 - subtype 2: (Belarus, Lithuania)
 - subtype 3: (Belarus)
 - subtype 4: (Belarus): to the east of Poland
- East-European strains can be present in Western Europe

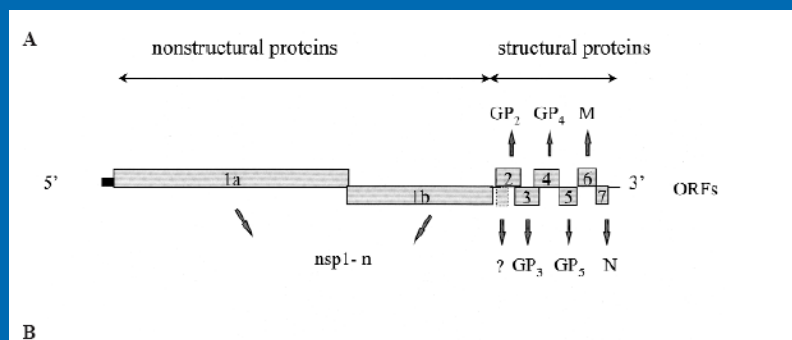


PRRSV sequence analysis: This study

- Dutch PRRSV strains (ORF-5; n= 284)
 - Collected between 2005 – 2009
 - From:
 - Aborted foetuses,
 - Weak born piglets,
 - and sera from vaccinated pigs:
 - EU-DV vaccine
 - and the US strain vaccine (VR)

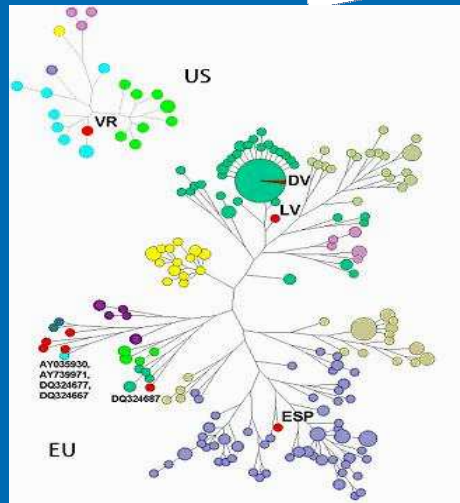


PRRSV: Genome organisation

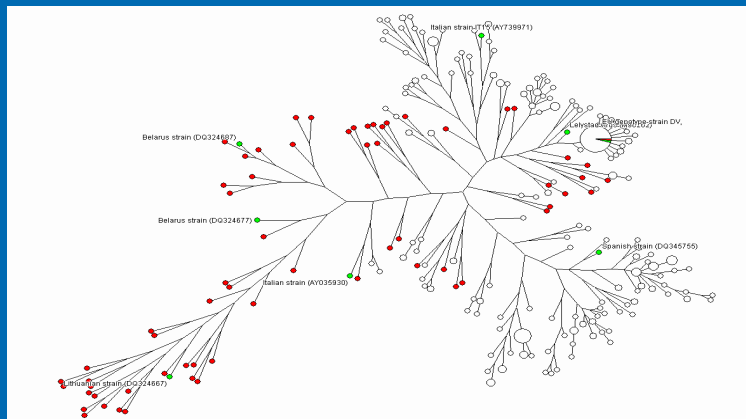


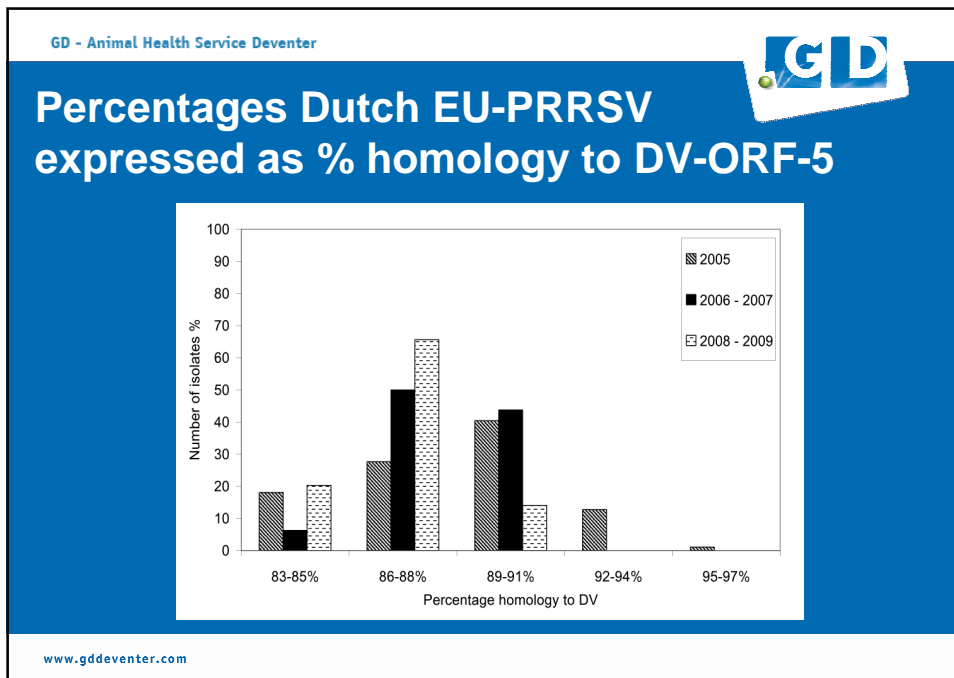
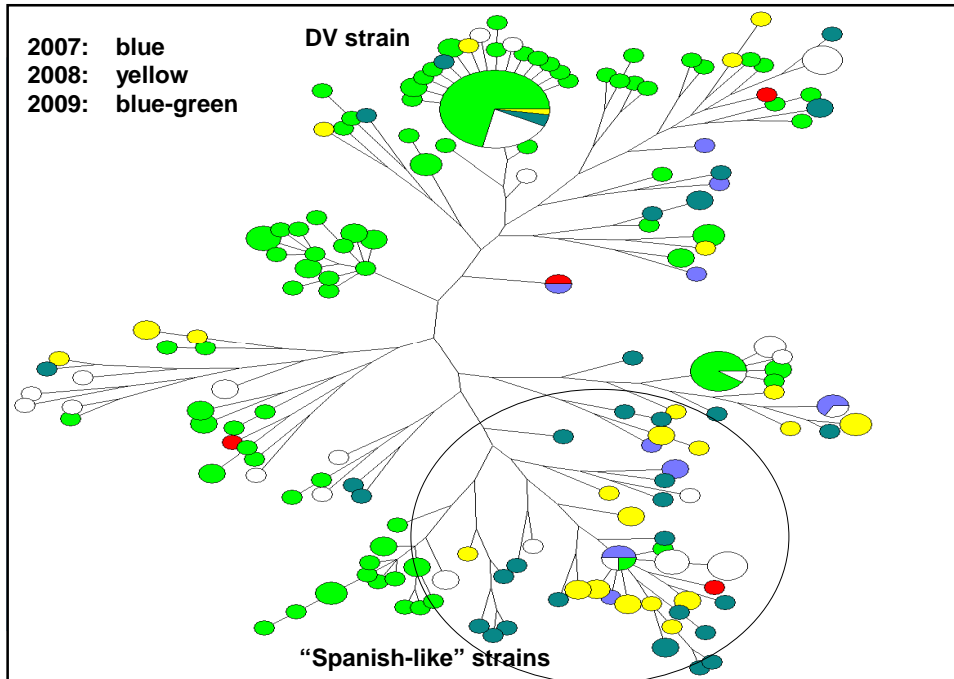


PRRSV parsimony tree on Dutch PRRSV strains (ORF-5: n= 284)



Dutch EU-type PRRSV strains in relation to East-European PRRSV strains







Summary

- 1: We didn't find any introduction of East-European PRRSV strains
- 2: The percentage of homology between field strains and DV-strain decreased between 2005 and 2009 (90% => 86%).
- 3: High percentage of Dutch PRRSV strains within the ESP (Spain) branch.



Thanks for your attention

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