

Field efficacy trials with a new intranasal BRD vaccine.

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INTRODUCTION

Bovilis® INtranasal RSP® Live: contains attenuated BRSV and PI3 strains.

During lab studies it was shown that this vaccine significantly reduced nasal shedding and clinical symptoms caused by BRSV and PI3 challenge infections as well as lung pathology and viral load in the lungs in a BRSV infection model.

OBJECTIVE

To determine the efficacy of a new intranasal BRD vaccine (Bovilis® INtranasal RSP® Live) under field conditions.

MATERIALS AND METHODS

- ▶ 2 blinded, randomized, placebo controlled field trials in Portugal (study 1), Germany (study 2) and France (study2).
- ▶ Approx. 250 calves 5-12 days old: intranasal administration from the tip of a syringe: vaccinated group, placebo group.
- ▶ Monitoring for BRD signs.
- ▶ Bronchoalveolar lavage (BAL) when positive for BRD and weekly collected pools of nasal swabs (NS) were analyzed by PCR for 8 BRD pathogens including BRSV and PI3.
- ▶ Virusneutralisation (VN) assay on sera.
- ▶ Efficacy assessed based on:
 - Clinical BRD signs.
 - PCR results for BRSV and PI3 in NS.
 - VN titers against BRSV and PI3.

Bovilis® INtranasal RSP® Live is the first EU-licensed intranasal BRD vaccine for which efficacy including reduction of clinical signs has been proven in a field trial.



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RESULTS

Study 1:

- ▶ Very low BRSV or PI3 field infection pressure → no significant protective effect could be shown.
- ▶ Notable clinical advantage for vaccinated calves: more animals showing no symptoms of BRD and being PCR negative for BRSV and PI3.

Study 2:

- ▶ BRSV infection in Germany:
 - Fig. 1:** Increase BRSV VN titers due to field infection.
 - Fig. 2:** Protective effect ($p < 0.05$) in vaccinated animals based on shedding of BRSV in NS as detected by PCR.
 - Fig. 3:** Notable clinical advantage for vaccinated calves.

FIGURE 1. Serology – BRSV VN titers in field studies.

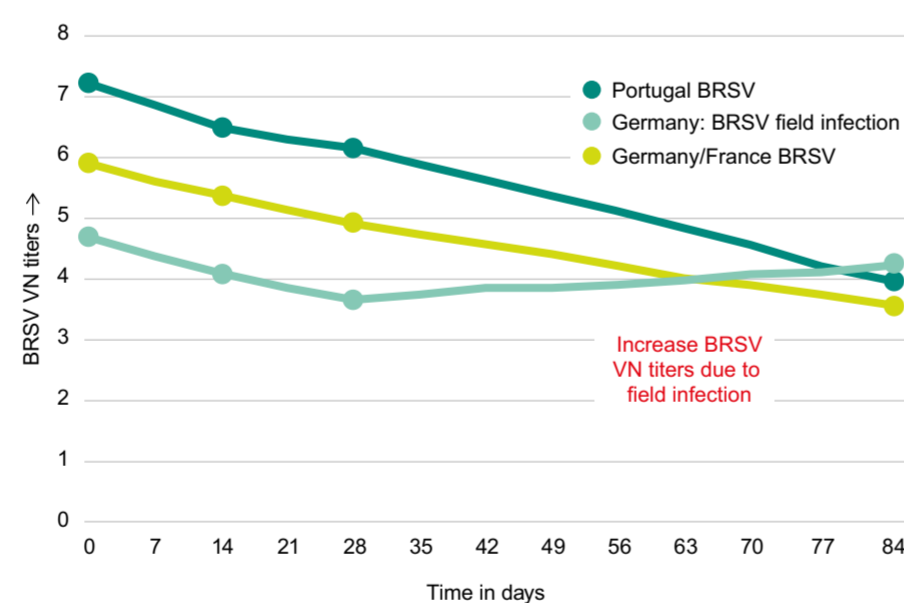


FIGURE 2. % of calves negative for BRSV shedding in nasal swabs in Germany.

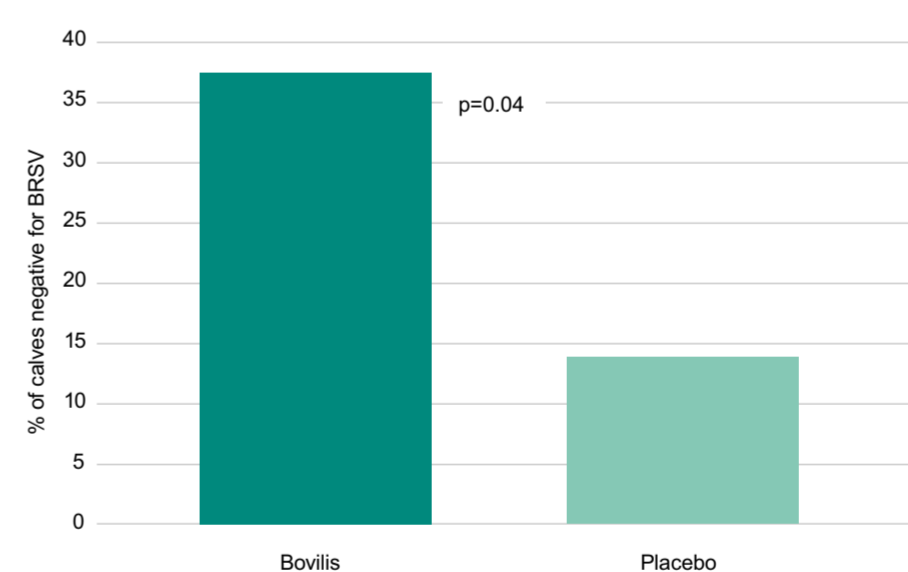
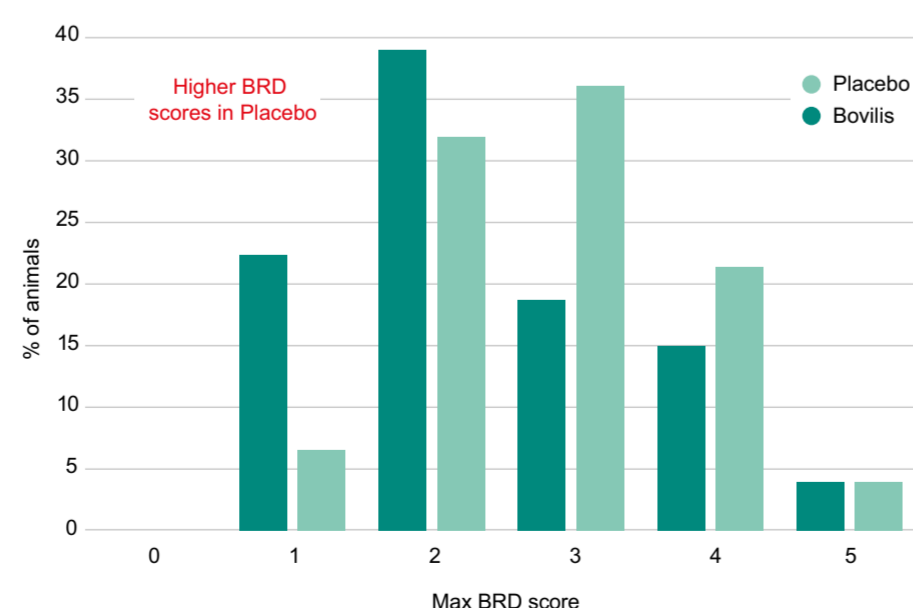


FIGURE 3. % of calves with max BRD score in Germany.



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