Screening pig farms for MRSA in the Euregio-Region of Lower Saxony
Part of the MRSA-Safeguard-Project

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Introduction
Resistant pathogens, especially coagulase-positive staphylococci are a major challenge in both human- and veterinary medicine. The importance of MRSA in swine production for human medicine has grown in the last years (1,2). The aim of this study was to estimate the prevalence of MRSA in German pig farms in the Dutch-German border region (Euregio) of Lower Saxony, Germany.

Materials and Methods
From May to Oct. 2009 54 pig farms were tested for the presence of MRSA. Five barn dust samples or ten nasal swabs were taken per farm. After 24-h enrichment culture in selective broth, all cultures were streaked onto Columbia-blood agar and a chromogenic medium for the detection of MRSA (bioMérieux, Marcy l’Etoile, France). Methicillin-resistance was tested by cefoxitin disc agar diffusion and was confirmed by meca-specific PCR (5) and all MRSA isolates were typed by S. aureus protein A (spa) sequence-based typing (6).

Results
31 farm were positive (57.4 %). Among these, 26 farms were detected positive by barn dust, 5 by nasal swabs. 22.2% of the barn dust samples were positive and 43.6% of the nasal swabs were positive. The geographic distribution of MRSA positive and negative farms is shown in Fig. 1.

Table 1: Results of the spa-typing

<table>
<thead>
<tr>
<th>Spa-type</th>
<th>No. of farms</th>
<th>In combination with</th>
</tr>
</thead>
<tbody>
<tr>
<td>t011</td>
<td>15</td>
<td>1 x t108</td>
</tr>
<tr>
<td>t034</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>t108</td>
<td>1</td>
<td>1 x t011</td>
</tr>
<tr>
<td>t1451</td>
<td>2</td>
<td>1 x t3992</td>
</tr>
<tr>
<td>t2576</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>t3992</td>
<td>1</td>
<td>1 x t1451</td>
</tr>
</tbody>
</table>

Discussion
Up to now no correlation between different farms or types of farms could be found. Breeding herds as well as fattening farms had positive results. Also new built farms and high health herds were positive. No regional obtrusiveness could be found. Our findings, including the spa-typing results, correspond well to data of other authors (2,3,4).

References