20th International Pig Veterinary Society Congress

June 22-26
Durban
South Africa

We are delighted that the International Pig Veterinary Society Congress 2004, decided to select South Africa as the host country for the 20th IPVS Congress. The Pig Veterinarians of South Africa will ensure that this congress lives up to the best traditions of previous congresses; incorporating an interesting and topical scientific programme, fascinating accompanying persons tours and an excellent social programme, allowing delegates the opportunity to network with their overseas colleagues.

This, the first IPVS congress on the African continent, will undoubtedly be of enormous benefit in generating solutions to the emerging pig veterinary challenges, especially those related to exotic and changing viral diseases, decreased use of antimicrobials and nutritional advances. The congress is important to further pig veterinary science in South Africa, to encourage younger veterinarians to join the pig industry, as a vehicle to generate funds for research and to improve the pig industry in Southern Africa.

South Africa is a magnificent and beautiful country, and offers tourists value for money. Thus, pre and post congress tours will be a major attraction for delegates to come to South Africa. Durban, in KwaZulu Natal, is a vibrant multi-cultured city with magnificent beaches, easily accessible game parks, theme villages and a moderate winter climate making it an ideal tourist destination. We urge our colleagues throughout the world to use this opportunity to get a glimpse of the continent’s rich and fascinating wonders and to enjoy the hospitality of their African friends.

Dr Peter Evans
Chairman: Local Organising Committee: IPVS 2008
SOLUBILITY AND STABILITY OF A DOXYCYCLINE ORAL SOLUBLE POWDER (PRESOLDOX) IN DIFFERENT WATER CONDITIONS

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Objectives
To test solubility and stability in water of a 50% doxycycline hyclate oral soluble powder, Presoldox™ (also marketed under the name of Pulmodox® in certain countries, Virbac) during 48 hours and according to various conditions of pH, hardness, water temperature and concentration.

Materials and Methods
The preparations were done with:
- 250 mL of water (standard, hard, or soft water, with determined pH, at determined temperature),
- 10 g (for assays at 40 g of Presoldox™ / litre) or 5 g (for assays at 20 g of Presoldox™ / litre) of soluble powder Presoldox™,
- A magnetic stirrer is used to homogenise the preparations.
- The time “T0” of the study is the time when the preparation is considered as homogeneous by visual evaluation. At T0, a first sample is taken to permit the analysis.
- Each preparation is then placed under its determined temperature conditions (7, 24 or 30°C).
- 6, 11, 24 and 48 hours after the beginning of the study (T0), a new visual evaluation of the clearness is carried out. The temperature is measured and, after magnetic homogenisation, a new sample is taken to permit the analysis.
- The analytical method used a high performance liquid chromatography (HPLC) analysis with a UV detection.

Results and Discussion
The clearness was not highly modified in all the preparations at any moment. The preparations at the 7°C temperature were the only ones to be a little cloudy. The Figure 1 shows the appearance of some preparations at the time 48 hours.

Table 1 Doxycycline water concentration (% of T0)

<table>
<thead>
<tr>
<th>Concentration of Presoldox™ (g/L)</th>
<th>Specifications of the water</th>
<th>Time</th>
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<tbody>
<tr>
<td></td>
<td>Hardness (°f)</td>
<td>Temperature (°C)</td>
</tr>
<tr>
<td>40 g/L</td>
<td>18°f 7°C 7.2</td>
<td>112.1 99.5 100.0 96.3</td>
</tr>
<tr>
<td>40 g/L</td>
<td>18°f 24°C 7.2</td>
<td>96.8 100.5 99.5</td>
</tr>
<tr>
<td>20 g/L</td>
<td>18°f 7°C 7.2</td>
<td>100.2 101.1 103.1 103.5</td>
</tr>
<tr>
<td>20 g/L</td>
<td>18°f 24°C 7.2</td>
<td>100.2 101.1 103.1 103.5</td>
</tr>
<tr>
<td>20 g/L</td>
<td>29°f 24°C 7.5</td>
<td>105.0 98.3 97.8 102.6</td>
</tr>
<tr>
<td>20 g/L</td>
<td>5°f 24°C 5</td>
<td>98.5 95.0 97.9 96.7</td>
</tr>
<tr>
<td>20 g/L</td>
<td>5°f 24°C 7.5</td>
<td>104.8 101.5 102.8 100.2</td>
</tr>
</tbody>
</table>

Doxycycline concentrations remained superior or equal to 95% of initial concentration whatever the hardness, temperature and pH of water. These results lead to the optimal observance of the treatment done with Presoldox™ as far as piglets receive the right and homogeneous dosage at any time of the day.

Vervaet and col. (1) made a previous laboratory study of the solubility and the stability of doxycycline hyclate in the water. The solubility of doxycycline hyclate in the tap water was about 400 mg/L (at room temperature). Dissolving 0.1% (w/v) citric acid into the water before drug addition yielded higher doxycycline hyclate concentration, about 4 g/L.

In the case of Presoldox™, the doxycycline concentration was up to about 20 g/L. The stability and solubility of Presoldox™ which are higher than the doxycycline raw material with or without citric acid may be related to its formulation.

References