## 7. Summary


**Occurence of *Streptococcus canis, Staphylococcus aureus and intermedius* in dog breeding in Berlin and surround areas**

*Staphylococcus intermedius, Staphylococcus aureus* and *Streptococcus canis* are suspected as the most important bacterial pathogens for puppies losses. In the presented study the occurrence of these bacterial species was investigated in newborn puppies, their bitches and in the environment of these animals.

Fourteen bitches and their litters were included in the study. The animals were sampled at a number of sites using swabs. Further environmental samples were collected. The bitches were sampled few days prepartum and then, together with their puppies within 24 hours postpartum and also 2, 4, 6 and 8 weeks after the whelping day. In the second week after whelping furthermore skin samples from the owners and air samples were investigated.

Out of 1644 swab samples 600 were positive for one of these bacterial species of interest. *Staphylococcus intermedius* was isolated from 553 swabs. *Staphylococcus aureus* and *Streptococcus canis* were rarely found. In 11 of 16 air samples *Staphylococcus intermedius* was detected. *Streptococcus canis* was not found, *Staphylococcus aureus* was detected only in 2 air samples. All skin samples from the owners were negative for the 3 bacterial species.

The occurrence of *Staphylococcus intermedius* within the different cannels was characterized as follows: Few days before whelping *S. intermedius* was isolated from 5 of the 14 bitches. One day postpartum 12, two weeks postpartum 13, four weeks postpartum 12, six weeks postpartum 10 and eight weeks postpartum 5 of the bitches were positive for *S. intermedius*. Within 24 hours after birth *S. intermedius* was isolated from 42 of the 55 puppies. *S. intermedius* was isolated from 54 of the 55 puppies two weeks after whelping. Four weeks postpartum 33, six weeks postpartum 33 and eight weeks postpartum 32 puppies were tested positive for *S. intermedius*. From one bitch and their puppies 8 *S. intermedius* strains isolated at the second week after whelping were differentiated by RAPD technique. Three isolates from the bitch, two isolates from the puppies and one of the environment expressed identical fingerprinting profiles. Further a second litter of the same bitch was investigated 8 month later. There were also strains with identical fingerprinting profiles between both litters.

This study indicated that colonization of puppies by *S. intermedius* is a gradual process that starts almost immediately after birth and is increasing until the second week after whelping.

Furthermore the results demonstrate that the process of birth is related to a higher level of colonization by *S. intermedius* in bitches.