After the recognition of hospital-associated MRSA and community-associated MRSA, recently a new lineage of MRSA was found in livestock, mainly in pigs (LA-MRSA). It was hypothesized that the presence of different livestock species could contribute to a higher prevalence of LA-MRSA on a farm. The aim of the study was to gain insights into the prevalence on Belgian mixed farms and to compare the antibacterial resistance pattern of MRSA. Between January 2009 and January 2013, 2 mixed poultry-pig farms and 3 mixed cattle-pig farms were sampled 3 times for pigs and cattle and 6 times for poultry. On each sampling round, nose swabs of pigs (n=10) and cattle (n=10) were taken, whereas swabs of nose shells and cloaca from poultry (n=10). Swabs were pooled per two for examination. In pigs, 64% of the pooled samples were found MRSA positive, whereas for cattle and poultry this was 12% and 10%, respectively. On the mixed poultry-pig farms, 83% of the samples of pigs were positive compared to 51% on mixed cattle-pig farms. MRSA was found in pigs during each sampling round. On all farms MRSA was isolated from broilers or cattle, however, MRSA was only found in poultry during sampling round 1 and 2 and in cattle during sampling round 1 and 3. Overall, resistance was found against 10 of the 16 tested antibiotics. In only one sample resistance was reported against an antibiotic used on the farm (trimethoprim in pigs). These results indicate that LA-MRSA was present on each farm and in each animal species. The prevalence seems higher in pigs compared to poultry and cattle. The prevalence seems also higher in pigs housed in pig-poultry farms comparing to the prevalence in pigs in pig-cattle farms. There was no link between the resistance pattern and the use of antibiotics on the farms.

1Animal Health Care Flanders (DGZ);
2Institute for Agricultural and Fisheries Research