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Zoonoses Monitoring programme results about *Salmonella* in pigs

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The Zoonoses Monitoring is a joint programme run by the Federal Government and the *Laender* (Germany's states) to raise and assess representative data on the occurrence of zoonotic agents and related antimicrobials resistance in food, feed, and live animals. Programme results are published annually by the Federal Office of Consumer Protection and Food Safety (BVL) in its Food Safety Reports. Zoonoses Monitoring is legally founded on the "General Administrative Provisions concerning zoonoses in the food chain" (*AVV Zoonosen Lebensmittelkette*), which in turn are based on Directive 2003/99/EC on the monitoring of zoonoses and zoonotic agents.

This contribution presents the major findings of tests for *Salmonella* spp. carried out along the pork food chain in the framework of the Zoonoses Monitoring programmes of the years 2009 to 2017. The test results show that fattening pigs frequently carry *Salmonella* spp. - about 8% to 9% of the faecal samples were *Salmonella*-positive - but detection rates continuously decline along the food chain. Pig carcasses were contaminated with *Salmonella* in about 3% to 4% of samples, while the contamination rate in fresh pork meat was 0.4% to 1.4%. Contamination rates in minced pork ranged between 0.7% and 5%. A trend analysis shows that *Salmonella* prevalence in pigs has remained roughly the same over the past few years, while it has declined in pig carcasses, fresh meat, and in particular in minced meat. This indicates that slaughter hygiene has improved, given the fact that the input by *Salmonella*-positive pigs has been the same. The *Salmonella* detection rate in pigs from farms categorised as category-I(one) (best serological *Salmonella* status) under the *Regulations to control the spread of Salmonella through slaughter pigs* ("Schweine-Salmonellen-Verordnung") was much lower than in pigs from category-III farms (worst serological *Salmonella* status) (5-7% in category-I-farm pigs versus 20 to 30% in category-III-farm pigs). So, the monitoring findings support the fact that the serological categorisation of fattening farms pursuant to the above *Salmonella* control regulations has a correlation with the bacteriological findings in pigs from these farms. At the same time they show that pigs from category-I farms, too, bring about a risk of contamination of the meat during the slaughter process. The findings in breeding sows and young pigs show that colonisation of the animals

with *Salmonella* starts at the level of piglet farms (5.6% positive faecal samples in breeding sows, 10.3% positive faecal samples in young pigs) and highlight the importance of *Salmonella* control in breeding farms, to the end of preventing introduction of *Salmonella* in fattening farms through infected piglets. The monitoring programme results show that there are clear differences in the prevalence of *Salmonella* at the various levels of the pork food chain. Tests at the different stages of production allow tracing the paths of transmission of pathogens along the food chain. Continuous testing over years allow recognising trends and developments in the prevalence of pathogens in live animals and foodstuffs.