Pig farming in the Abruzzo Region and hepatitis E virus detection in swine slurries.

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**Abstract.** Hepatitis E virus (HEV) infection is a recognized emerging zoonosis whose sporadic autochthonous cases, unrelated to travel in endemic areas, are rising in industrialized countries. Pigs and wild boars are considered its main reservoirs. The ongoing project "Improving understanding of autochthonous Hepatitis E transmission routes: a focus on foodborne and waterborne pathways" concentrates on the Abruzzo Region in Central Italy, where a high prevalence of anti-hepatitis E IgG (48.9%) was shown among blood donors. Herein we summarize the preliminary outcomes from monitoring campaigns and the organization of swine farming in the Abruzzo Region.

Based on the National Zootechnical Register (data as at 31/12/2019), pig husbandry is mainly a family business, and pig farms ofter host few animals. . For most animals, rearing occurs in a minor number of specialized structures mainly devoted to reproduction (open cycle) and fattening of animals. A statistical survey showed that the territory features affect the distribution of pig production structures (53% of the fattening pigs occur in six municipalities while three other municipalities host a large part of the animals in reproduction facilities).

Samples of swine slurries taken from the storages of chosen specialized production sites throughout the Region underwent analysis to identify the presence of HEV strains. The results showed that some sites were positive for HEV belonging to the zoonotic genotype 3 and displayed a high degree of genetic identity with the strains detected in autochthonous HEV cases. The simultaneous detection of HEV RNA genotype 3 in the urban wastewaters of Abruzzo, which reflects a not negligible viral circulation in the population, opens issues to the potential connection between the findings. Further monitoring campaigns will clarify this and will be helpful to set out guidelines to improve husbandry and farming practices, and to increase population protection from HEV.