Enterococcus hirae belongs in the Enterococcus faecium group within the genus Enterococcus. This species occurs naturally in the environment, commensally in the alimentary tracts of animals, and pathologically for example in humans with urinary infections. Some strains of E. hirae possess virulence factors, including biofilm formation. Biofilm growth protects bacteria against host defences; biofilm can be a source of persistent infection. Testing bacterial strains for their ability to form biofilm might therefore facilitate their treatment or prevention. This study focuses on biofilm formation by E. hirae strains derived from various animals. This kind of testing has never been done before. A total of 64 identified E. hirae from laying hens, ducks, pheasants, ostriches, rabbits, horses and a goat were tested by means of three methods; using Congo red agar, the tube method and microtiter plate agar. The majority of strains were found to form biofilm. 62.5% of strains were biofilm-forming, four categorized as highly positive (OD570 ≥ 1); most strains were low-grade biofilm positive (0.1 ≤ OD570 < 1). Related to poultry, 55 E. hirae strains were tested and found to produce biofilm; 24 strains did not form biofilm, 31 strains were biofilm-forming; 27 strains showed low-grade biofilm formation, and four strains were highly biofilm-forming. Four strains from hens and ostriches reached the highest OD570 values, more than 0.500. Rabbit-derived E. hirae strains as well as strains isolated from horses and the goat were low-grade biofilm-forming. Microtiter plate assay proved to be the best tool for testing the in vitro biofilm formation capacity of E. hirae strains from different species of animals.

Key words: Enterococcus hirae, various animals, biofilm