Virus survival in slurry: Analysis of the stability of foot-and-mouth disease, classical swine fever, bovine viral diarrhoea and swine influenza viruses

Farm slurry can be highly contaminated with viral pathogens. The survival of these pathogens within slurry is important since this material is often distributed onto farm land either directly or after heat treatment. There is clearly some risk of spreading pathogens in the early stages of an outbreak of disease before it has been recognized. The survival of foot-and-mouth disease virus, classical swine fever virus, bovine viral diarrhoea virus and swine influenza virus, which belong to three different RNA virus families plus porcine parvovirus (a DNA virus) was examined under controlled conditions. For each RNA virus, the virus survival in farm slurry under anaerobic conditions was short (generally ≤1h) when heated (to 55°C) but each of these viruses could retain infectivity at cool temperatures (5°C) for many weeks. The porcine parvovirus survived considerably longer than each of the RNA viruses under all conditions tested. The implications for disease spread are discussed.

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