## Survival of manure E. coli in soil as affected by manure properties (S03-unc085714-Poster)

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## Abstract:

Once in the soil environment, several factors directly affect the survival of faecal bacteria with water availability overriding the impact of other factors. The interaction between manure and soil, after land spreading, can have a marked effect on survival of faecal bacteria applied with the manure. The characteristics of the manure are important for the survival potential of faecal bacteria. The interaction between faecal bacteria and soil microorganisms, and therefore the survival of faecal bacteria is affected by the manure characteristics. We have evaluated the impact of the properties of soil manure mixtures on the survival of faecal bacteria at constant soil water content. Solid beef manure accelerated the microbial activity and increased the initial number of faecal bacteria by up to three orders of magnitude, but also shortened the survival length. Liquid swine manure resulted in a smaller number of faecal bacteria, but increased their survival time in soil. Long-term survival of faecal bacteria was not dependent on the manure or soil type or on the incubation temperature, but it was affected by the organic matter content of the soil and hence by its biological activity.

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