Survival of Salmonella typhimurium in four soils at different levels of water activity. (S03-balaa115633-Oral)

Authors:

- M.F.A.Bal'a* - *USDA-ARS, Mississippi State, MS.*
- A.Adeli - *USDA-ARS, Mississippi State, MS.*
- S.L.McGowen - *USDA-ARS, Mississippi State, MS.*
- S.K.Arumugam - *Mississippi State University, Mississippi State, MS.*
- D.E.Rowe - *USDA-ARS, Mississippi State, MS.*

Abstract:

Survival of Salmonella typhimurium in four soils (Brooksville, Leeper, Marietta, and Ruston), held at room temperature (21oC), was determined at different levels of water activity (aw). The aw was set at desired levels by equilibrating the soil with a stream of air adjusted to desired relative humidity level by means of multi-channel humidity generating modules. A stream of dry air (0-2 % RH) proportionally mixed with a stream of saturated air (98-100 % RH) was used to generate the desired humidity levels and thus maintain a desired aw. This work describes the development, design and performance of multi-channel humidity generating modules and outlines the advantages of this approach compared to static incubation studies, where solutes in microcosms control, or where the closed space above a saturated salt solution is used to control aw. Potential implications of water availability on pathogen survival in laboratory microcosms are also discussed.

Corresponding Author Information:

Farid Bal'a
USDA-ARS, Mississippi State
810 Highway 12 East
Mississippi Sate, MS 39762

phone: 662-320-7540
fax: 662-320-7544
e-mail: fbalaa@msa-msstate.ars.usda.gov

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