AgriLIFE RESEARCH
Texas A&M System

Effects of Agricultural Management, Land Use, and Watershed Scale on *E. coli* Concentrations

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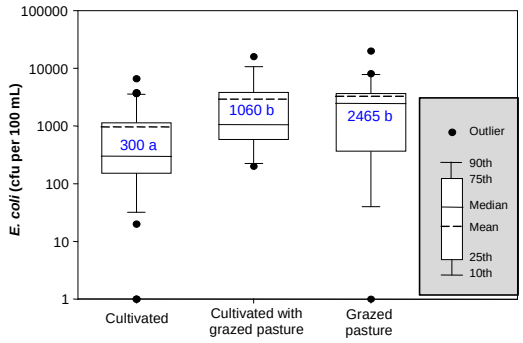
Land Use Effects on *E. coli* Levels: Field-Scale



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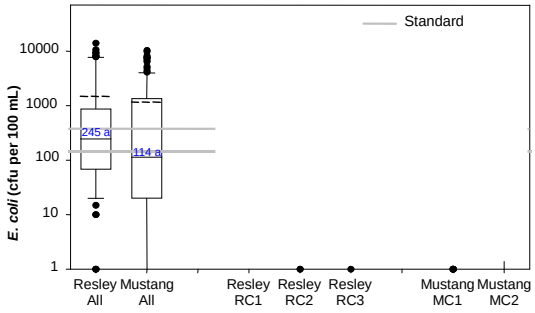
Land Use Effects on *E. coli* Levels: Small Watershed-Scale



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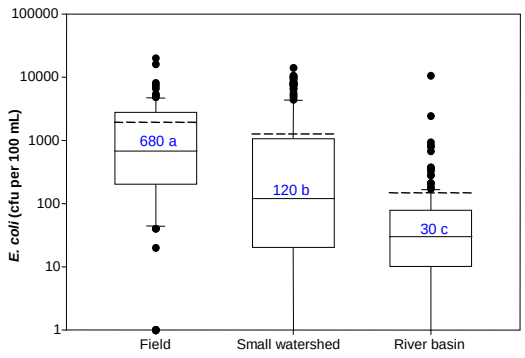
Watershed Scale Effects on *E. coli* Levels



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Conclusions

- Grazed fields had higher levels of *E. coli* in edge-of-field runoff samples than did cultivated fields
- No significant difference in *E. coli* levels due to land use at the small watershed-scale
- *E. coli* levels decreased as watershed scale increased
  - Consideration of watershed scale in water quality standards?

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For More Details:

Harmel, R.D., R. Karthikeyan, T. Gentry, and R. Srinivasan. 2010. Effects of agricultural management, land use, and watershed scale on *E. coli* concentrations in runoff and streamflow. Trans. ASABE 53:1833-1841.

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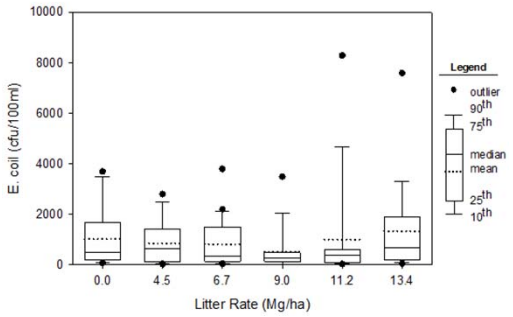
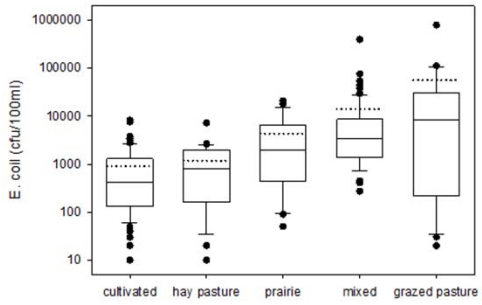
Runoff *E. coli* levels from cultivated fields w/ different litter rates (Harmel et al. 2011)



Runoff *E. coli* concentrations from various land uses (Harmel et al. 2011)



Conclusions

- **Litter application to cultivated fields did not impact *E. coli* runoff**
- ***E. coli* concentrations generally occurred in the following order: cultivated < hayed pasture < native prairie < mixed land use < grazed pasture**
  - **wildlife habitat generally improves along this same land use gradient**

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For More Details:

Harmel, R.D., K.L. Wagner, T. Gentry, R. Karthikeyan, M. Dozier and C. Coufal. 2011. Impact of Litter Application on E. coli Runoff from Small Cultivated Fields. In prep.

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Questions?

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