

# DANIEL WELLER 2016 USDA ThinkWater Fellow

## CASE STUDY: Using mental models to organize academic literature reviews

Mental models are cognitive structures that we build in order to describe or predict the world around us. Variations of mental models can be used as tools to organize literature reviews and contextualize or place research projects within existing scientific research.

Daniel Weller, a 2016 USDA ThinkWater Fellow, conducted his dissertation research on the ecology and epidemiology of food borne diseases, specifically, the co-management of agriculture landscapes to optimize agricultural systems for food safety conservation. This topic is researched in various disciplines such as ecology, economics, microbiology, agriculture, and so on, which makes it challenging to conduct effective and thorough literature reviews. Daniel used a variation of a mental model to, (1) place findings from his research within the larger context of existing scientific research, and (2) place findings from one of his projects within the context of his dissertation research.

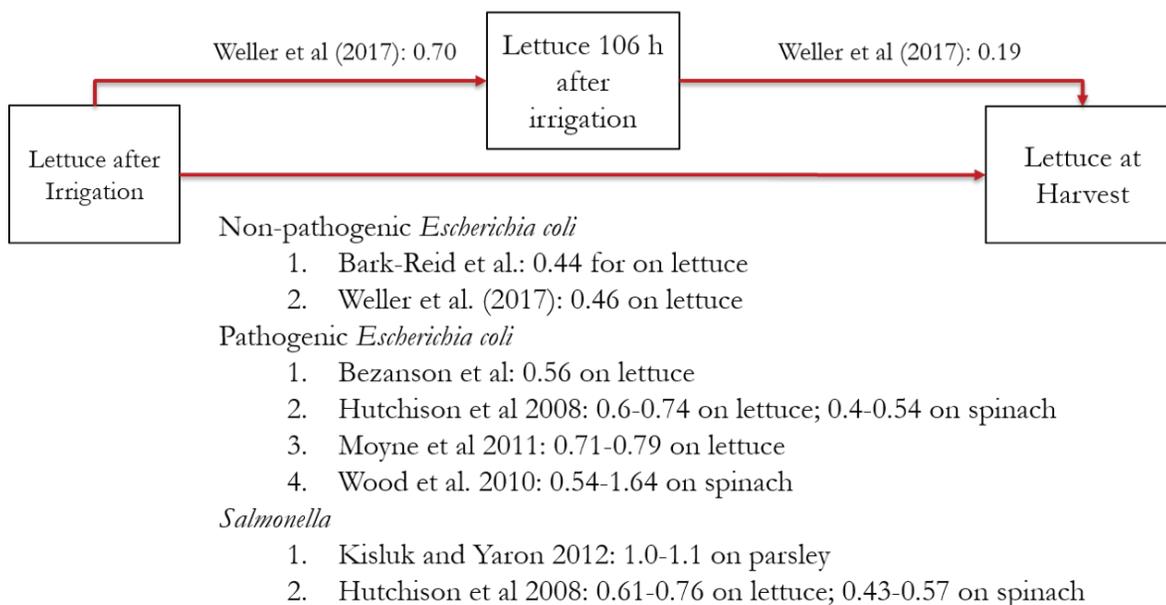


Fig 1: A mental model depicting findings from Daniel's research and results from relevant existing research

This activity helped:

- consolidate existing knowledge on the topic
- organize the literature review
- identify patterns among various studies in design, analysis, and results
- identify gaps in research

To learn more about this case, visit: [www.youtube.com/watch?v=ky0Hi1ZL5fA&list=WL&index=5&t=86s](http://www.youtube.com/watch?v=ky0Hi1ZL5fA&list=WL&index=5&t=86s)