CSREES National Water Quality Program

**Project Title:** **Amish Well Water Testing Program**

**Presenter Name:** **James J. Hoorman** **Email:** hoorman.1@osu.edu

**Institution/Agency:** The Ohio State University Extension

**State:** OH **(EPA) Region:** 5 **Theme:** Drinking Water and Human Health

**CSREES Project Type:** Extension Education **Year of Funding:** 2000

**Summary:**
With funds from three USDA-CSREES grants, three Ohio Amish communities participated in a program to improve the quality of their drinking water. From 1998-2002, 204 Amish wells and springs were tested for total coliform bacteria (TCB), E. coli. (EC), and nitrate-nitrogen (NN). Both Old Order (conservative) and New Order (progressive) Amish drinking water was tested. In five years, only one well tested over the Ohio EPA acceptable drinking water standard of 10 mg/L NN. However, 72 (35.3%) of the drinking water sources were contaminated with TCB and 19 (9.3%) with EC. About 132 (64.7%) wells tested negative for TCB and EC the first time. After OSU Extension education on well maintenance and shock chlorination, out of 19 EC wells, 11 wells tested negative for TCB and 2 were abandoned (68.4% improvement rate). Six EC wells (31.6%) improved to positive for TCB but negative for EC. Out of 72 TCB and EC wells, 77 rechecks were conducted (several wells re-tested multiple times), 36 wells (50%) improved to negative for TCB. Well pits with poor drainage, well casings less than 6 inches above the ground, no well caps, back siphoning from livestock tanks, manure runoff, abandoned wells, shallow wells, and malfunctioning well equipment were factors contributing to contaminated drinking water. Most New Order Amish wells were modern. The Old Order Amish had older wells, more well pits and springs for drinking water. Amish participation increased (80%) as the program was promoted and positive change to drinking water was observed.