



**Title:** Educating Amish on Best Management Practices

**Name:** James Hoorman

**Email:** hoorman.1@osu.edu

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**Theme:** Animal Waste Management

**Situation:** The Amish are a religious group who make their living on small livestock farms. About 70 percent of the Amish live in three states: Ohio, Pennsylvania, and Indiana. The major water quality issues on Amish farms include a lack of knowledge on best management practices (BMPs), misapplication of manure and fertilizer, over-grazing pastures, livestock in streams, and contaminated wells. With only an eighth grade education, Amish farmers have a limited knowledge of nutrient management and BMPs.

**Objectives:** Educate 240 Amish families on BMPs through on-farm visits, meetings, and newsletters. Use soil sampling and manure testing on 100 Amish farms to develop nutrient management plans. Use poultry manure demonstration plots to promote optimum crop production. Analyze drinking water from 100 Amish farms. Conduct biological and chemical monitoring on streams in the Amish communities. Establish a baseline and measure improvement in water quality with changes in Amish farming practices.

**Methods:** Farm visits, Amish newsletter, soil testing, calibration clinics, manure plots, and rotational grazing improved BMP adoption. Testing drinking water improved the health of Amish families. Stream monitoring and livestock exclusion has improved water quality. Produced two journal articles (Engaging Minority and Culturally Diverse Audiences, JOE, Dec 2002, V40, No. 6) & (Engagement and Outreach with Amish Audiences, JHEOE, 2001/2002 V7, No.1&2) and four abstracts in the Ohio Journal of Science.

**Partnerships:** A monthly newsletter (Focus on Farming) is sent to 222 Amish families and 77 Extension personnel in 13 states and Canada to educate the Amish family on BMPs. Partnerships are with Buckeye Egg, Inc. and Daylay, Inc., NRCS, and the Health Department.

**Research:** Over 1600 farm visits conducted to educate Amish on BMPs. Over 1000+ soil/manure tests were used to develop 108 nutrient management plans. Thirty manure plots were used to teach efficient utilization of manure nutrients. Over 204 Amish wells were tested for total coliform bacteria, E. Coli., and nitrates to improve drinking water. Stream monitoring and teaching rotational grazing led to 10,000 feet of fencing to exclude livestock from streams and saved \$7500 per farm in reduced feed costs.

**Resources:** Amish farm fields (7200 acres) were low in nutrients. Partnerships with Buckeye Egg led to applications of poultry manure, resulting in a 30+ bushel/acre corn increase. Nutrients were efficiently utilized without causing environmental problems.

**Results:** Participation rate was 90% for newsletter, 80% for soil/manure testing, 85% for well testing, and 94% for rotational grazing (\$7500 feed savings/farm) in one community. Livestock excluded with 10,000 feet of fencing from streams. Calibrated 10 sprayers, 12 manure spreaders, and 19 planters. Well water testing on 204 Amish wells with 72 (35.3%) positive for TCB and 19 (9.3%) for E.coli. Outcomes included gain in knowledge, change in attitudes, and 75% to 90% adoption rates for selected BMPs.



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