

Title Microbial Safety Evaluation of Organic and Conventional Fresh Produce at the Pre-harvest Stage
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Abstract

Microbiological analyses of fresh fruits and vegetables produced by organic and conventional farmers in Minnesota and Wisconsin were conducted to determine coliform and *Escherichia coli* counts and prevalence of *Salmonella* and *E. coli* 0157:H7, at the pre-harvest stage. Among the participating farmers, 24 claimed to use organic practices but weren't certified, 8 were certified organic and 14 were conventional growers. A total of 1,182 produce samples (539 from non-certified growers, 295 from certified organic and 348 from conventional growers) were collected during the 2004 harvest season. Major produce typed included lettuce, other leafy greens, cabbage, broccoli, pepper, tomato, zucchini, summer squash, cucumber, berries and other minor types like bok choy, pea, cauliflower and cantaloupe. A farmers' survey on relevant farm-level production, handling and management practices were collected at the beginning of the season. The average coliform counts in non-certified, certified organic and conventional produce were 2.2, 2.3 and 1.5 log MPN/g, respectively. *E. coli* counts were 2.4, 2.3 and 1.9 log MPN/g, respectively, in non-certified, certified organic and conventional produce. *E. coli* prevalence was significantly higher in non-certified and certified organic samples compared to their conventional counterpart. *E. coli* prevalence were also significantly greater among leafy greens compared to all other major produce types. None of the produce samples tested positive for *Salmonella* and *E. coli* 0157:H7.