

Harold A. Richards

Position Postdoctoral Research Associate
University of Tennessee Food Safety Center

Education

PhD Nutrition Science and Biotechnology	University of North Carolina, Greensboro	2002
MS Life Sciences, Plant Physiology and Genetics	University of Tennessee, Knoxville	1998
BS Botany and Environmental Science	Miami University, Oxford	1995

Research Experience

Miami University - Modeled population dynamics of an agronomically important rainforest palm species

University of Tennessee - Genetically engineered orchardgrass and switchgrass to express GFP.

University of North Carolina, Greensboro - Genetically engineered canola to express GFP and Bt transgenes. Evaluated food safety of GFP and GM canola plants. Determined potential allergenicity of GFP. Genetically engineered alfalfa to express GFP and intimin transgenes.

University of Tennessee - Coordinated a multistate food pathogen risk assessment project to study *E. coli* O157:H7, *L. monocytogenes*, *C. jejuni*, and *S. Typhimurium*. Supervised microbiology laboratory using bacteriological detection methodology. Developed microarray-based and real-time PCR detection tools for microbes in environmental samples. Provided expertise on food safety for the development of an integrated curriculum targeted at middle school students.

Teaching Experience

General Botany	Miami University	(1992 – 1993)
Concepts in Biological Sciences	Miami University	(1993 – 1994)
Introductory Nutrition Science	University of North Carolina Greensboro	(2001)
Food Microbiology Laboratory	University of Tennessee	(2002)
Current Topics in Food Science	University of Tennessee	(2003)

Awards

MU Undergraduate, Botany, and Herbarium Research Grant Awards (1993 - 1994)
UNCG Hayes Excellence Fellowship Recipient (1998 – 1999)
Outstanding Graduate Teaching Assistant: School of Human Environmental Sciences (2001)

Recent Presentations

DNA-based microarray detection of *Escherichia coli* O157:H7

H Richards, JH Stevens, CN Stewart Jr., and FA Draughon
International Association for Food Protection 2004 (accepted)

Antibiotic resistance patterns of *Yersinia enterocolitica* farm isolates

JH Stevens, **H Richards**, S Bhaduri, and FA Draughon
International Association for Food Protection 2004 (accepted)

Occurrence and resistance to antibiotics of thermophilic *Campylobacter* spp. in farm samples

WJ Taylor, **H Richards**, P Pangloli, SP Oliver, DA Golden, M Huang, and FA Draughon
International Association for Food Protection 2004 (accepted)

Multistate study to determine the presence of *Salmonella* in swine and beef cattle fecal swabs and environmental samples

A Rodriguez, **H Richards**, P Pangloli, JR Mount, and FA Draughon
International Association for Food Protection 2004 (accepted)

Occurrence of *Escherichia coli* O157:H7 in Multiple Farm Environments across the United States

CA Doane, **H Richards**, P Pangloli, JR Mount, and FA Draughon
International Association for Food Protection 2004 (accepted)

Enumeration of aerobic microorganisms, total coliforms, and fecal *Streptococcus* in animal and environmental samples

P Pangloli, F Jackson, JH Stevens, CA Doane, **H Richards**, JR Mount, SP Oliver, and FA Draughon
Institute of Food Technologists 2004 (accepted) and International Association for Food Protection 2004 (accepted)

Multistate study to determine the presence of *Salmonella* in poultry and dairy cattle fecal swabs and environmental samples

A Rodriguez, **H Richards**, P Pangloli, JR Mount, and FA Draughon
Institute of Food Technologists 2004 (accepted)

Plant transformation laboratory exercises using GFP

MD Halfhill, **HA Richards**, and CN Stewart Jr.
American Society of Plant Biologists 2001

GFP does not appear to pose a significant food allergen risk

HA Richards and CN Stewart Jr.
Society for In Vitro Biology Conference 2000

Identification of a potential immunogen for an edible vaccine against *E. coli* O157:H7

HA Richards and CN Stewart Jr.
Ninth Gatlinburg Symposium 1999

Introgression and persistence of an insecticidal transgene can be monitored by GFP

MD Halfhill, **HA Richards**, R Millwood, and CN Stewart Jr.

Southeastern Ecology and Population Genetics Conference 1999 and International GFP Symposium 1999

Publications

Plant biotechnology and food safety evaluation.

Richards, HA and S Hefle, In: Transgenic Plants: Current Innovations and Future Trends, (in press)

Food safety evaluation of recombinantly produced green fluorescent protein.

Richards, HA, C Han, RG Hopkins, MA Failla, WW Ward, and CN Stewart Jr., Journal of Nutrition 133:1909-1912 (2003).

GFP fluorescence as an indicator of recombinant protein expression in transgenic plants.

Richards, HA, MD Halfhill, RJ Millwood, and CN Stewart Jr., Plant Cell Reports 22:117-121 (2003)

Expression of GFP and Bt transgenes in *B. napus* and hybridization with *B. rapa*.

Halfhill, MD, **HA Richards**, SA Mabon, and CN Stewart Jr., Theoretical and Applied Genetics, 103:659-667 (2001)

Construction of a GFP-BAR plasmid and its use for switchgrass transformation

Richards, HA, VA Rudas, H Sun, JK McDaniel, Z Thomaszewski, and BV Conger, Plant Cell Reports 20: 48-54 (2001)

GFP in plant biotechnology and agriculture.

Stewart, CN Jr., MD Halfhill, and **HA Richards**, In: 11th International Symp. on Bioluminescence and Chemiluminescence, p: 453-457 (2001)

Transgenic plants and biosafety: Science, misconceptions, and public perceptions.

Stewart, CN Jr., MD Halfhill, and **HA Richards**, Biotechniques 29: 832-834 (2000)

Green fluorescent protein as a marker for expression of a second transgene in transgenic plants.

Harper, BK, SA Mabon, SM Leffel, MD Halfhill, **HA Richards**, KA Moyer, and CN Stewart Jr., Nature Biotechnology 17: 1125-1129 (1999)