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Impact of the Penn State Food Safety Web Site as a Food Safety Information Resource for Extension Professionals

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Abstract

The Penn State Food Safety Web Site <<http://foodsafety.cas.psu.edu/>> was created in response to an expressed need by county Extension agents for a well organized, user-friendly Web site for finding food safety and preservation information. Agents reported that the site is used between one time per week and one time per month and that the food preservation database is the most frequently visited section. Food safety information was reported to be easier and faster to find compared to traditional resources. Agent acceptance of the Web site offers an opportunity for expanded use of the Internet for increasing communication and training activities.

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Introduction

Extension specialists in food science are challenged to develop and deliver educational programs that disseminate knowledge in their field to a diverse audience of food producers, processors, the food service and retail industry, and consumers. At the same time, specialists must create research programs that address emerging issues in food chemistry, microbiology, or processing technologies. As a result, traditional Extension programs that were once a high priority may receive less attention than Cooperative Extension agents have come to expect. This is often the case with consumer food safety and home food preservation programs.

The use of the Internet, however, holds promise as a means to increase the efficiency at which information can be delivered from faculty specialists to field educators. This article describes the development of the Penn State Food Safety Web Site <<http://foodsafety.cas.psu.edu/>> as a supplementary method to deliver food safety and preservation information to Cooperative Extension agents and to enhance communication between county agents and food science Extension specialists.

Background

The Penn State Food Safety Web Site was created in response to a survey of Extension agents at an annual Children, Youth, and Families in-service for Penn State Cooperative Extension agents. The results of the survey indicated that agents desired greater support from food science specialists in the areas of food safety and home food preservation.

Efforts to use the Internet for answers to questions from clientele were hindered by several factors, including Web sites that were commercial and, therefore, of questionable objectivity; were poorly organized or too lengthy for quick information retrieval; or contained outdated information. Agents agreed that a well organized, user-friendly Web site would be helpful in finding food safety and preservation resources and would result in more productive interactions between food science Extension faculty members and county agents.

The completed Web site was introduced to agents at the March 2001 Children, Youth, and Families Cooperative Extension In-service. Agents were introduced to each section of the site and were

briefly trained on search strategies for obtaining food safety and preservation information.

Key features of the site are two searchable databases containing online food safety and home food preservation information. The food safety database contains over 1,200 online food safety resources for and about producers, processors, the food service/retail industries, and consumers. Visitors can select the appropriate sector of the food system and then further refine their search by selecting the type of food, the biological or chemical hazards of interest, best practices, or new technologies, or choose from among several other appropriate categories.

The food preservation database contains over 400 references that consumers can use to safely preserve over 100 food items. A search of the database can be limited by type of food (fruits, vegetables, dairy and eggs, meats and seafood) and by preservation method (canning, freezing, drying, pickling, curing, smoking, and fermentation). Within the food preservation database is a searchable version of the USDA Complete Guide to Home Canning. The site also contains links to food safety news and features, contacts who have expertise in food safety, descriptions of upcoming food safety related in-services, short courses, and workshops at Penn State, and printable fact-sheets, brochures, and posters that agents can use in their programs.

Teaching, research, and outreach activities available at Penn State University are also provided. An important consideration in the design of the site was the need for rapid updating of food safety and preservation information. A password protected database administration Web page was added allowing Extension specialists to easily create and categorize new links to the databases.

The objectives of the study discussed here were to determine:

1. The extent to which the site is used by agents to support their food safety and preservation programs,
2. The effect that the site has had on their ability to retrieve food safety and preservation information, and
3. Changes in attitude and behavior regarding the use of the Internet as an information reference tool.

Methodology

In December of 2001, 72 Cooperative Extension agents were surveyed to determine the impact that the site has had on their food safety and preservation programs. Agents who were surveyed were subscribers to a food safety news and information email mailing list offered by the Food Science Department and therefore had demonstrated interest and expertise in food safety and home food preservation issues.

An email announcement informed the agents of the purpose of the survey assured them that their replies would be anonymous and presented them with a short list of questions that could be answered by clicking on the appropriate button. Space was provided for agents to comment on the strengths of the site and to contribute ideas for making improvements. After completing the questions and clicking the "submit" button, answers were automatically compiled into a database for later analysis.

Results and Discussion

Results from the survey (58% response rate; n = 42) indicate that the Web site has had an impact on agent behavior, knowledge, and attitudes. Between March and December of 2001, the site was used between one time per week and one time per month by 82% of the responding agents (Table 1). Sixteen percent of the agents used the site at least 5-10 times per week.

Table 1.
Frequency of Food Safety Web Site Visits

Question: How often do you use the Food Safety Web Site?	
Reply	Response (%)
Never	2
About 1 time per month	48
About 1 time per week	34

5-10 times per week	14
More than 10 times per week	2

The Food Preservation Database was listed as the most frequently visited section by 62% of agents, followed by the Food Safety Database (Table 2).

Table 2.
Ranking of Most Visited Sections of the Food Safety Web Site

Question: Which section of the Food Safety Web Site do you visit most often?	
Section	Response (%)
Food Preservation Database	62
Food Safety Database	22
News and Features	7
Contacts/Related Web Sites	0
Courses and Events	0
Educator Toolbox	7
Food Safety at Penn State	2

Eighty five percent of the responding agents used the site "somewhat" to "a great deal" to prepare for a meeting, lecture, or workshop, or to respond to a call from a client (Table 3). Among agents surveyed, 86% and 62%, respectively, thought that the site had increased their knowledge of food safety issues and activities within the Department of Food Science either "somewhat" or "a great deal."

Table 3.
Impact of the Food Safety Web Site on Agent Program Activities and Knowledge of Food Safety Issues and Food Science Department Activities

Question: To what extent:	Response (%)			
	A Great Deal	Some-what	Not Much	Not at All
Have you used the Food Safety Web Site to prepare for a meeting, lecture, workshop, or a response to a call from a client?	40	45	10	5
Has the Food Safety Web Site increased your knowledge of food safety issues?	19	67	12	2

Has the Food Safety Web Site increased your knowledge of activities within the Department of Food Science?	17	45	28	10
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Most agents (85%) indicated that the site makes finding food safety information easier and faster compared to traditional (print) resources and that the information is accurate (96%) and up-to-date (96%). However, they were less willing to agree that the site had increased their interest in food safety (54%) or their confidence in using the Internet (53%) (Table 4).

Table 4.
Agent Attitudes and Beliefs Regarding the Food Safety Web Site and the Internet as a Method for Delivering Food Safety Information

Question: To what extent do you agree or disagree with the following statements?					
	Response (%)				
Statement	Strongly Agree	Slightly Agree	Neither Agree nor Disagree	Slightly Disagree	Strongly Disagree
It makes finding food safety information easier.	55	31	14	0	0
It has increased my interest in food safety issues.	14	40	44	2	0
The information presented is accurate.	81	14	5	0	0
The information presented is up-to-date.	79	17	4	0	0
I can find food safety information on the Food Safety Web much faster than non-Internet resources.	48	38	14	0	0
It has increased my confidence in using the Internet as source of information for other areas of my job.	24	29	38	7	2

Nevertheless, the number of agents who reported they were "moderately likely" or "very likely" to use the Internet to search for food safety information increased from 41% before the Web site was introduced to 79% 8 months later (Table 5).

Table 5.
Change in Agent Willingness to Use the Internet for Obtaining Food Safety Information Before and After the Food Safety Web Site Was Launched

Question: How likely were you to use the Internet for finding food safety
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information before and after the Food Safety Web Site launched?		
Reply	Response (%)	
	Before	After
Not likely	12	0
Slightly likely	31	14
Somewhat likely	16	7
Moderately likely	24	31
Very likely	17	48

Comments about the site reflected the ease of use and credibility of the site. Comments included:

- "Quick reliable source of food safety information,"
- "Everything in one place," and
- "A quick way to answer client questions on the spot."

One agent responded that "the best strength is that it gives us (Extension agents) a site to promote to clientele to look up their own preservation information. I answer their immediate question then explain the Web site for future questions."

Many agents have commented that the site is best used to obtain answers to common food safety and preservation questions such as:

- "What are potential biological hazards associated with growing fresh produce?"
- "What food safety hazards are especially of concern to the elderly?"
- "What is a safe way to can tomato sauce?"

However, they also emphasize the importance of maintaining personal contact through telephone calls, email, or in-services for interpretation of materials in the database or when more complex questions come up.

Conclusions and Implications

The Penn State Food Safety Web Site has been successful because it has responded to a specific request from Cooperative Extension agents for rapid and easy access to food safety and home food preservation information. Agents regard the information presented in the Web site as accurate, timely, and relevant to their programs. Increased agent awareness of teaching, research, and outreach activities within the Department of Food Science is evidence of enhanced communication between the county offices and faculty specialists.

Because agents have accepted the Web site as a useful informational resource, it offers the opportunity for expanded use of the Internet for educational programming. Already, slide presentations, lecture notes, and supplementary resources from food safety related in-services, workshops, and short courses have been added to the site, and an email mailing list provides agents with new developments in food preservation and answers to frequently asked questions.

In addition, a bulletin board service is being developed that will facilitate communication between agents on common home food preservation questions. The Web site will also serve as a platform to deliver food safety training programs to Cooperative Extension agents and members of the food industry. As the site continues to evolve, primary consideration will be given to further enhancing communication between Cooperative Extension agents and faculty Extension specialists.

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