



## PROMOTING FOOD SAFETY AMONG UNDERGRADUATE STUDENTS



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**Abstract:** The Universidad del Este (UNE) is in its second funding year of a grant titled, Development of a Bilingual Minor in Food Safety. This grant is funded by USDA-CSREES, HEP (2008-38422-19236). The main objective of the grant is to establish an undergraduate academic and research program in food safety. One of the proposed strategies is to educate undergraduate students about food safety and present them with an opportunity to complete a minor in this area. In 2009, an on-line survey was conducted to ascertain the knowledge and perception on Food Safety among 364 undergraduate students enrolled in the School of Science and Technology. However, the response rate was only 14%. This year we implemented a different strategy carried among a population of 428 undergraduate students. We conducted an aggressive promotional campaign consisting of classroom visits, distribution of educational brochures, and announcements of the program throughout the campus. Moreover, we administered an AGMUS-IRB approved questionnaire to the students enrolled at our School. A total of 167 undergraduate students voluntarily answered the questionnaire. Seventy one percent were female and 29% male. Almost 40% of the responses were from freshmen students. Forty nine percent (49%) of the students were Biology majors, followed by 13% and 27% from Applied Microbiology and Biotechnology majors, respectively. Forty four percent of the students are planning to continue graduate school, while 43% are considering attending medical school. Only 18% plan to seek full time employment upon graduation. In terms of food safety, 43%, 22% and 10% answered that their knowledge on this subject was average, good and excellent, respectively. Interesting, 71% knew about the School's effort to create a minor in food safety. Also, 60% answered they would be interested in obtaining this minor, while 70% would be available to participate in research projects related to food safety. These results present a clear depiction of the interests of our undergraduate students to continue towards completing a graduate or professional degree. They also indicate the student's interest in the area of food safety, both in terms of completing a minor as well as carrying out research. Through this grant we will continue to monitor students academic and research involvement in the area of food safety. Based on this study, we can predict that this new academic program will be very successful among undergraduate students in our School.

**Keywords:** food safety, undergraduate research, academic minor program

**Introduction:** The United States Agricultural Trade plays a key role in the economy by generating employment, income, and purchasing power (USDA Economic Research Service, 2004). It is estimated that each farm export dollar earned, stimulated another \$1.61 in business activity. In 2002 U.S. exports generated \$138.5 billion in business activity, \$53.1 billion from direct exports and the rest from supporting activities. Processed commodities comprised 43% of this total and surpassed the export of raw products (36%) as well as the transport and trade services sectors (17%). These figures highlight the potential job opportunities for professionals knowledgeable on food safety issues.

**Materials and Methods:** A survey was prepared by UNE in collaboration with the Center for Evaluation and Sociomedical Research of the University of Puerto Rico, Medical Sciences Campus. The questionnaire had 19 questions and was reviewed and approved by the AGMUS Institutional Review Board (IRB). The questionnaire was administered in the classrooms for two months during the second semester of the academic year (April-May). Students were asked to voluntarily answer the questions of the survey.

**Results:** A total of 432 students participated in the survey. The response rate was 39% which was much higher than a similar survey (14%) conducted the previous year. Table 1 presents general information regarding the students surveyed. Most of the student body surveyed was female and in the beginning of their academic program. Almost half majored in biology (49%), followed by Biotechnology (27%) and Microbiology (12.6%). Thirty-four percent of the students plan to go on to graduate school, 43% to medical school, and 18% enter the current job market. Table 2 presents the students' answers to specific questions regarding their interest in enrolling in a minor in food safety. The students comprehension concerning food safety needs to be reinforced, since 68% responded they had average or less than average knowledge of this topic. We need to conduct more orientation sessions so students will be better prepared to decide on their academic goals. Sixty percent are interested in enrolling in the food safety minor. Almost 70% are interested in participating in food safety undergraduate research projects. These results clearly show that we have a critical mass of students available and interested in enrolling in our new minor in food safety.

Table 1. General information regarding students surveyed.

		Frequency (n)	Percent (%)
Gender	Female	118	70.7
	Male	49	29.3
Academic Year	First year	65	38.9
	Second year	30	18.0
	Third year	26	15.6
	Fourth year or more	46	27.6
	Major	Biology	82
	Microbiology	21	12.6
	Biotechnology	46	27.5
	Associate in Natural Sciences, other	18	10.8
Plans after completing B.S.	Apply Graduate School	51	34.0
	Apply Medical School	65	43.3
	Work Full time	27	18.0



Table 2. Student's response to four specific questions of the survey.

Questions	Frequency (n)	Percent (%)
Perception of knowledge about food safety		
Excellent	15	9.7
Good	34	21.9
Average	66	42.6
Poor	31	20.0
Very Poor	9	5.8
Did you know about the opportunity of completing a minor degree in Food Safety at UNE?		
Yes	111	71.2
No	45	28.8
Would you be interested in obtaining a minor in Food Safety?		
Yes	93	60.4
No	61	39.6
Would you be available to participate in research projects related to Food safety?		
Yes	104	68.3
No	48	31.7

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