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Using Web-Based Surveys to Evaluate Field Day Open Houses: The Great Tomato Tasting Evaluation

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Abstract

The Great Tomato Tasting event was developed to expose residents to Rutgers New Jersey Agricultural Experiment Station research and Cooperative Extension and to educate them on gardening, local agriculture, and nutrition. More than 7,400 attendees have participated in this event from 2000 to 2011. A Web-based survey of attendees was created to evaluate the impact of this event, replacing previous on-site paper evaluations. The results of the survey implemented in 2010 and 2011 revealed attendees overwhelmingly agreed the event gave them a better understanding of Extension and that they were more likely to take advantage of programs being offered.

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The Program

For the past 12 years, Rutgers New Jersey Agricultural Experiment Station (NJAES) Snyder Research and Extension Farm has hosted The Great Tomato Tasting. This consumer outreach and farm open house demonstrates proper horticultural techniques and strives to increase public awareness and appreciation of NJAES research, programs, and locally grown agricultural products. A key feature of the Great Tomato Tasting is to attract consumers to an NJAES research farm by offering informal tastings of a wide variety of seasonal, ethnic, and unique produce. The produce is grown at the research farm with the help of Master Gardener volunteers, and the cost of growing the crops is partially offset by admission fees to the event (\$7 adults, children under 10 are free).

The produce tastings are also used for more formal consumer preference evaluations of varieties grown in experimental plots. Wagon tours led by farm staff, NJAES researchers, and Master Gardeners highlight ongoing Rutgers NJAES agricultural and horticultural research trials. Master Gardeners also address gardening questions and play an integral role in planting, maintaining, harvesting, washing, and serving the produce. More than 7,400 attendees have participated in this

event from 2000 to 2011, (800 to 1,400/year). In 2010, 139 Master Gardeners contributed 1,070 hours while in 2011, 136 Master Gardeners contributed 1,244 hours. Educational displays are offered throughout the farm to highlight other Extension programs within the Family and Community Health Sciences and 4-H Youth Development departments, as well those offered by other government agencies and non-profits.

Evaluation Method and Results

In the early years of the event the attendance was the only evaluative information recorded. As the program grew, a registration card was developed to help create a database (mailing and contact list) to identify how attendees learned of the event. In 2008 an on-site paper survey was used to gather information on knowledge gained (data not shown). While the data from that survey was useful to the event coordinators, implementing it was intrusive and time and labor consuming and met with a level of reluctance by the visiting public. Based on the previously reported advantages of Web-based surveys (Dillman, 2000) and the need for more Extension professionals to use this tool (Archer, 2003), a Web-based survey was implemented in 2010 and 2011 to more fully evaluate the time and expense invested in offering such a large public event.

A survey was constructed using SurveyMonkey® that included eight statements requesting user responses on knowledge and behavior change using a Likert scale of 1 to 5 (strongly disagree to strongly agree), eight multiple-choice questions on behavior change, and an additional comment section.

An email request containing a direct hyperlink to the online survey was then sent to attendees from 2010 and 2011 that provided email addresses at registration (one email address per family or group).

In 2010 responses were recorded (n = 236, a 56% response rate from the 421 surveyed). Of those responders, 194 or 82% actually completed the entire online survey. In 2011 responses were also recorded (n=182, a 47% response rate from the 386 surveyed). Of those responding, 110 or 60% completed the entire online survey. Results from the surveys are presented in Tables 1 and 2.

Table 1.

Survey Responses to Statements Regarding Knowledge or Behavior Change

	2010		2011	
	Mean ^a	SD	Mean	SD
I have a better understanding of what the Rutgers Snyder Research Farm, the NJ Agricultural Experiment Station, and Rutgers NJAES Cooperative Extension do for NJ agriculture and home gardeners.	4.37	0.70	4.34	0.67
I am now more likely to utilize programs and services of Rutgers NJAES Cooperative Extension	4.01	0.83	3.86	0.87

and Master Gardener volunteers as an educational resource.				
I improved my gardening knowledge by visiting the Teaching Garden during the Rutgers NJAES Tomato Tasting event.	3.69	0.92	3.65	0.79
The Rutgers Snyder Research Farm and Rutgers NJAES Cooperative Extension faculty, staff, and Master Gardener volunteers provided timely and useful food and agricultural information.	4.34	0.72	4.25	0.75
I am now more likely to purchase tomatoes and other produce from local roadside stands and farm markets.	4.27	0.78	3.85	1.00
I am now more likely to purchase 'Jersey Fresh' tomatoes, peaches, apples and other produce.	4.39	0.72	3.95	0.94
I am now more aware of the number of new apple and peach varieties available for purchase.	4.32	0.82	4.20	0.89
I am now more likely to favor community initiatives aimed at preserving and strengthening agriculture in NJ.	4.52	0.58	4.34	0.79
^a 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree				

Table 2.
Survey Responses to Multiple Choice Behavior Change Questions

As a result of attending the Tasting have you taken advantage of other Rutgers NJAES programs and services? (check all that apply)	2010	2011
Contacted a County Extension Office	63.6%	47.4%
Attend workshop(s)	33.3%	23.7%
Subscribed to a newsletter	27.3%	18.4%
Taken a soil test	24.2%	34.2%
Joined/volunteered for a 4-H Club	6.1%	2.6%
As a result of attending the Tasting have you changed your gardening practices / landscapes to include:		

(check all that apply)	2010	2011
Deer resistant plants	47.9%	44.2%
Plant to attract beneficial insects	45.1%	46.2%
Straw or plastic mulches	36.6%	28.8%
Water use / irrigation	28.2%	44.2%
Cover crops	11.3%	13.5%
As a result of attending the Tasting have you planted varieties in your garden that you learned about at the tasting?	2010	2011
Yes	53.5%	42.5%
No	46.5%	57.5%

In addition to the Likert scales and multiple choice questions, an open-ended general comment question was also included for additional feedback. Examples of some comments include the following:

- "The event is always very enjoyable, very educational and promotes the great culture of vegetable gardening. There is a great joy for us in having such an incredible variety of tomatoes to learn about and sample."
- "I love the event and can't wait to attend each year. Everyone involved does such a great job and I am happy to be able to express my appreciation."

Discussion and Conclusion

While not a new idea, large open house/field day type events continue to be an effective means to market Extension and educate the public (Presternon, 1986). Using Web-based surveys to more fully evaluate direct knowledge gains, behavior changes, and support for local farmland preservation efforts following these events appears to be a highly effective and cost efficient evaluative method (Archer, 2003). Response rates were typical for what should be expected from an online survey (Archer, 2008). Selecting to survey only those with email access limited the responses to clientele with online capabilities, which could bias the results (Israel, 2010). It should also be noted that only one email address per family or group was requested at registration; therefore the responses could represent either a group or individual perspective.

The survey results indicated an overwhelming understanding of Extension and the use and/or adoption of Extension programs, services, and recommended gardening practices. Responses indicated contacting county Extension offices and attending workshops were their top choices. Using deer resistant plants and incorporating plants that attract beneficial insects to home gardens were also the most likely gardening practices attendees were adopting in their landscape. Respondents

also indicated they were more likely to purchase local farm products, visit farm stands, and be supportive of local agricultural initiatives. However, this "local" support may not be fully attributable to this particular event. The Web-based survey was helpful in showing that this large public Extension research farm event was successful in achieving its goals of educating the public on Extension, gardening, and local agriculture.

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