Attitudes and Awareness of a “Buy Local” Holiday Marketing Campaign

Kristin L. Getter^{1,3} and Bridget K. Behe²

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SUMMARY. Christmas tree and poinsettia (*Euphorbia pulcherrima*) sales are static or declining nationally and in Michigan. The objectives of this project were to evaluate a “buy local” educational media campaign (“Make it a Real Michigan Christmas”) designed to increase sales of poinsettias and Christmas trees. Consumer online surveys were administered four separate times (Oct. 2011, Jan. 2012, Oct. 2012, and Jan. 2013) to collect measures of awareness and knowledge both before and after each year’s educational media campaign. The survey asked Michigan residents about their Christmas tree and flowering plant purchases for the holiday, Christmas attitudinal questions (scored on a five-point Likert scale), awareness of this campaign, and demographic information. There were 1712 respondents, roughly split into a quarter per survey. Most measures of demographics and purchasing habits were very similar across the four sampling times. A little over a quarter (28% to 30%) purchased a Christmas tree the previous holiday, 16% to 20% which were live trees and 9% to 10% were artificial trees. Roughly a third (31% to 39%) of respondents purchased live poinsettias the previous holiday. “Make it a Real Michigan Christmas” had 3.3% to 5.0% of consumer awareness. Factor analysis identified two key attitudinal dimensions of the Christmas holiday. Factor 1 was described as a dimension of live Christmas trees being difficult, whereas Factor 2 showed a dimension of live trees being worth the effort. Participants were segregated into four clusters based on their factor scores. Emerging groups were either low/high on factor 1 (live trees are difficult) and/or factor 2 (live trees worth the effort). Few demographic differences were identified between the four groups, indicating they are relatively homogeneous in demographic composition. The largest group produced in the cluster analysis was 44% of the sample (cluster 1) and those consumers were more focused on the difficulty of live-tree purchases while the smallest group (6%, cluster 3) had factor scores less than 0 for both attributes.

According to a Gallup Poll, Christmas is celebrated by 95% of Americans (Jones, 2010). The celebration has a long and rich tradition, which often includes two horticultural symbols that today have economic significance to Michigan and other parts of the United States: Christmas trees and poinsettias. Sales are static or declining nationally and in Michigan, in terms of number of producers, number of units produced, and overall profitability [U.S. Department of Agriculture (USDA), 2007, 2013]. Michigan producers compete for consumers’ discretionary dollars with alternative decorations or gifts, the purchase of artificial trees and

flowers (mostly plastic), and with out-of-state and Canadian competitors.

Although sales may be down, the trend for consumers to buy local is increasing for many reasons, one of which is to support local producers (McIntyre and Rondeau, 2011). All 50 U.S. states currently have or have had in the recent past a state-sponsored agricultural marketing program designed to promote local food purchases (Onken and Bernard, 2010). However, evaluation of these marketing efforts have shown mixed results in terms of marketing success. In one study of consumers in mid-Atlantic states, only one of the five state-wide promoted campaigns (New Jersey’s “Jersey Fresh” campaign) had higher consumer probability to purchase “Jersey Fresh” labeled strawberry (*Fragaria* sp.) preserves over generically labeled “local” strawberry preserves (Onken et al., 2011). Furthermore, consumer awareness of their states’ “buy local” food campaign differed depending on when the campaign

was established. Older campaigns (established in the 1980s or earlier) had more awareness (65% to 84%) than newer campaigns [those established after 2000, 48% to 52% awareness (Onken and Bernard, 2010)]. These marketing campaigns sometimes struggle to achieve awareness among agricultural producers themselves. In Tennessee, roughly half of fruit and vegetable producers have heard of their states’ two campaigns designed to promote their products (Velandia et al., 2012).

Even with this limited success, a state-wide marketing campaign for non-food purchases still has the potential to promote sales. Collart et al. (2010) found an increase in consumer willingness to pay for a local horticultural branded product as compared with an unbranded product. Such a campaign for Michigan Christmas trees and poinsettias could contribute revenue and tax dollars to Michigan’s local economies and aid in the preservation of farms, which helps to sustain rural development. Michigan is third in the nation in the production of Christmas trees, having sold 1,562,000 trees in 2006 (down 34% from 2002) that were valued at \$26,520,000 in gross sales and represented 22,297 acres (9023.3 ha) of production (USDA, 2007). Michigan’s poinsettia industry is seventh in the nation in terms of wholesale value, having sold 2,382,000 pots in 2010 (down 12% from 2009) that were valued at \$9,211,000 wholesale (USDA, 2013).

The objective of this project was to evaluate a “buy local” campaign designed to increase sales of poinsettias and Christmas trees by educating consumers about the benefits of purchasing live poinsettias and Christmas trees. An educational media campaign was implemented and a consumer survey was administered to assess attitudes and awareness before and after the media campaign.

Materials and methods

In 2011 and 2012, the Michigan Christmas Tree Association, Michigan Floriculture Growers Council, and Michigan Floral Association obtained grants from the USDA Specialty Crop Block Grant program to initiate a marketing campaign to stimulate sales of Christmas trees and poinsettias. An educational public relations campaign

Department of Horticulture, Michigan State University, A288 Plant and Soil Sciences Building, East Lansing, MI 48824

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¹Floriculture Outreach specialist

²Professor

³Corresponding author. E-mail: getterk@msu.edu.

that included a media campaign, a website and point-of-purchase materials was developed. Three local marketing and merchandising firms were hired to implement the campaign. Media Matters (Southfield, MI), a public relations firm, developed the educational campaign to share the messages with potential consumers. The key messages of the campaign included statements that the purchase of local poinsettias and Christmas trees: 1) supports Michigan agricultural and retail businesses who employ Michigan workers and generate sales and profits to improve the economic health of Michigan, 2) is an environmentally friendly product choice, especially compared with artificial products that are transported from China and made mostly from petroleum-based resins, and 3) is conducive to improving quality-of-life. The media campaign was implemented in Nov. and Dec. 2011 and 2012.

Webzone Marketing (Ovid, MI), a Michigan-based web service provider, created and hosted a website (RealMichiganChristmas.com, 2012) to serve as a common site for consumers, producers of poinsettias and Christmas trees, as well as members of the media to access information on Michigan-grown poinsettias and Christmas trees, and emphasized the "Make it a Real Michigan Christmas" message. In addition, participating retail outlets had access to free artwork and nominal-charge point-of-purchase materials on the website. MasterTag (Montague, MI), a merchandising firm, helped the campaign organizers develop logos and point-of-purchase materials, including banners, tree and pot tags, stickers, and bench cards.

An online survey of consumers was developed to evaluate the success of the educational media campaign. The surveys were administered four separate times (Oct. 2011, Jan. 2012, Oct. 2012, and Jan. 2013) to collect measures of awareness and knowledge both before and after each year's educational media campaign. Surveys were collected online using Michigan State University's site license for Qualtrics (Provo, UT). Consumer panels were purchased from Global Market Insite, Inc. [GMI (Bellevue, WA)] to be representative of three geographic areas in Michigan based on

the respondent's telephone area code (greater Detroit area, greater Grand Rapids area, and the remainder of the state). The surveys assessed purchases and behavior for each year's prior Christmas holiday. The goal of each was to obtain at least 500 completed responses with a third coming from each of the three geographic areas so that no one region of the state was overly represented. The only qualifying question was that someone in the home "decorate either inside or outside their house in any way for the Christmas holiday," but no other qualifiers or limitations were made. In compliance with federal law, no participants less than age 18 years were invited to participate and the survey protocol and instrument were approved by the Michigan State University Committee on Research Involving Human Subjects (IRB #x11-846e).

The online consumer survey asked Michigan residents not only about their home decoration practices but also about their Christmas tree and flowering plant purchases for the holiday, as well as demographic information. In addition, participants were asked a series of questions pertaining to Christmas traditions (scored on a five-point Likert scale). All four surveys were identical in question and response categories with one exception; the postcampaign surveys (Jan. 2012, Oct. 2012, and Jan. 2013) asked the respondent if he/she had seen or heard of several media campaigns, including "Make it a Real Michigan Christmas" and related campaigns for comparison. Respondents were also asked if they had seen or heard of several fictitious advertising campaigns to better assess who really had heard of "Make it a Real Michigan Christmas" and who perhaps thought they had.

Survey categorical count data were analyzed for differences among mean responses between survey years using the chi-square test [PROC FREQ (SAS version 9.3; SAS Institute, Cary, NC)]. Other quantitative data were analyzed for means differences using the Wilcoxon-Mann-Whitney test [PROC NPAR1WAY (SAS version 9.3)]. Attitudinal questions (scored on a five-point Likert scale) were additionally evaluated using factor analysis [PROC FACTOR (SAS version 9.3)] to elucidate relationships among the variables. Factor

analysis is a statistical method that seeks to reduce a set of large observable variables into a small number of latent factors (UCLA Statistical Consulting Group, 2013). These factors are then used to explain most of the observed variance. The number of factors was identified based on eigenvalues and scree plots. Participants were then grouped into clusters based on their standardized scoring coefficients [PROC FASTCLUS (SAS version 9.3)] generated from the factor analysis using the principal component analysis extraction method with a varimax rotation which ensured that the resulting factors were not correlated (UCLA Statistical Consulting Group, 2013).

Results and discussion

DEMOGRAPHICS, DECORATING, AND PURCHASING HABITS. Most measures of demographics, decorating, and purchasing habits were similar across the four sampling times. There were 1712 respondents that completed surveys across the four sampling times (Table 1), roughly split into a quarter per survey. The average age was slightly lower for the final survey. The average age of respondents was 50.8 years, which is older than the Michigan average age of 38.9 years (U.S. Census Bureau, 2010). One contributing factor was that, by law, we recruited only persons 18 years or older. The geographic distribution was also uniform with nearly a third responses each in Detroit, Grand Rapids, and the rest of the state, although the final survey had significantly fewer respondents from Grand Rapids and thus more from Detroit and the rest of the state. Survey respondents were also primarily female (70.5%), which is also a higher distribution than the Michigan census of 50.9% (U.S. Census Bureau, 2010). The majority of household income ranged between \$20,000 and \$79,999 for these surveys, which is within the range of the 2010 Michigan median household income [\$48,669 (U.S. Census Bureau, 2010)].

Nearly half of the respondents decorated only the inside of their home for Christmas, whereas the other half decorated both the inside and outside of their homes (Table 2). Very few (<3% each survey year) decorated only the outside of their homes. Almost all of the respondents (>98%) put these decorations up themselves,

Table 1. Demographic characteristics of participants in four Internet surveys that assessed consumer attitudes and awareness before and after a “buy local” media campaign designed to increase sales of poinsettias and Christmas trees.

Demographic characteristics	Survey date (holiday yr)				Total
	Oct. 2011 (2010)	Jan. 2012 (2011)	Oct. 2012 (2011)	Jan. 2013 (2012)	
Completed surveys (no.)	508	487	644	581	1,712
Age at time of survey (years $\pm$ SE) ^z	52.5 $\pm$ 0.599 b	52.4 $\pm$ 0.702 b	50.5 $\pm$ 0.520 b	48.25 $\pm$ 0.599 a	50.8 $\pm$ 0.297
Adults in household (no. $\pm$ SE) ^z	1.4 $\pm$ 0.045 a	1.4 $\pm$ 0.043 a	2.4 $\pm$ 0.039 b	2.4 $\pm$ 0.040 b	1.9 $\pm$ 0.023
Children in household (no. $\pm$ SE) ^z	0.5 $\pm$ 0.044 a	0.6 $\pm$ 0.046 a	1.6 $\pm$ 0.039 b	1.7 $\pm$ 0.044 b	1.2 $\pm$ 0.024
Gender [no. (%)] ^y					
Female	343 (67.5) ab	317 (65.1) a	483 (75.0) c	421 (72.5) bc	1564 (70.5)
Male	165 (32.5) bc	167 (34.3) c	161 (25.0) a	143 (24.6) ab	636 (28.6)
Geographic region [no. (%)] ^y					
Detroit	169 (33.3) ab	166 (34.1) ab	204 (31.7) a	236 (40.6) b	775 (34.9)
Grand Rapids	167 (32.9) b	152 (31.2) b	218 (33.9) b	104 (17.9) a	641 (28.9)
Rest of state	172 (33.9) a	169 (34.7) ab	222 (34.5) ab	241 (41.5) b	804 (36.2)
Annual household income [no. (%)] ^y					
Less than \$19,999	54 (10.6) a	52 (10.7) a	73 (11.3) a	73 (12.6) a	252 (11.4)
\$20,000 to \$39,999	127 (25.0) a	114 (23.4) a	160 (24.8) a	141 (24.3) a	542 (24.4)
\$40,000 to \$59,999	117 (23.0) a	122 (25.1) a	160 (24.8) a	125 (21.5) a	524 (23.6)
\$60,000 to \$79,999	97 (19.1) a	94 (19.3) a	119 (18.5) a	83 (14.3) a	393 (17.7)
\$80,000 to \$99,999	50 (9.8) a	45 (9.2) a	55 (8.5) a	55 (9.5) a	205 (9.2)
\$100,000 to \$119,999	27 (5.3) a	24 (4.9) a	32 (5.0) a	43 (7.4) a	126 (5.7)
\$120,000 to \$139,999	6 (1.2) a	14 (2.9) a	15 (2.3) a	23 (4.0) a	58 (2.6)
\$140,000 to \$159,999	5 (1.0) a	11 (2.3) a	10 (1.6) a	8 (1.4) a	34 (1.5)
\$160,000 to \$179,999	2 (0.4) a	1 (0.2) a	2 (0.3) a	3 (0.5) a	8 (0.4)
\$180,000 to \$199,999	6 (1.2) a	0 (0.0) a	4 (0.6) a	3 (0.5) a	13 (0.6)
\$200,000 or more	12 (2.4) a	5 (1.0) a	7 (1.1) a	8 (1.4) a	32 (1.4)

^zLowercase letters denote differences in rows using the Wilcoxon–Mann–Whitney test.

^yLowercase letters denote differences in rows by the chi-square test ($P = 0.05$).

Table 2. Number and percentage of survey respondents describing their practice of decorating their home for Christmas celebrations for the 2010, 2011, or 2012 holidays. Respondents participated in one of four Internet surveys that assessed consumer attitudes and awareness before and after a “buy local” media campaign designed to increase sales of poinsettias and Christmas trees. Lowercase letters denote differences in rows by the chi-square test ($P = 0.05$).

Decoration of home	Survey date (holiday yr)			
	October 2011 (2010)	Jan. 2012 (2011)	October 2012 (2011)	Jan. 2013 (2012)
Portion of home decorated [no. (%)]				
Inside and outside	273 (53.7) a	252 (51.7) a	363 (56.4) a	309 (53.2) a
Inside	221 (43.5) a	224 (46.0) a	265 (41.1) a	258 (44.4) a
Outside	14 (2.8) a	11 (2.3) a	16 (2.5) a	14 (2.4) a
Who put the decorations up? [no. (%)]				
Myself or someone else in household	505 (99.4) a	479 (98.4) a	634 (98.4) a	570 (98.1) a
Hired help	1 (0.2) a	0 (0.0) a	2 (0.3) a	0 (0.0) a
Some I/we did, some help hired	2 (0.4) a	8 (1.6) a	6 (0.9) a	10 (1.7) a
What types of decorations did you have (live, cut, and artificial)? [no. (%)]				
Christmas tree (artificial, cut, or live)	469 (92.3) a	447 (91.8) a	599 (93.0) a	534 (91.9) a
Potted flowering plant (poinsettia, chrysanthemum, other)	197 (38.8) a	166 (34.1) a	263 (40.8) a	202 (34.8) a
Garland (artificial or fresh cut greens)	286 (56.3) ab	259 (53.2) b	393 (61.0) a	307 (52.8) b
Lights	444 (87.4) ab	405 (83.2) a	571 (88.7) b	494 (85.0) ab

whereas less than 2% hired decoration help (Table 2). The majority (>90%) decorated their homes with Christmas trees, which is much more than a recent national poll that found only 73% of Americans display a Christmas tree (National Christmas Tree Association, 2013). However, this study specifically screened for those participants

who did decorate their home in some way for Christmas, which biases our sample toward those who display holiday icons. Roughly, 35% decorated with potted flowering plants [such as poinsettias, chrysanthemums (*Chrysanthemum* sp.), or another flowering plant]. Nearly half of the respondents used garlands to decorate

their home and greater than 80% used lights.

A little over a quarter (28% to 30%) purchased a Christmas tree the previous holiday (Table 3). More live trees (16.4% to 20.7%) were purchased than artificial trees (9.8% to 10.8%) and most were cut trees (14.2% to 18.6%). Live-tree purchases were

similar to the National Christmas Tree Association's findings of 17% and 12% for 2011 and 2012 Christmas tree purchases, respectively (National Christmas Tree Association, 2013).

Roughly a third (31% to 39%) of respondents purchased live poinsettias the previous holiday (Table 4). Only 4% to 10% purchased live chrysanthemums or other live plant material. Of those that purchased live plant material, the average number of plants purchased per respondent was 1.91 to 2.07, 1.38 to 2.1, and 1.47 to 1.65 for poinsettia, chrysanthemums, and other potted flowering plants, respectively. The purchase of chrysanthemums and other flowering plants varied (Table 5). Nearly half of the poinsettias were purchased at mass merchants or supermarkets. Roughly 20% were purchased at garden centers. The purchase of chrysanthemums and other flowering plants had a similar distribution. Poinsettias were nearly always purchased for the participants'

own enjoyment (82.5% to 91.3%) while slightly fewer chrysanthemums (56.5% to 90.2%) and other flower plants (70.4% to 80.6%) were purchased for that reason (Table 5). Red is still the majority (70% to 80%) purchased color for poinsettias (Table 5), which is consistent with the findings of Behe et al. (1997).

CAMPAIGN AWARENESS. The campaign with highest level of awareness (84% to 90%) was "Pure Michigan" (Table 6), which is considerably higher than the campaign's own evaluation of awareness [72% (Longwoods International, 2013)]. However, that study queried awareness among Michigan and six neighboring states, whereas participants of this study were exclusively from Michigan. Not surprisingly, the "Pure Michigan" campaign, which has been in operation since 2006 and had an annual investment of \$15.8 million in 2012 (Longwoods International, 2013), has given them substantial awareness among Michigan residents. For campaigns without those

powerful resources, the difference in awareness was substantial. The difference between awareness of the first and second campaigns ["Absolutely Michigan" (a fictitious campaign)] was 68%. The campaign that had the third highest recognition was "Great Lakes Great Produce," which was another fictitious campaign. "Michigan Select," a real campaign but no longer in operation, was fourth highest in recognition. "Buy Michigan Grown Plants" was fifth in awareness and also not a real campaign. "Make it a Real Michigan Christmas" was sixth in awareness with 3.3% to 5.0% of the sample having heard of the campaign. If this number (5%) is extrapolated to the population of Michigan [9.883 million (U.S. Census Bureau, 2010)], the campaign reached $\approx 494,181$ residents after only two seasons in operation. With a 2-year investment of \$150,000, these results show that the "Make it a Real Michigan Christmas" campaign cost \$0.304 to reach those consumers. The final two campaigns with 1.1% to 2.8% recognition were "Michigan Snow Fresh," which has been in operation for several years, and another fictitious campaign called "Make it a Real Michigan Thanksgiving."

Although we were able to document only a minimal impact from the campaign, the campaign did achieve some notoriety in the small time frame it was in operation and with minimal funding. Our goal in adding fictitious campaigns was to measure where our campaign fell in awareness. Surprisingly, the fictitious campaigns did have a greater level of awareness and should be considered slogans that might be adopted (given the already

Table 3. Number and percentage of respondents who purchased a Christmas tree for the 2010, 2011, or 2012 holidays. Respondents participated in one of four Internet surveys that assessed consumer attitudes and awareness before and after a "buy local" media campaign designed to increase sales of poinsettias and Christmas trees. Lowercase letters denote differences in rows by the chi-square test ($P = 0.05$).

Purchase type	Survey date (holiday yr)			
	Oct 2011 (2010)	Jan. 2012 (2011)	Oct. 2012 (2011)	Jan. 2013 (2012)
Purchased a Christmas tree [no. (%)]				
Artificial	147 (28.9) a	131 (26.9) a	193 (30.0) a	179 (30.8) a
Live	55 (10.8) a	51 (10.5) a	63 (9.8) a	58 (10.0) a
Cut	92 (18.1) a	80 (16.4) a	128 (19.9) a	120 (20.7) a
Balled and burlapped	80 (15.7) a	69 (14.2) a	119 (18.5) a	108 (18.6) a
Other container	10 (2.0) a	6 (1.2) a	8 (1.2) a	8 (1.4) a
	2 (0.4) a	4 (0.8) a	1 (0.2) a	4 (0.7) a

Table 4. Number and percentage of participants who purchased live plant material and average purchases by year for the 2010, 2011, or 2012 holidays. Respondents participated in one of four Internet surveys that assessed consumer attitudes and awareness before and after a "buy local" media campaign designed to increase sales of poinsettias and Christmas trees.

Plant type	Survey date (holiday yr)			
	October 2011 (2010)	Jan. 2012 (2011)	October 2012 (2011)	Jan. 2013 (2012)
Participants who purchased [no. (%)] ^z				
Poinsettia	186 (36.6) ab	155 (31.8) a	254 (39.4) b	183 (31.5) a
Chrysanthemum	41 (8.1) ab	23 (4.7) a	66 (10.2) b	39 (6.7) ab
Other	43 (8.5) a	36 (7.4) a	63 (9.8) a	54 (9.3) a
Plants purchased (no. $\pm$ SE) ^y				
Poinsettia	1.92 $\pm$ 0.0848 a	1.95 $\pm$ 0.1219 a	2.07 $\pm$ 0.0911 a	1.91 $\pm$ 0.1058 a
Chrysanthemum	2.1 $\pm$ 0.3197 a	1.78 $\pm$ 0.2878 a	1.67 $\pm$ 0.1516 a	1.38 $\pm$ 0.2369 a
Other	1.65 $\pm$ 0.1879 a	1.47 $\pm$ 0.1408 a	1.62 $\pm$ 0.1638 a	1.53 $\pm$ 0.1645 a

^zLowercase letters denote differences in rows by the chi-square test ($P = 0.05$).

^yLowercase letters denote differences in rows using the Wilcoxon-Mann-Whitney test.

Table 5. Number and percentage of survey respondents who purchased live plant material for the 2010, 2011, or 2012 holidays, described by color of plant purchased, from which type of store purchased, and reason purchased. Respondents participated in one of four Internet surveys that assessed consumer attitudes and awareness before and after a “buy local” media campaign designed to increase sales of poinsettias and Christmas trees. Lowercase letters denote differences in rows by the chi-square test ($P = 0.05$).

Plant type	Plant color, store, and reason purchased	Survey date (holiday yr)			
		Oct. 2011 (2010)	Jan. 2012 (2011)	Oct. 2012 (2011)	Jan. 2013 (2012)
Poinsettia					
<i>N</i>		186	155	254	183
	Color of plant [no. (%)]				
	Don't recall	7 (3.8) a	0 (0.0) a	6 (2.4) a	0 (0.0) a
	Multicolored	22 (11.8) a	17 (11.0) a	26 (10.2) a	16 (8.7) a
	Pink or peach	17 (9.1) b	7 (4.5) ab	7 (2.8) a	9 (4.9) ab
	Red	130 (69.9) a	117 (75.5) a	192 (75.6) a	148 (80.9) a
	White	11 (5.9) a	13 (8.4) a	18 (7.1) a	7 (3.8) a
	Yellow	1 (0.5) a	2 (1.3) a	4 (1.6) a	2 (1.1) a
	Type of store purchased [no. (%)]				
	Don't recall	35 (18.8) a	29 (18.7) a	36 (14.2) a	29 (15.8) a
	Garden center	46 (24.7) a	35 (22.6) a	62 (24.4) a	41 (22.4) a
	Mass merchant	61 (32.8) ab	38 (24.5) a	86 (33.9) ab	64 (35.0) b
	Retail florist	10 (5.4) a	14 (9.0) a	12 (4.7) a	15 (8.2) a
	Super-market	32 (17.2) a	40 (25.8) a	52 (20.5) a	32 (17.5) a
	Reason plant purchased [no. (%)]				
	Gift	35 (18.8) a	42 (27.1) a	51 (20.1) a	43 (23.5) a
	Own enjoyment	164 (88.2) ab	131 (84.5) a	232 (91.3) b	151 (82.5) a
Chrysanthemum					
<i>N</i>		41	23	66	39
	Color of plant [no. (%)]				
	Don't recall	10 (24.4) b	3 (13.0) ab	11 (16.7) b	1 (2.6) a
	Multi-colored	12 (29.3) b	4 (17.4) ab	11 (16.7) ab	3 (7.7) a
	Pink or peach	6 (14.6) a	2 (8.7) a	9 (13.6) a	4 (10.3) a
	Red	7 (17.1) a	3 (13.0) a	5 (7.6) a	6 (15.4) a
	White	2 (4.9) a	5 (21.7) ab	22 (33.3) b	13 (33.3) b
	Yellow	5 (12.2) a	7 (30.4) a	8 (12.1) a	9 (23.1) a
	Type of store purchased [no. (%)]				
	Don't recall	7 (17.1) a	6 (26.1) a	15 (22.7) a	7 (17.9) a
	Garden center	14 (34.1) ab	7 (30.4) ab	26 (39.4) b	11 (28.2) a
	Mass merchant	13 (31.7) a	9 (39.1) a	21 (31.8) a	10 (25.6) a
	Retail florist	3 (7.3) a	4 (17.4) a	6 (9.1) a	3 (7.7) a
	Super-market	6 (14.6) a	3 (13.0) a	5 (7.6) a	7 (17.9) a
	Reason plant purchased [no. (%)]				
	Gift	8 (19.5) a	7 (30.4) a	21 (31.8) a	14 (35.9) a
	Own enjoyment	37 (90.2) b	13 (56.5) a	45 (68.2) b	25 (64.1) ab
Other flowering plant					
<i>N</i>		43	36	63	54
	Color of plant [no. (%)]				
	Don't recall	6 (14.0) a	3 (8.3) a	13 (20.6) a	3 (5.6) a
	Multicolored	13 (30.2) a	14 (38.9) a	17 (27.0) a	11 (20.4) a
	Pink or peach	5 (11.6) a	5 (13.9) a	11 (17.5) a	10 (18.5) a
	Red	11 (25.6) a	7 (19.4) a	7 (11.1) a	9 (16.7) a
	White	8 (18.6) a	8 (22.2) a	11 (17.5) a	13 (24.1) a
	Yellow	2 (4.7) a	1 (2.8) a	5 (7.9) a	5 (9.3) a
	Type of store purchased [no. (%)]				
	Don't recall	7 (16.3) a	7 (19.4) a	9 (14.3) a	10 (18.5) a
	Garden center	9 (20.9) a	9 (25.0) a	18 (28.6) a	14 (25.9) a
	Mass merchant	15 (34.9) a	9 (25.0) a	26 (41.3) a	16 (29.6) a
	Retail florist	2 (4.7) a	9 (25.0) a	8 (12.7) a	6 (11.1) a
	Super-market	12 (27.9) a	8 (22.2) a	8 (12.7) a	8 (14.8) a

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Table 5. (*Continued*) Number and percentage of survey respondents who purchased live plant material for the 2010, 2011, or 2012 holidays, described by color of plant purchased, from which type of store purchased, and reason purchased. Respondents participated in one of four Internet surveys that assessed consumer attitudes and awareness before and after a “buy local” media campaign designed to increase sales of poinsettias and Christmas trees. Lowercase letters denote differences in rows by the chi-square test ($P = 0.05$).

Plant type	Plant color, store, and reason purchased	Survey date (holiday yr)			
		Oct. 2011 (2010)	Jan. 2012 (2011)	Oct. 2012 (2011)	Jan. 2013 (2012)
Reason plant purchased [no. (%)]					
	Gift	12 (27.9) a	8 (22.2) a	23 (36.5) a	18 (33.3) a
	Own enjoyment	33 (76.7) a	29 (80.6) a	45 (71.4) a	38 (70.4) a

Table 6. Number and percentage of survey respondents who were aware of Michigan advertising campaigns for the 2010, 2011, or 2012 holidays. Respondents participated in one of four Internet surveys that assessed consumer attitudes and awareness before and after a “buy local” media campaign designed to increase sales of poinsettias and Christmas trees. Survey participants were asked, “You may have seen or heard some advertisements for or about Michigan or Michigan-grown products. Which of the following advertisements have you seen in the past 3 months? Please check all that apply.” Lowercase letters denote differences in rows by the chi-square test ($P = 0.05$).

Program	Status	Survey date (holiday yr) [no. (%)]			
		Oct. 2011 (2010)	Jan. 2012 (2011)	Oct. 2012 (2011)	Jan. 2013 (2012)
Absolutely Michigan	Fictitious	n/a	76 (15.6) a	91 (14.1) a	63 (10.8) a
Buy Michigan-Grown Plants	Fictitious	n/a	44 (9.0) a	52 (8.1) a	40 (6.9) a
Great Lakes Great Produce	Fictitious	n/a	71 (14.6) a	81 (12.6) a	82 (14.1) a
Have a Real Michigan Thanksgiving	Fictitious	n/a	12 (2.5) a	13 (2.0) a	16 (2.8) a
Make it a Real Michigan Christmas	Active	n/a	20 (4.1) a	21 (3.3) a	29 (5.0) a
Michigan Select	Discontinued	n/a	61 (12.5) a	67 (10.4) a	70 (12.0) a
Michigan Snow Fresh	Active	n/a	12 (2.5) a	7 (1.1) a	16 (2.8) a
Pure Michigan	Active	n/a	410 (84.2) a	585 (90.8) b	517 (89.0) ab

high level of perceived awareness) by other organizations for purposes of stimulating growth and sales of Michigan products. We were able to develop some communication resources not previously available to Michigan growers to help them slow or reverse the decline in sales.

We found a higher percentage of individuals who had heard about the campaign but did not buy a Christmas tree in January of 2011 and 2012 (Fig. 1). The goal of the campaign was to increase awareness, which could lead to purchase. Evidently, simply hearing about the campaign did not change the purchase decision. The one survey before the holiday (the middle columns) did not see a difference, likely because the last Christmas was so long ago that the study participants may not have remembered hearing of the campaign.

ATTITUDINAL STATEMENTS. Participants' rating of attitudinal questions pertaining to Christmas traditions were generally similar across survey years (data not shown). Questions 2, 4, 9, 10, 11, 12, and 15 (Table 7) were the same questions as asked by

Fig. 1. Participants who have seen or heard of the “Make it a Real Michigan Christmas” advertising campaign segmented out by those who had and had not purchased a live Christmas tree or a live potted plant for the holiday. Respondents participated in one of three Internet surveys that assessed consumer attitudes and awareness before and after a “buy local” media campaign designed to increase sales of poinsettias and Christmas trees. Lowercase letters denote differences in survey dates by the chi square test ($P = 0.05$).

Behe et al. (2005), whereas questions, 2, 4, 9, 10, 11, and 15 were identical or very similar to that asked by Florkowski and Lindstrom (1995). For all four surveys combined, the percentage of participants who agreed (scored 3.5 or higher) with these statements about Christmas trees were very

similar to that in the study of Behe et al. (2005), indicating consumer attitudes about Christmas traditions were slow to change in the past 8 years. However, these results showed higher agreement with questions about live Christmas trees being harder to carry home, harder to decorate, more

Table 7. Frequency of attitudinal ratings of survey participants who agree or strongly agree (i.e., – rated the statement greater than or equal to 3.5) with each statement. Respondents participated in one of four Internet surveys that assessed consumer attitudes and awareness before and after a “buy local” media campaign designed to increase sales of poinsettias and Christmas trees. Participants were asked “On a scale of 1 (strongly disagree) to 5 (strongly agree), please rate your level of agreement with each statement below.”

Statement	Frequency [no. (%)]
N	2220
1. Our family has a tradition of decorating a Christmas tree together	1250 (56.3)
2. Live Christmas trees are harder to carry home than artificial trees	1247 (56.2)
3. Poinsettia plants are an appropriate gift for more people	918 (41.4)
4. Live Christmas trees are better than artificial trees	872 (39.3)
5. Poinsettias are poisonous plants	1118 (50.4)
6. Purchasing a live Christmas tree is environmentally friendly	612 (27.6)
7. Poinsettias are safe to display in homes with animals or children	596 (26.8)
8. Cutting a tree for Christmas decoration is not environmentally responsible	599 (26.9)
9. Live Christmas trees are harder to decorate than artificial trees	605 (27.3)
10. Live Christmas trees are more dangerous because they can catch on fire	1014 (45.7)
11. Live Christmas trees are messy	1570 (70.7)
12. Live Christmas trees are more expensive than artificial trees	912 (41.1)
13. Our family has a tradition of selecting our Christmas tree together	623 (28.1)
14. Buying a live Christmas tree supports Michigan businesses and farmers	1566 (70.5)
15. Live Christmas trees are harder to take down than artificial trees	954 (43.0)
16. Live Christmas trees are worth the effort of putting up and taking down	902 (40.6)
17. Purchasing a real poinsettia supports Michigan businesses and farmers	1274 (57.4)
18. Purchasing an artificial tree is environmentally responsible	928 (41.8)

dangerous, messy, and harder to take down than those shown by Florkowski and Lindstrom (1995). In addition, results of the current survey also exhibited lower agreement to live Christmas trees being better than artificial trees. The difference between our results and those of Florkowski and Lindstrom (1995) is likely because Florkowski surveyed only customers at a choose-and-cut Christmas tree farm, whereas our demographic was anyone who decorated their home.

Affecting change in attitudes is challenging, but often the goal of some promotional campaigns, including this one. Producers and retailers have a substantial perceptual hurdle to overcome in the messiness, difficulty, and challenges associated with displaying a live tree not being perceived as

worth the effort to a substantial segment of the U.S. population. They can continue to use the materials at no charge to help communicate their positive messages to Michigan consumers to help slow or contribute to reversing the decline in sales.

Fifty percent of our sample agreed or strongly agreed that poinsettias are poisonous (Table 7) despite evidence to the contrary (Hoecker, 2013). This points to the persistence of this myth and likely stymies growth potential for this product as a gift. In addition, the mean attitudinal rating of this statement did not change over the period of the study (data not shown). This finding shows how ingrained misperceptions can be and how even modest efforts to change perception might not meet with success.

To identify the key attitudinal dimensions of the Christmas holiday, we performed a factor analysis. Scree plots and eigenvalues of the factor analysis on these attitudinal questions suggested a two-factor solution (Table 8). Factor 1 can be described as a dimension of live Christmas tree difficulty, in that the largest loadings are live trees are harder to carry home, not environmentally responsible, harder to decorate, more dangerous due to fire hazards, messier, more expensive, and harder to take down than artificial trees. Factor 2 shows a dimension of live trees being worth the effort, in that the largest loadings describe live trees as being a family tradition, eco-friendly, support local growers, and are better than artificial trees.

When participants were segregated into four clusters based on their factor scores, the groups to emerge were either low/high on factor 1 (live trees are difficult) and/or factor 2 [live trees worth the effort (Table 9)]. Few demographic differences were identified between the four groups (data not shown), indicating they are relatively homogeneous in demographic composition. The largest group produced in the cluster analysis was 44% of the sample (cluster 1) and those consumers were more focused on the difficulty of live-tree purchases, whereas the smallest group [6% (cluster 3)] had factor scores less than 0 for both attributes.

Producers and retailers may choose to direct communication efforts to the different segments to help slow declining sales. Because the segments did not differ demographically, they may be harder to identify from their perceptions about Christmas trees. For example, growers might choose to communicate the needle retention rate or offer easy clean-up bags for recycling or disposal widely within their market area to reach the first segment and others. Producers might focus on Christmas tree traditions and how worthwhile the effort to make those traditions part of family traditions, including the real tree. Broadly communicating those messages may reach the ears of participants of all clusters, with the aim of improving sales.

Conclusions

Two key horticultural products (Christmas trees and poinsettias) continue to be a central part of Christmas

Table 8. Standardized scoring coefficients of factor analysis using the principal component analysis extraction method with a varimax rotation using two factors against 18 of the attitudinal questions from four Internet surveys that assessed consumer attitudes and awareness before and after a “buy local” media campaign designed to increase sales of poinsettias and Christmas trees.

Statement	Standardized scoring coefficient	
	Factor1	Factor2
1. Our family has a tradition of decorating a Christmas tree together	-0.0582	0.3589
2. Live Christmas trees are harder to carry home than artificial trees	0.5475	-0.0063
3. Poinsettia plants are an appropriate gift for more people	0.1614	0.4361
4. Live Christmas trees are better than artificial trees	-0.3605	0.5972
5. Poinsettias are poisonous plants	0.1794	0.0070
6. Purchasing a live Christmas tree is environmentally friendly	-0.2883	0.5275
7. Poinsettias are safe to display in homes with animals or children	-0.0321	0.3215
8. Cutting a tree for Christmas decoration is not environmentally responsible	0.4431	-0.2302
9. Live Christmas trees are harder to decorate than artificial trees	0.5294	-0.0922
10. Live Christmas trees are more dangerous because they can catch on fire	0.6223	-0.0987
11. Live Christmas trees are messy	0.7024	-0.0786
12. Live Christmas trees are more expensive than artificial trees	0.4426	-0.0989
13. Our family has a tradition of selecting our Christmas tree together	-0.2344	0.5476
14. Buying a live Christmas tree supports Michigan businesses and farmers	-0.0644	0.6612
15. Live Christmas trees are harder to take down than artificial trees	0.5601	-0.0401
16. Live Christmas trees are worth the effort of putting up and taking down	-0.3979	0.6480
17. Purchasing a real poinsettia supports Michigan businesses and farmers	0.1131	0.5687
18. Purchasing an artificial tree is environmentally responsible	0.5191	-0.0869

Table 9. Consumer clusters [PROC FASTCLUS (SAS version 9.3; SAS Institute, Cary, NC)] mean standardized factor scoring coefficients derived from factor analysis using the principal component analysis extraction method with a varimax rotation using two factors against 18 of the attitudinal questions. Respondents participated in one of four Internet surveys that assessed consumer attitudes and awareness before and after a “buy local” media campaign designed to increase sales of poinsettias and Christmas trees.

Cluster	N (%)	Mean standardized factor scoring coefficient	
		Factor 1 (live trees are difficult)	Factor 2 (live trees worth the effort)
1	749 (44.7)	0.42	-0.57
2	103 (6.2)	-1.15	-1.39
3	358 (21.3)	0.60	0.86
4	467 (27.8)	-0.89	0.56

celebrations in Michigan homes. More than 90% of study participants incorporated a Christmas tree into their decoration while only a third purchased

a live poinsettia. Although we did not ask about Christmas trees as gifts, we did query poinsettia purchase for gift giving. Still, nearly all poinsettias

purchases were for personal enjoyment, identifying a theme that might be used in subsequent educational campaigns. Red was still the most purchased poinsettia color, consistent with previous literature.

Attitudinally, few changes were observed over the study period and compared with prior studies. A factor analysis of the attitudinal questions revealed two primary attitudinal dimensions: Christmas tree difficulty and Christmas trees being worth expending effort. A subsequent cluster analysis revealed four groups that differed along these two dimensions but differed little demographically. This points to a challenge for marketers to help persuade those who believe trees are worth the effort to continue while facing a daunting challenge of convincing the majority otherwise. A majority [65% (sum of clusters 1 and 3)] believe that live trees are difficult while only 34% (sum of clusters 2 and 4) believe they are worth the effort. Given small changes between our findings and those of Florkowski and Lindstrom (1995) nearly two decades earlier, educational campaigns are fighting inertia to try to change the mind of a majority of nonbuyers. Still, given the advances in tree needle retention (MacDonald et al., 2012), there may be some new evidence to support the attitude that live trees are worth the effort.

Although the campaign lasted only 2 years, it achieved a modest level of awareness among Michiganders. “Make it a Real Michigan Christmas” was sixth in awareness among the real and fictitious campaigns, with 3.3% to 5.0% of the sample having heard of the campaign. Although this may seem like a relatively low number, the campaign had only been in operation for two seasons and we did observe a mathematical increase in the percentage of Michiganders who had heard of the campaign. Extrapolating 5% awareness to the population of Michigan, the campaign reached ≈494,181 potential consumers.

Research about which specific aspects of tree and poinsettia difficulty might be warranted. More could be done to dispel the myth of the poisonous poinsettia, perhaps stimulating sales. The trend for consumers to buy local is increasing for many reasons, one of which is to support local producers. Perhaps this message will

resonate more with Christmas tree and poinsettia consumers over time.

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