

A Series of Consumer Workshops (Series): (Educating) Informing Alabama Consumers about Organic Agriculture

Abstract

A **series of** consumer-oriented workshops **(series) were conducted** to **(educate) inform** Alabamians about organic agriculture **(was conducted)**. Workshops (N =10) were conducted **(in nine Alabama cities) (using a pretest-posttest procedure, an organic food survey and a purchase intent questionnaire) by the participation of 257 farmers and consumers in nine Alabama cities using a pretest-posttest procedure, an organic food survey and a questionnaire of purchase intent. (Two hundred and fifty seven consumers/farmers participated.)** The mean posttest score was significantly ($p<0.0001$) higher than the pretest **score** (5.6 ± 1.8 vs 4.6 ± 1.9). Seventy three percent of **the** respondents preferred organic **(over) to** conventional foods **(;) no comma** and 35% **of them** did not know where to purchase **organic products (organics)**. Extra efforts should be made **(,) no comma (especially through the Extension system) to inform (educate Alabama consumers/farmers) farmers and consumers from Alabama** about organic agriculture to create demand and **(response) respond** to shifting market dynamics **especially through the extension system**.

Keywords: **organic** consumer **(organic)** workshop, **training programme on organic agriculture (organic agriculture education)**, organic food survey, **questionnaire of purchase intent (questionnaire)**

INTRODUCTION

Globally, organic agriculture remains one of the fastest growing markets due **(primarily) to (consumers')** increased concerns **of consumers** about health, environment and food safety [1]. Current organic farming statistics in the United States (U.S.) suggest that Alabama lags behind in the number of certified **(operations) farms** and **(farmland) land** under organic farming. **(To demonstrate, in 2011) For instance,** there were **only** 12 certified organic **(operations) farms** and 618.8 **hectares of farmland under organic farming (crops (hectares))** in Alabama **by the year 2011 while there were 2,530 organic farms and 164,089 hectares under organic farming in California. [2] (By comparison, California, the state with the most certified organic farms had 2,530 and 164,089 certified organic farms and crops, respectively)**. Thus, most of the organically grown products consumed in Alabama are imported from other states, particularly from California. **Farmers from Alabama, who have difficulty in terms of limited resources, (Alabama limited-resource farmers)** are ideally

(poised to) ready to exploit the huge, a comma untapped southeastern market for organic agriculture.

To discuss the obstacles to the development of organic agriculture in Alabama and identify the priorities in organic research, different meetings were held among farmers, researchers from land grant institutions and other stakeholders between 2008 and 2011. (Between 2008 and 2011, different meetings among farmers, Extension, researchers from land grant institutions, and other stakeholders were held to identify organic research priorities; and discuss barriers to the expansion of organic agriculture in Alabama.) One of the (barriers) obstacles identified (from) in these meetings was (consumers'/farmers') the lack of knowledge of farmers and consumers (regarding) about the benefits of organic agriculture. (and products.) (In investigating the challenges and information needs of organic growers and retailers in east-central Kansas, Middendorf [3] had identified this identical barrier. - This sentence has no relation with the paragraph above and damages the flow of the paragraphs) As a consequence, (the) land-grant researchers (,) and stakeholders (and Extension) decided to work as a team to have an impact upon the removal of this (barrier) obstacle.

According to (Tomić et al. [1, 4] and Sadek & Oktarani [1]) some studies [1, 4], all activities aimed at (expanding) spreading organic agriculture should be directed to (the) consumers (,) since they are the major factor (;) and the future of organic agriculture is (dependent on) linked to their demand. (Siderer et al. [5] listed) Consumers are listed as one of the key stakeholders in organic agriculture in terms of ideas, (budget available) available budget, demand, (and power of purchase) purchasing power (,) and health concerns. [5] (and search information.) As a result, there is an urgent need to (educate consumers/farmers) inform farmers and consumers about organic agriculture.

A new paragraph: This study was part of a larger project (,) no comma which focused on increasing the adoption of organic farming practices in Alabama. These practices will be realized by (teaching, education and Extension activities) educational and extensional activities in order to facilitate the ultimate development of a strong and vibrant industry of organic agriculture (industry). Specifically, this study organized a series of consumer-oriented training workshops (series) to (educate) inform Alabamians about the benefits of organic agriculture and consumption of organic products (the production and consumption of organic agriculture and products;) and encouraged them to utilize organic products, thereby creating demand. (while responding to shifting market dynamics.)

MATERIALS AND METHODS

Research Setting

(The education) Educational workshop series was conducted in Alabama, located in the southeastern region of the U.S. (Figure 1). A single workshop was conducted in each of nine Alabamian cities namely (:), a comma Auburn, Birmingham (two workshops), Dothan, Huntsville, Mobile, Montgomery, Phenix City, Troy and Tuscaloosa (Figure 1).

Figure 1. Map of Alabama Cities

Source: <http://kids.britannica.com/comptons/art-59679/Alabama-cities?>

Selection of Participants (Recruitment)

Workshop participants (consumers/farmers) (farmers and consumers) were (recruited) selected through advertisements on local television, radio and newspapers. Pamphlets and flyers were also posted at the extension offices of U.S. Department of Agriculture (USDA) (Extension offices), churches, schools, beauty salons, (ASAN's website) website of ASAN, specialty stores (,) and supermarkets. (and word-of-mouth)

(Workshop) Instructional Protocol of Workshop

Prior to the start of each workshop, participants, who are accustomed to the production and consumption patterns of conventional agriculture, consumed samples of (100%) organic foods and beverages in an organic dinner or as appetizers (in the form of appetizers and full organic dinner) (to encourage demand) [4]. The workshop was guided by some phases of (Mezirow's) the transformative learning theory of Mezirow for adult education [6-8] where transformative learning is "a deep, structural shift in basic premises of thought, feeling, (s) and actions" [9]. (Briefly, the workshop participants are accustomed to conventional agriculture production and consumption patterns.- This sentence should not be here.) The adult learning theory in the transformative model allows participants to critically analyze the information presented to them (;) so that they use the information to (assist in making) make the necessary structural shift to organic products (organics).

PowerPoint deliveries, interactive periods of question-answer and discussion (question/answer /discussion periods), handouts and videos were the major instructional methods that were utilized. The workshop content was divided into four broad categories ranging from the definition of organic agriculture, organic food production, certification (,) to case studies (,) and research findings as shown in Table 1. A pretest-posttest procedure, which was administered before and after each workshop, (administered before and after each workshop) was used to evaluate the impact of the workshop sessions. (Additionally,) Moreover, participants completed an evaluation at the end of each workshop.

Organic Food Survey (OFS) and Questionnaire of Purchase Intent (Questionnaire) (PIQ)

The study team comprising of organic producers, stakeholders, extension agents, (academics) academicians and researchers designed an OFS and a PIQ to gather exploratory data on (consumers') the perceptions and purchase intent of consumers (re: organic foods.) The OFS and PIQ were (pilot-tested) tested on a small group of (consumers/farmers) farmers and consumers. The workshop participants were (intercepted and – What does that mean?) asked to complete the OFS and PIQ. The OFS was an 8-item (closed-ended) closed ended questionnaire (,) which required responses, such as “yes”, “no” or “not really” (responses.) The PIQ was measured on a 5-point scale, ranging from “definitely will buy - 5” to (might or might not buy “3” and) “definitely will not buy -1”.

Table 1. Contents of the Education Workshop Series

TOPIC	CONTENTS
Introductory Remarks	Overview of the project and organic production Globally, nationally, regionally and locally
Introduction to Organic Foods	Definition of organic foods • What is organic? • Organic history When is organic food really organic? • Specific organic standards • National program USDA Organic Seal • Which products wear the USDA organic seal? • The 100% organic label • What does made with organic ingredients mean? • Other food labels
Economics of Organic Foods	• United States (U.S.) organic sales

	Organic retail sales in other countries
Affordability and Cost of Organic Food	
Organic Food, Nutrition and Health	Why organic foods matter? - Drivers of organic foods - health, taste, environment, safety - Which consumers buy organic food - Organic versus natural and genetically modified foods (GMOs) - Attributes and benefits of organic foods as borne out by research studies Case studies of organic foods - Nutrition - Health - Flavor Encouraging consumers to utilize organic foods - How to create a healthy organic table - Organic cooking, organic baby foods - Where to find organic products - Organic food delivery - Tips for affording organic foods - Organic food coupons
Closing Remarks	

Data Analysis

The data for the pretest-posttest procedure were analyzed using a paired-samples t-test [11]. The OFS and PIQ data were summarized using descriptive statistics.

RESULTS AND DISCUSSION

Workshop Series

Pretest-Posttest

(Between 2012 and 2014,) 257 (consumers/farmers) farmers and consumers participated in (the) a series of organic workshops (series) held in nine Alabamian cities between 2012 and 2014 (Table 2). The average attendance for each workshop was 25.7 (persons) people.

A complete dataset of 123 correctly matched pretest-posttest forms were obtained. The results revealed a highly significant difference between the pretest-posttest scores, $t = 6.1$; $p < 0.0001$ for a 5% level. The mean posttest scores (5.6 ± 1.8) were significantly higher than those from the pretest (4.6 ± 1.9).

Table 2. Number of Participants in (the Education) Educational Workshop Series

Cities	Number of Participants
Auburn	42
Birmingham (twice)	18 14
Dothan	35
Huntsville	19
Mobile	21
Montgomery	42
Phenix City	35
Tuscaloosa	10
Troy	21
Total	257

Responses to the Evaluation Questionnaire

A total of 135 evaluation questionnaires were obtained. Aspects of the workshops session were rated on a 5-point scale where (,) 1= strongly disagree (,) 3 = neither agree nor disagree (,) and 5= strongly agree. The responses are shown in Figure 2.

Session content

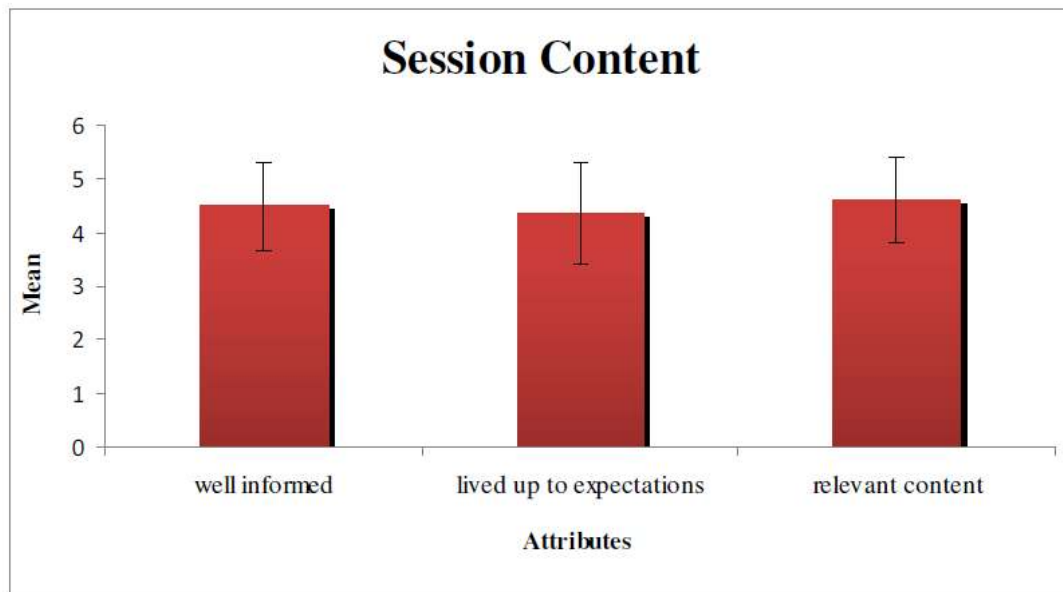
The mean score (4.5 ± 0.8) for session content indicated that the participants were well informed. Participants agreed that the workshop (lived up to) met the expectations, giving a mean score of 4.4 ± 0.9 (Figure 2).

Session design

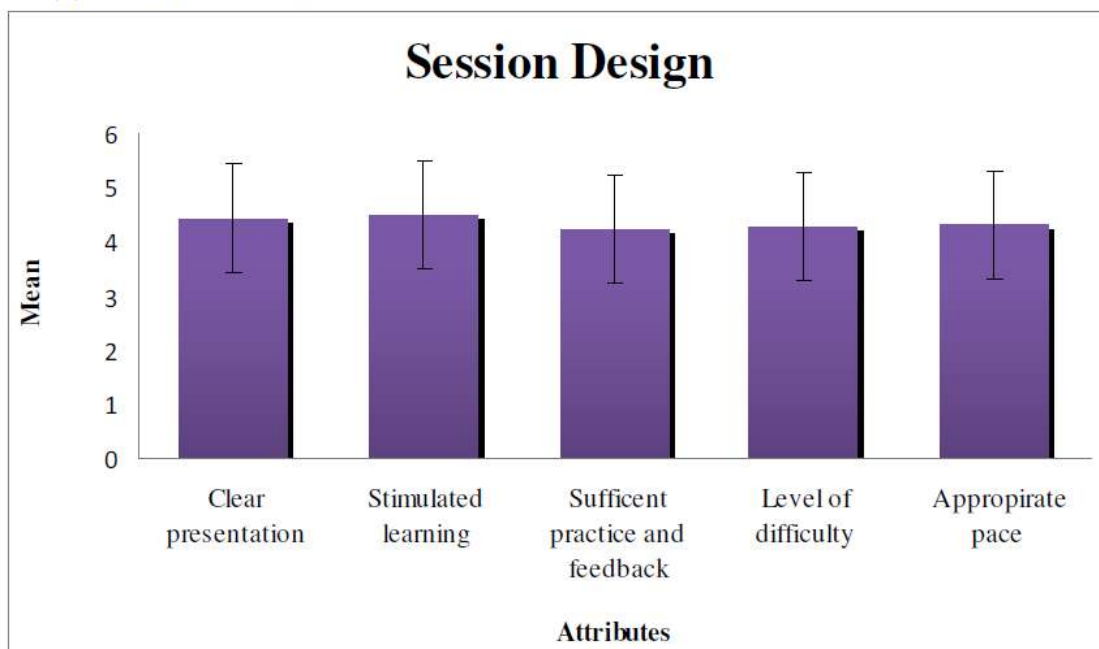
Figure 2 shows the mean scores for the (workshops') session design of workshops. Participants mostly agreed that the presentations were clear (4.5 ± 0.8) and they stimulated learning (4.5 ± 0.9). (Also,) Moreover, participants agreed that they gained sufficient knowledge (4.2 ± 1.0) (,) and the difficulty level of the sessions was appropriate (4.3 ± 0.9).

Instructions and location

Most participants agreed that the presenters were well prepared (4.6 ± 0.8), helpful (4.6 ± 0.8) (,) and (that) the locations were appropriate and comfortable (4.6 ± 0.9).



(a) Session content



(b) Session design

Figure 2. Responses to the Evaluation Questionnaire for the Workshop Series (N = 135)

Organic Food Survey (OFS)

Demographics of OFS Participants

(Of the 257 participants who attended the workshops,) 107 (responded to the OFS) of 257 participants who attended the workshops responded to the OFS. The demographic characteristics of the respondents are shown in Table 3. 65,4 % of the participants were

females while 29 % were males. (The respondents were 69 and 30% females and males, respectively- There is a calculation mistake in this sentence.) (Table 3). The majority (57%) of respondents (57 %) were more than 56 years old. Most (48%) of the respondents (48 %) were African Americans (,) and 33% of them earned between \$20,000 (to) and \$39,999 annually.

Table 3. Demographic Characteristics of Respondents in the Organic Food Survey (OFS); N =107

Characteristics	Percent (Number)	
Gender		
Female	65.4	(70)
Male	29.0	(31)
Did not disclose	5.6	(6.0)
Age (years)		
≥56	57.0	(61.0)
36-55	31.0	(33.0)
25-32	8.0	(8.6)
<25	4.0	(4.3)
Ethnicity/Race		
African Americans	48.0	(51.4)
Caucasians	41.0	(43.9)
Hispanics	1.0	(1.1)
Asians	2.0	(2.1)
Other ethnicities	8.0	(8.6)
Income (\$)		
≥80,000	23.0	(24.6)
60,000 – 79,999	23.0	(24.6)
20,000 – 39,999	33.0	(35.3)
≤19,999	20.0	(21.4)
Did not disclose	1.0	(1.1)

(Response) Responses to OFS

The responses to the OFS are shown in Table 4. (Briefly,) The majority (73.0%) of respondents (said) mentioned that they preferred organic (over) to conventional foods. A (large) high percentage (86.0 %) of respondents indicated that they would consider buying organic foods more often if they were sold at a lower price. More than half of the respondents did not know where to buy locally grown organic produce. Roughly 32% of the respondents indicated that they would be willing to travel six to (10) ten miles to shop for organic and other natural products (Figure 3).

Table 4. **(Response) Responses** to the Organic Food Survey (OFS) in percent (number); N = 107

Question	Yes	No	Not Really
Do you prefer organic foods over conventional foods?	73.0 (78.1)	10.0 (10.7)	17 (18.2)
Do you think you eat healthy?	74.0 (79.2)	6.0 (6.4)	20 (21.4)
Do you think organic food is pricy?	59.0 (63.0)	13.0 (14.0)	28 (3.0)
If organic food is sold at a lower price, would you consider buying it more often?	86.0 (92.0)	7.0 (7.5)	7.0 (7.5)
Do you know where you can buy locally grown, but organic produce?	48.0 (51.4)	29.0 (31.0)	23.0 (24.6)
Do you know how to prepare and cook organic food?	50.0 (53.5)	18.0 (19.3)	32.0 (34.2)
			Sometimes
When eating out is organic food a factor in deciding where to go?	14.0 (15.0)	54.0 (57.8)	32.0 (34.2)

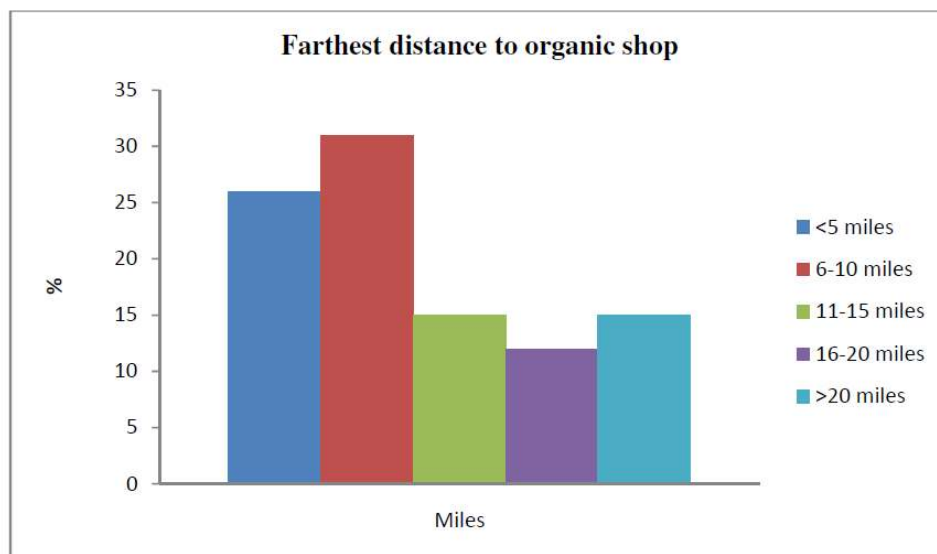


Figure 3. Longest Distance Consumers **(would) will** Travel to Shop for Organic and other Natural Products

Questionnaire of Purchase Intent **(Questionnaire)** (PIQ)

(Response from) Responses to the Scale of Purchase Intent (Scale)

Complete datasets for the PIQ were received from 63 respondents. The purchase intent of the respondents is indicated in Figure 4. A substantial percentage (56%) of the respondents indicated willingness to purchase organic produce.

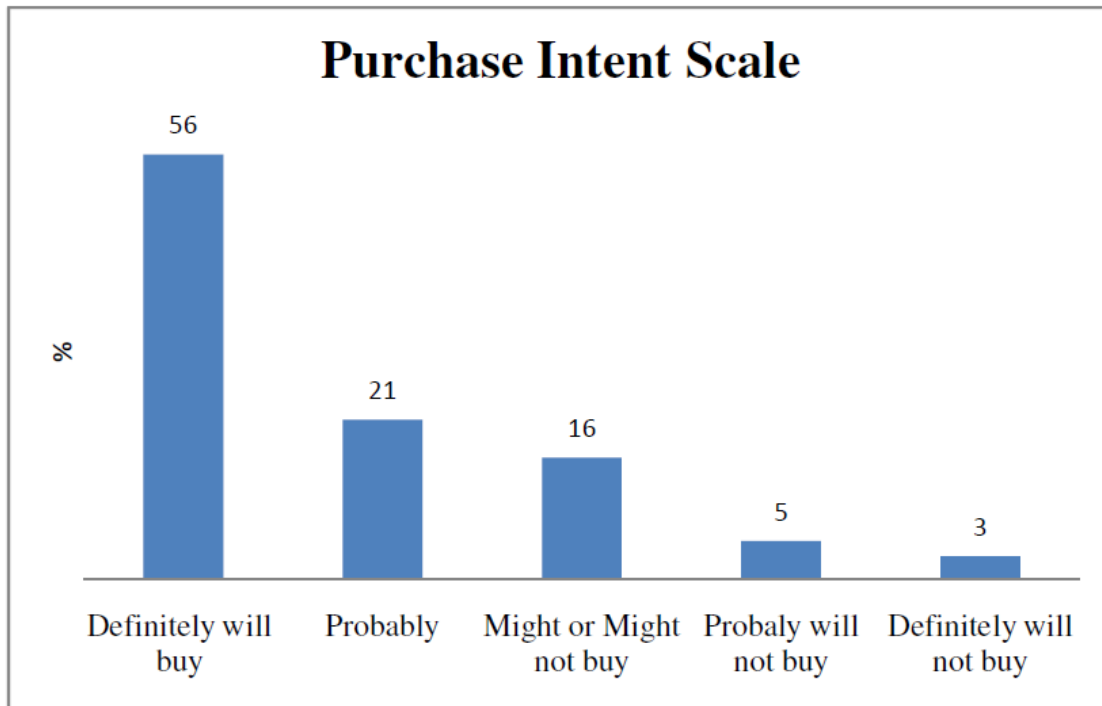


Figure 4. Responses to the **Questionnaire of Purchase Intent (Questionnaire)**

Implications

(The consumers') Organic workshop series of consumers (,) as well as the OFS and PIQ conducted in Alabama (allowed for education of) provided the opportunity to inform 257 (consumers/farmers) farmers and consumers about organic agriculture (;) (and insights were gained into their perceptions and inclination to purchase organic produce.) The workshop participants tended to be older females with (mean) average annual incomes (of) between \$20,000 (to) and \$39,999. (Except for age,) This profile is different (to) than that of Roitner-Schobesberger et al. [11] who reported that 58% of Thai organic buyers were older males and had annual family incomes of \$11,084. (had annual family incomes of \$11,084, tended to be older and male) . The respondents in the OFS rated organic foods as too (pricy) expensive. Organic foods (items) are generally 20% more expensive than conventional foods [12, 13]. On the other hand, the lack of consumer knowledge about using, preparing and cooking organic foods is another potential barrier in front of creating demand for organic food. (From the OFS, another potential barrier to consumers' demand for organic foods is their lack of knowledge regarding accessing, preparation and cooking them.)

A new paragraph: The workshop series also allowed us to derive some strategies from the valuable comments of participants (to support) in supporting the development of organic

agriculture in Alabama. (as participants gave valuable comments in the evaluation.) Comments, such as “(I am very new to) I am inexperienced in organic foods (education) so I may use more practical help in changing my family’s diet” (could have used more practical help about changing my family’s diet”); “You should offer versions of this workshop on weekends. These workshops provide increased availability of organic foods and sustainable farming methods.” (other instructions for local advocacy for organic farming. Increased availability of organic foods and sustainable farming methods”); “It was a wonderful workshop, very educational. I am completely converting to organic foods and will also work to educate and feed my family organically”; “The workshops helped me to understand the economics of organic gardening and how to improve the soil and product. (.) I learned about the pesticides and their harmful effects” were really helpful in determining the necessary strategies. Even though the study had some limitations, such as a small and convenient sample and the possibility that the participants may not be the real representatives of Alabamians, this educational series gave a first synopsis of the knowledge level and insights of Alabamians regarding organic agriculture. (The study had some limitations in that the sample was a small, convenience one, and there is no way of knowing if those included are representative of Alabamians. However, this educational series gave a first synopsis of the knowledge level and insights of Alabamians regarding organic agriculture.)

CONCLUSION AND RECOMMENDATIONS

Conducting educational series (such as) like the current one reported is an excellent strategy to increase (consumers/farmers’) awareness of farmers and consumers about organic agriculture. A similar result showing that educational workshops are an effective way to reach some audiences is also reported in other studies. [14] (Earlier, Bowen & Faison [14] also reported that educational workshops are an effective way to reach some audiences.) The (series revealed) study reveals that (consumers/farmers) farmers and consumers are willing to learn about organic agriculture. Furthermore, (if organic foods are available and the prices are affordable,) Alabamian (consumers/farmers) farmers and consumers will create (the) demand and respond to the shifting market dynamics if organic foods are affordable and they can be easily reached. (This study adds to the knowledge base regarding consumer and organic agriculture education in Alabama.)

A new paragraph: On the other hand, this study also contributes to the improvement of knowledge about organic farming in Alabama. The success of these workshops in

creating awareness for organic farming shows that such workshops should be repeated in other cities of Alabama to inform Alabamians about organic agriculture and encourage them to become regular users and buyers of organic products. (Because these workshops were successful at improving knowledge, they should be replicated in other cities of Alabama, regionally and nationally through the Extension system. Historically, Extension has focused on food system-related topics [15]. Therefore it is the model organization to educate Alabamians about organic agriculture and encourage them to become regular users and buyers. Finally, consumers should be made aware that the immediate high price paid for organic food is not so high in the long term scenario.)

REFERENCES

1. Sadek NF, Oktarani YP. Consumer knowledge and perception about organic food: a challenge for consumer education on the benefits of going organic. *As. J. Food Ag-Ind. Special Issue*. 2009; S363-S367.
2. USDA ERS. USDA, Economic Research Service, based on information from USDA accredited State and private organic certifiers. Available at: <http://www.ers.usda.gov/data/products/organic-production.aspx>; accessed 01/21/2015.
3. Middendorf G. Challenges and information needs of organic growers and retailers. *J. Extension* [On-line], 45 (4). Available at: <http://www.joe.org/joe/2007august/a7.php/shtml>
4. Tomić G, Durica M, Dokić N. Education as a factor of awareness development 207 of organic product consumers. *Appl. Studies Agribusiness Commerce*. Available at: <https://www.google.com/#q=Tomic+and+organic+food>; accessed 01/21/2015.
5. Siderer Y, Maquet A, Anklam E. Need for research to support consumer confidence in the growing organic food market. *Trends Food Sci Technol*. 2005; 16:332-343.
6. Mezirow J. *Transformative dimensions of adult learning*. 1991; San Francisco: Jossey-Bass.
7. Mezirow J. & Associates. *Learning as transformation: critical perspectives on a theory in progress*. 2000; San Francisco: Jossey-Bass.
8. Kitchenham M. The evolution of John Mezirow's Transformative Learning Theory. *J. Transform. Educ*. 2008; 6:104-123.
9. Transformative Learning Centre. The Transformative Learning Centre. Available at: <http://tlc.oise.utoronto.ca/index.htm>; accessed 01/21/2015.
10. Hatcher L, Stepanski EJ. *A step-by-step approach to using the SAS® system for univariate and multivariate statistics*. 1994; Cary, NC: SAS Institute Inc.
11. Roitner-Schobesberger B, Darnhofer I, Somsook S, Vogl CR. Consumer perceptions of organic foods in Bangkok, Thailand. *Food Policy* 2008; 33:112-121.

12. Padel S, Foster C. Exploring the gap between attitudes and behaviour. Understanding why consumers buy or do not buy organic food. *Br. Food J.* 2005; 107:606-625.
13. Yiridoe E, Bonti-Ankomah S, Ralph C. Comparison of consumer perceptions and preference toward organic versus conventionally produced foods: a review and update of the literature. *Renewable Agric Food Sys.* 2005; 20:193-205.
14. Bowen CF, Faison BN. Using simple educational methods to motivate consumers to prepare for emergencies. *J. Extension* [On-line], 40 (5). Available at: <http://www.joe.org/joe/2002october/rb1.php>
15. Killackey-Jones, B., Lyle, R., Evers, W. & Tappe, M. (2004). An effective one-hour consumer-education program on knowledge, attitude, and behavior toward functional foods. *J Extension* [On-line], 42 (1). Available at: <http://www.joe.org/joe/2004february/iw2.php>