

Short Research Articles**Consumer Workshop Series: Educating Alabama Consumers about Organic Agriculture****Abstract**

A consumer-oriented workshop series to educate 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. Two hundred and fifty seven consumers/farmers participated. The mean posttest score was significantly ($p<0.0001$) higher than the pretest (5.6 ± 1.8 vs 4.6 ± 1.9). Seventy three percent of respondents preferred organic over conventional foods; and 35% did not know where to purchase organics. Extra efforts should be made, especially through the Extension system to educate Alabama consumers/farmers about organic agriculture to create demand and response to shifting market dynamics.

Keywords: consumer organic workshop, organic agriculture education, organic food survey, purchase intent questionnaire

INTRODUCTION

Globally, organic agriculture remains one of the fastest growing markets due primarily to consumers' increased concerns 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 and farmland under organic farming. To demonstrate, in 2011 there were 12 certified organic operations and 618.8 crops (hectares) in Alabama. By comparison, California, the state with the most certified organic farms had 2,530 and 164,089 certified organic farms and crops, respectively [2]. Thus, most of the organically grown products consumed in Alabama are imported from other states, particularly from California. Alabama limited-resource farmers are ideally poised to exploit the huge untapped southeastern market for organic agriculture.

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

identified from these meetings was consumers'/farmers' lack of knowledge regarding 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. The land-grant researchers, stakeholders and Extension decided to work as a Team to impact upon removal of this barrier.

According to Tomić *et al.* [1, 4] and Sadek & Oktarani [1], all activities aimed at expanding organic agriculture should be directed to the consumers, since they are the major factor; the future of organic agriculture is dependent on their demand. Siderer *et al.* [5] listed consumers as one of the key stakeholders in organic agriculture in terms of ideas, budget available, demand, and power of purchase, health concerns and search information. There is an urgent need to educate consumers/farmers about organic agriculture. This study was part of a larger project, which focused on increasing the adoption of organic farming practices in Alabama through teaching, education and Extension activities to facilitate the ultimate development of a strong and vibrant organic agriculture industry. Specifically, this study organized a consumer-oriented training workshop series to educate Alabamians about the benefits of 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 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: Auburn, Birmingham (two workshops), Dothan, Huntsville, Mobile, Montgomery, Phenix City, Troy and Tuscaloosa (Figure 1).

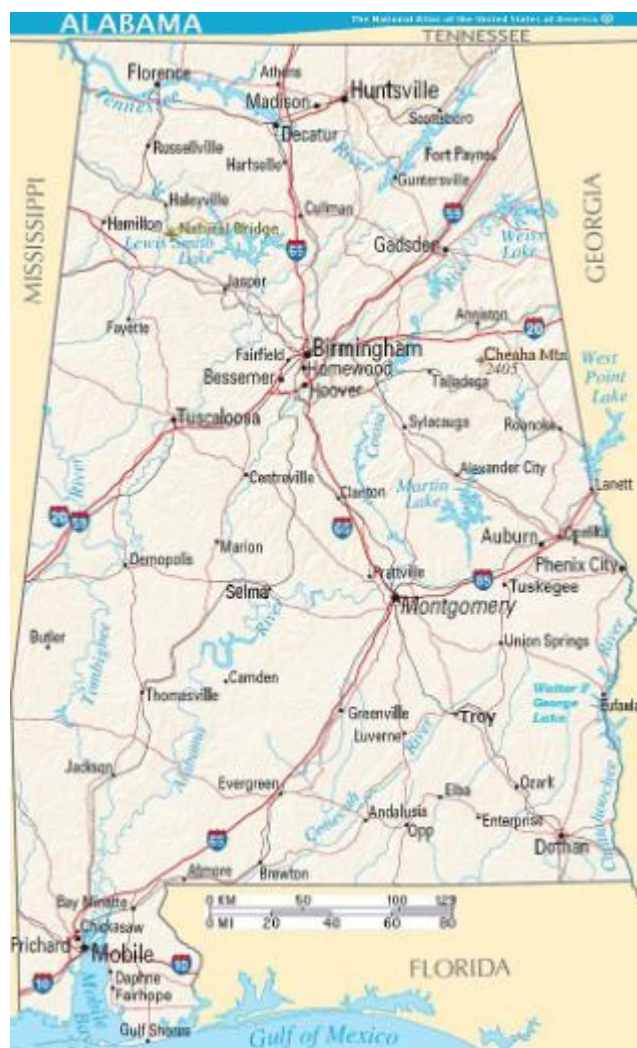


Figure 1. Map of Alabama Cities

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

Participant Recruitment

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

Workshop Instructional Protocol

Prior to the start of each workshop, participants consumed samples of 100% organic foods and beverages in the form of appetizers and full organic dinner to encourage demand [4]. The workshop was guided by some phases of Mezirow's transformative learning theory for adult education [6-8]. Transformative learning is "a deep, structural shift in basic premises of

thought, feelings, and actions” [9]. Briefly, the workshop participants are accustomed to conventional agriculture production and consumption patterns. The adult learning theory in the transformative model allows participants to critically analyze the information presented to them; they use the information to assist in making the necessary structural shift to organics. PowerPoint deliveries, interactive question/answer /discussion periods, handouts and videos were the major instructional methods utilized. The workshop content was divided into four broad categories ranging from definition of organic agriculture, organic food production, certification, case studies, and research findings as shown in Table 1. A pretest-posttest procedure (administered before and after each workshop) was used to evaluate the impact of the workshop sessions. Additionally, participants completed an evaluation at the end of each workshop.

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

The study team comprising of organic producers, stakeholders, extension agents, academics and researchers designed an OFS and a PIQ to gather exploratory data on consumers’ perceptions and purchase intent re: organic foods. The OFS and PIQ were pilot-tested on a small group of consumers/farmers. The workshop participants were intercepted and asked to complete the OFS and PIQ. The OFS was an 8-item closed-ended questionnaire, which required “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	

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92 Data Analysis

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

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97 RESULTS AND DISCUSSION

98 Workshop Series

99 Pretest-Posttest

100 Between 2012 and 2014, 257 consumers/farmers participated in the organic workshop series held
 101 in nine Alabamian cities (Table 2). The average attendance for each workshop was 25.7 persons.
 102 A complete dataset of 123 correctly matched pretest-posttest forms were obtained. The results
 103 revealed a highly significant difference between the pretest-posttest scores, $t = 6.1$; $p < 0.0001$ for
 104 a 5% level. The mean posttest scores (5.6 ± 1.8) were significantly higher than those from the
 105 pretest (4.6 ± 1.9).

106 Table 2. Number of Participants in the Education 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

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108 *Responses to the Evaluation Questionnaire*

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

112 *Session content*

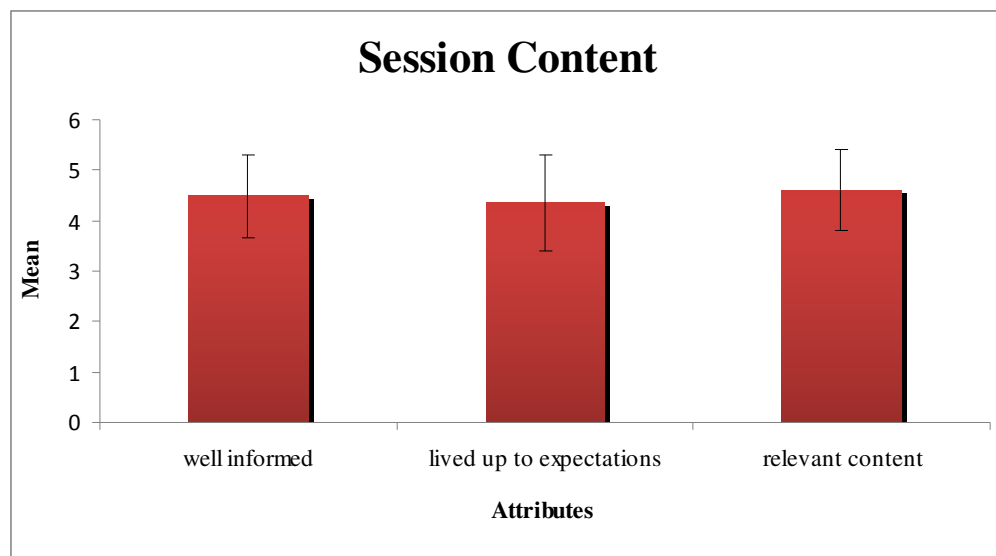
113 The mean score (4.5 ± 0.8) for session content indicated that the participants were well informed.
 114 Participants agreed that the workshop lived up to expectations, giving a mean score of 4.4 ± 0.9
 115 (Figure 2).

116 *Session design*

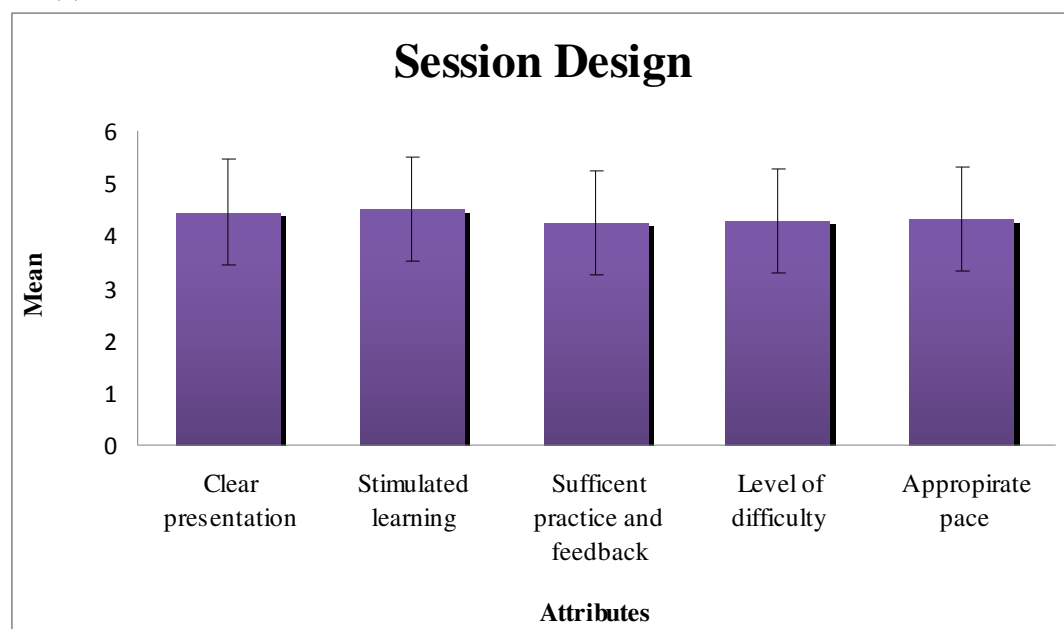
117 Figure 2 shows the mean scores for the workshops' session design. Participants mostly agreed
 118 that the presentations were clear (4.5 ± 0.8) and they stimulated learning (4.5 ± 0.9). Also,
 119 participants agreed that they gained sufficient knowledge (4.2 ± 1.0), and the difficulty level of the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

121 *Instructions and location*

122 Most participants agreed that the presenters were well prepared (4.6 ± 0.8), helpful (4.6 ± 0.8); and
 123 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. The demographic characteristics of the respondents are shown in Table 3. The respondents were 69 and 30% females and males, respectively (Table 3). The majority (57%) of respondents were

135 more than 56 years old. Most (48%) of the respondents were African Americans, and 33% of
136 them earned \$20,000 to \$39,999 annually.

137 Table 3. Demographic Characteristics of Respondents in the Organic Food Survey (OFS); N =
138 107

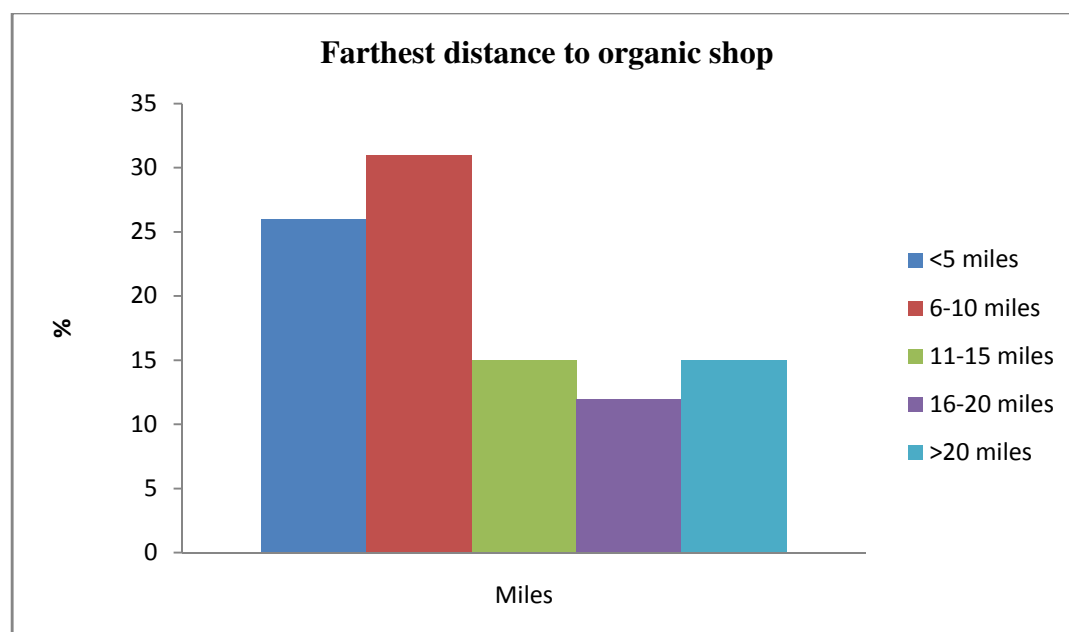
Characteristics	Percent (Number)	
Gender		
Female	65.4	(70)
Male	29.0	(31)
Did not disclose	5.6	(6.0)
Age (years)		
≥56	57.0	(61.0)
36-55	31.0	(33.0)
25-32	8.0	(8.6)
<25	4.0	(4.3)
Ethnicity/Race		
African Americans	48.0	(51.4)
Caucasians	41.0	(43.9)
Hispanics	1.0	(1.1)
Asians	2.0	(2.1)
Other ethnicities	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)

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

147 Table 4. Response 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)

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150 Figure 3. Longest Distance Consumers would Travel to Shop for Organic and other Natural Products

151 **Purchase Intent Questionnaire (PIQ)**

152 *Response from Purchase Intent Scale*

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

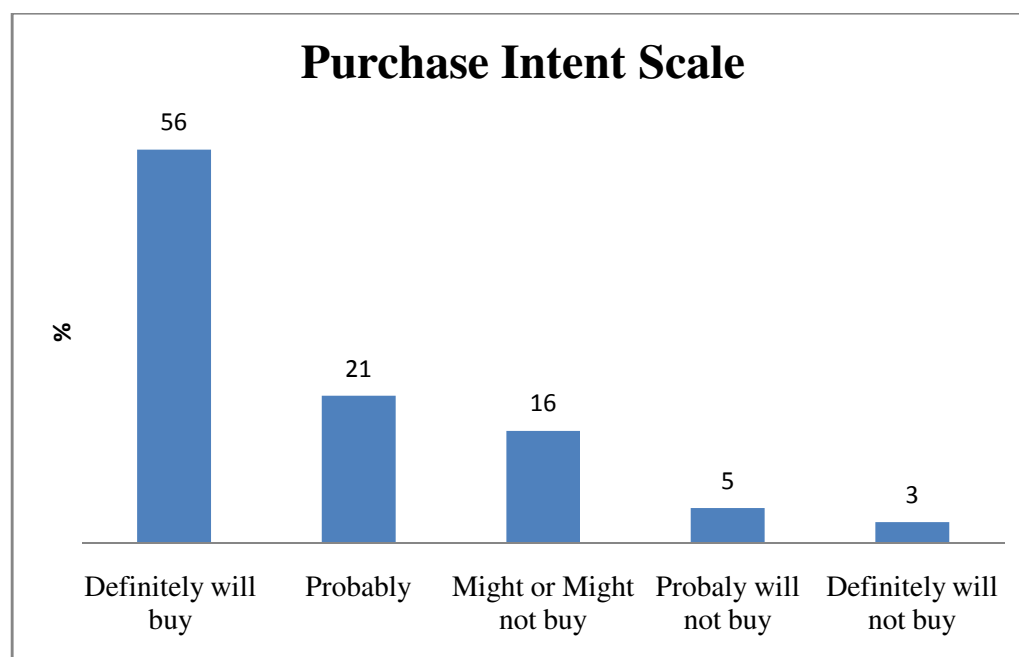


Figure 4. Responses to the Purchase Intent Questionnaire

Implications

The consumers' organic workshop series, the OFS and PIQ conducted in Alabama allowed for education of 257 consumers/farmers 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 annual incomes of \$20,000 to \$39,999. Except for age, this profile is different to that of Roitner-Schobesberger et al. [11] who reported that 58% of Thai organic buyers had annual family incomes of \$11,084, tended to be older and male. The respondents in the OFS rated organic foods as too pricy. Organic food items are generally 20% more expensive than conventional foods [12, 13]. From the OFS, another potential barrier to consumers' demand for organic foods is their lack of knowledge regarding accessing, preparation and cooking them. The workshop series also allowed us to derive some strategies to support the development of organic agriculture in Alabama as participants gave valuable comments in the evaluation. Comments such as *"I am very new to organic food education so could have used more practical help about changing my family's diet"*; *"Offer versions of this workshop on weekends, 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”; “Helped me to understand the economics of organic gardening and how to improve the soil and product, learned about pesticides and their harmful effects”. 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 the current one reported is an excellent strategy to increase consumers/farmers’ awareness of organic agriculture. Earlier, Bowen & Faison [14] also reported that educational workshops are an effective way to reach some audiences. The series revealed that consumers/farmers are willing to learn about organic agriculture. Furthermore, if organic foods are available and the prices are affordable, Alabamian consumers/farmers will create the demand and respond to the shifting market dynamics. This study adds to the knowledge base regarding consumer and organic agriculture education in Alabama. 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.

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