Personal Agricultural Literacy: Auburn University Students' Label Identification and Response

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Frick et al. (1991) established that an agriculturally literate person can "synthesize, analyze, and communicate basic information about agriculture" (p. 52). Whether consumers are actively intaking content through chosen methods or indirectly consuming content through other mediums, they engage with terminology that challenges or interacts with their current level of agricultural literacy (Durham et al., 2009; Murray et al., 2020). Assessments on agricultural literacy can take many different forms; previous assessments among college students have included knowledge tests as well as attitude analysis (Dale et al., 2017; Ruth et al., 2016). The Knowledge Gap Theory asserts that news or content diffuse differently depending on the person who is receiving it (Tichenor et al., 1970). This study, using Knowledge Gap Theory, investigates the potential correlation between familiarity, favorability, and knowledge of agricultural terminology or labels.

This study surveys 28 Auburn University students to identify their familiarity with food labels and terms, their attitude towards them, and knowledge about them. Participants completed a hardcopy version of the survey where they were given five labels (smart-sourced, locally grown, organic, sustainably produced, and climate-smart food) to indicate their familiarity or nonfamiliarity with. Students are then asked their attitude toward the labels set to a Likert Scale where the true limits of the scale are: 5 - 4.51 = Very Positive; 4.5 - 3.51 = Somewhat Positive; 3.5 - 2.51 = Indifferent; 2.5 - 1.51 = Somewhat Negative; and 1.5 - 1 = Very Negative. Out of these five labels, only locally grown (n = 27, 96.40 %) and organic (n = 26, 92.90 %) were identified the most, while the highest level of sentiment was towards locally grown (M = 4.71, SD = .54) and sustainably produced (M = 3.86, SD = .88) (Table 1).

Table 1

Responses to Labels (n=28)

	Identification of label		Sentiment towards label [a]	
	f	*%*	*Mean*	*SD*
Locally grown	27	96.40	4.71	0.54
Organic	26	92.90	3.61	0.88
Sustainably produced	14	50.00	3.86	0.97
Smart-sourced	10	35.70	3.21	0.79
Climate-smart food	4	14.30	3.50	0.92

[a] 5 = Very Positive, 4 = Somewhat Positive, 3 = Indifferent, 2 = Somewhat Negative, and 1 = Very Negative

Students were also prompted to answer questions about each of the terms on a knowledge test; each question pertained to a term, respectively (Table 2). The question that addressed the difference between "organically grown" and "organic certified" was question with the highest number of correct answers at 64.30% (*n*=18). However, the answer with the lowest number of correct answers was the question that addressed what "climate-smart agriculture" refers to, with only three participants answering correctly.

Table 2

Correct Responses to Knowledge Questions

Question	*f*	%
What is the difference between "organically grown" and "organic certified"?	18	64.30
What does "sustainable agriculture" indicate?	15	53.60
"Organically grown" food in the United States means	11	39.30
How many miles does "locally grown" indicate?	4	14.30
"Climate-smart agriculture" refers to the following	3	10.70

Note: $n = 28$

Although participants did indicate a familiarity and positive attitude towards multiple terms, participants incorrectly answered at a high rate to the knowledge test questions, demonstrating a lack of understanding. For example, while 96.4% of students ($n = 27$) identified the term "locally grown" and their sentiment towards it was positive ($M = 4.71$), only 14% of participants ($n = 4$) scored correctly on the corresponding knowledge question. Participants did identify Organic with highly familiarity as 92.90% of students ($n = 26$) and relatively high favorability ($M = 3.61$). The question on the knowledge test that was answered correctly the most at 64.30% ($n = 18$) was the one that asked the difference between organically grown and organic certified. However, when asked what organically grown means, only 39.30% of students answered correctly ($n = 11$). This indicates that the majority of the students recognize and favor organic as a term but may have difficulties understanding what it means and how it relates to the official certification of organically grown produce.

Future assessments could include questions on news intake or method of news to determine where and how participants interact with agricultural literacy along with questions that ask students to self-evaluate their level of agricultural literacy. A content analysis portion of the survey could be added, with participants engaging with news articles and providing their responses to the label information provided. Knowing the levels of agricultural literacy that college students have, as well as how they are challenged, will be helpful in determining the effectiveness of source contents.

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