

PERCEPTION OF TRACEABILITY INFORMATION ON BEEF LABEL BY SPANISH AND BRAZILIAN CONSUMERS

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Abstract - The perception of Spanish and Brazilian consumers regarding the information of the beef label traceability was analyzed using online questionnaires ($n = 2,132$) and a focus group ($n = 77$) in the Northeast of Spain and four states encompassing the Southeastern and Southern regions of Brazil. A chi-square analysis was applied to the questionnaire questions; the opinions expressed in the focus group were transcribed and compared. Consumers do not fully believe that traceability information is reliable because they consider that this process can fail. Consumers also search for information that is easier to interpret at the time of purchase.

Key Words - Beef, focus group, food security, labeling, online questionnaire.

I. INTRODUCTION

Traceability has become a great importance for food, especially after food safety incidents in several countries around the world. Risks to food safety can occur at several points in the food chain and the responsibility should be shared by producers, processors, distributors, retailers and consumers [1]. In Europe, food law is particularly stringent and traceability systems, based on product labeling, have become mandatory in all European countries [2]. In Brazil, information of the traceability of food is not mandatory, but the availability of traced products is increasing in the country [3]. The aims of this study were to investigate the perception of the Spanish and Brazilian consumers about the method of presenting the traceability information on the beef label and the confidence in this information.

II. MATERIALS AND METHODS

Two research methodologies were used: an online questionnaire was sent to the Northeast of Spain ($n = 436$) and in four states in South and Southeast of Brazil ($n = 1,696$). A focus group (FG) was also applied in the same locations, with a total of 37 men and 40 women. A chi-square analysis was applied to the three questions in the questionnaire, the opinions expressed in the FG were transcribed and compared between countries.

III. RESULTS AND DISCUSSION

The studied Spanish and Brazilian population comprised an average of 60% females and 40% males, the largest age group was between 18 and 35 years old (62.0%), the majority with university education (63.7%) and a diversified income. The differences between the knowledge of the concept of traceability are statistically significant ($P = 0.045$), Brazilians have more knowledge than the Spanish population (Table 1). In 2012, a rate of 54.7% of consumers were aware of the Brazilian traceability system [3].

Information of the traceability of beef on the Spanish packaging label is provided in written form, whereas in Brazil this information is most frequently available through a QR (Quick Response code). This study confirms ($P < 0.001$) that 56.7% of Brazilians would like the traceability information in a written form and QR, and 47.9% of Spanish believe it would be better just a QR. Internet would provide real-time information to consumers about the traceability food [4]. This information is already available, but according to the opinion of a young Brazilian woman, "the QR is useless. The written information would be easier to interpret, for convenience". On the other hand, a young Spanish woman says that "it would be ideal that at the time of purchase of the meat, there is a machine with QR code reader, it would facilitate access to the information".

The level of confidence in the traceability information for the most consumers in both countries is partial (47.7% Spanish and 62.0% Brazilians). The information available on the labels does not always translate into more confidence [5] and the implementation of these systems does not guarantee to the consumers the fight against fraud [6]. The opinion of a Brazilian man, 63 years old "I do not trust traceability information, but I think that information should be present anyway" confirms this point of view.

Table 1 Chi-square analysis for factors related to traceability in beef label for Spanish ($n = 436$) and Brazilian ($n = 1,696$) consumers (%)

<i>Do you know the concept of traceability?</i>	Spain	Brazil	<i>P value</i>
Yes, perfectly	52.8	58.4	0.045
I am not clear	36.0	33.3	
I do not know	11.2	8.3	
<i>Preference for traceability information on the label</i>			
QR code for accessing to any information on the label	47.9	10.4	<0.001
Information written on the label	13.1	31.6	
Combination of the two labels: QR code and written information	36.0	56.7	
There is no need for any traceability information on the label	3.0	1.3	
<i>Level of confidence in traceability information</i>			
Total, is fully controlled by the health authorities	28.0	14.6	<0.001
Partial, this is a very complicated process that can suffer errors	47.7	62.0	
No credibility, it is just advertising	7.3	2.9	
Do not know	20.6	5.2	

IV. CONCLUSION

Most consumers know about traceability and rely partly on information present in the beef label. There is also a need for traceability information that is easy to interpret at the time of purchase.

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