

# Quality characteristics of marketed eggs in Basse Kabylie (Algeria)

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## Introduction

Hen's eggs have been traditionally considered as an important source of nutrients for humans. Indeed, the egg belongs to the limited category of complete protein foods, containing the nine amino acids that human cannot synthesize. Thus, it has been chosen by World Health Organization (W.H.O.) as the reference protein source for the child. The low cost of eggs makes them a widely available source of proteins and lipids. In addition they are generally not subject to cultural or religious prohibition. Variability in the quality of eggs available to consumers have been reported by many investigators. However, little is known about the quality of eggs offered to consumers in Algeria.

## Objective

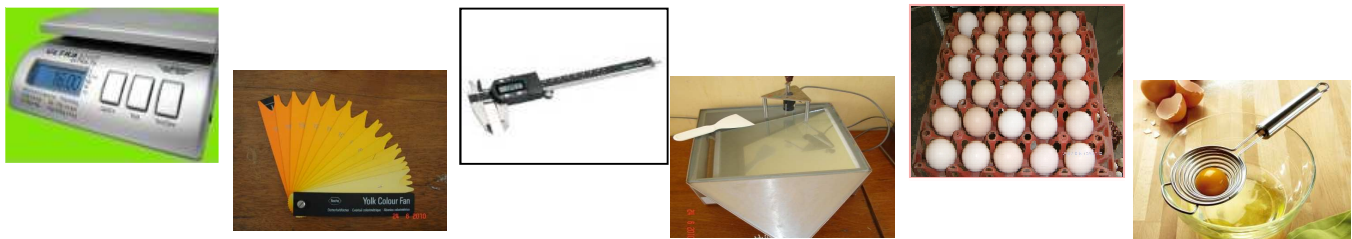
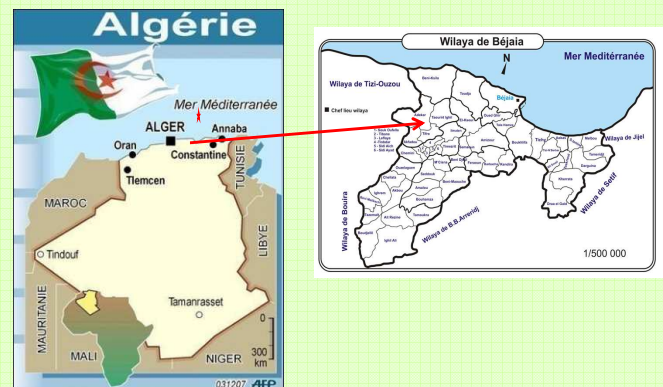
The aim of this study is to investigate the quality of eggs according to the marketing channel in the department of Bejaia in Basse Kabylie, Algeria.

## Material and methods

In spring and summer 2012, eggs were bought in 30 different stores divided into 3 categories:

- 10 supermarkets (1146 eggs),
- 10 local markets (1048 eggs),
- 10 food shops (1136 eggs).

## Localisation



## Results

**Table 1-** Distribution of weight classes and damage frequency of eggs obtained from three retailing channels

	Retailing Channels			Sign.
	Food shops	Local markets	Supermarkets	
<b>Weight classes (%)</b>				
Extra-Large	1.23	1.53	9.42	***
Large	24.30	13.45	30.72	***
Medium	73.24	73.00	59.86	***
Small	1.23	12.02	-	***
<b>Damaged eggs (%)</b>	7.31	8.97	5.67	*

**Table 2-** Least Squares Means and standard errors of quality measurements and price of eggs from three retailing channels

	Retailing Channels		
	Food shops	Local markets	Supermarkets
<b>Egg weight (g)</b>	61.22 0.13 <sup>x</sup>	58.94 0.14 <sup>y</sup>	62.83 0.13 <sup>z</sup>
<b>Y/A ratio</b>	47.31 0.11 <sup>a</sup>	47.53 0.11 <sup>a</sup>	47.98 0.11 <sup>b</sup>
<b>Haugh unit</b>	77.56 0.44 <sup>x</sup>	74.26 0.46 <sup>y</sup>	79.92 0.44 <sup>z</sup>
<b>Yolk color</b>	11.19 0.05	11.07 0.05	11.23 0.05
<b>Shell thickness (.01mm)</b>	36.84 0.12	37.11 0.12	37.46 0.12
<b>Price/kg egg (DA)</b>	129.23 2.53 <sup>x</sup>	123.75 2.53 <sup>y</sup>	133.02 2.53 <sup>x</sup>

<sup>a,b,c</sup>: Values with different superscripts are significantly different (p<0.05)

<sup>x,y,z</sup>: Values with different superscripts are significantly different (p<0.001)

## Conclusion

- Eggs quality varies significantly according to the retailing channel in Basse Kabylie. Higher quality is observed in supermarket.
- The lower quality of eggs bought in local markets is associated with lower price.
- For most of the parameters, eggs from food shops present intermediate values.
- More detailed studies during the whole year are needed to determine the potential effect of the season on quality of eggs.