



## Efeito da torra e temperatura de conservação nas características físico-químicas e sensoriais de amêndoa cv. Duro Italiano

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# Consumo de amêndoa



**Consumida como:**

**Aperitivo:**

- natural;
- doce;
- salgada;
- torrada;

**Ingrediente:**

- doçaria regional;

**Indústria farmacêutica e cosmética**

# Seleção da cultivar



## cv. Duro Italiano



Peso (g) (Fruto)	Comp. (mm)	D. Max. (mm)	D. mín. (mm)	D. Trans (mm)
4,64	35,08	20,68	9,62	16,88

Peso (g) (Semente)	Comp. (mm)	D. Max. (mm)	D. mín. (mm)	D. Trans (mm)
1,22	22,88	11,98	6,48	7,25

Água	Gordura	Proteína bruta	Carboidratos	Cinzas	Energia
3,09 g	51,65g	26,52g	15,56g	3,18g	633,13 Kcal

C18:1	C18:2	SFA	MUFA	PUFA
62,31 %	27,62 %	9,39 %	62,85 %	27,72 %

$\alpha$ -Tocoferol	$\beta$ -Tocoferol	$\gamma$ -Tocoferol
31,15 mg/kg	0,18 mg/kg	1,23 mg/kg

# Material e métodos



## Preparação de lotes



6 Lotes de 1kg de miolo de amêndoa

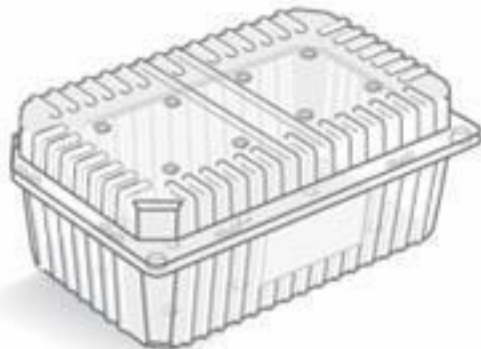
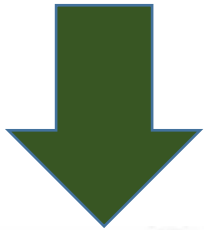
180 °C  
durante 20  
minutos

Crú

# Material e métodos



100 g de miolo



De cada lote torrado e  
sem tratamento

Colocadas à temperatura  
ambiente e expostas à luz.

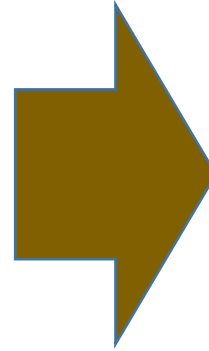
Colocadas à temperatura de  
50 °C.



# Material e métodos



D	S	T	Q	Q	S	S	
			1	2	3	4	T0
5	6	7	8	9	10	11	T1
12	13	14	15	16	17	18	T2
19	20	21	22	23	24	25	T3
26	27	28	29	30	31		T4



## Parâmetros físico-químicos:

- Cor ( $L^*$ ,  $a^*$ ,  $b^*$ ,  $C^*$ ,  $h^*$ );
- Atividade da água ( $a_w$ );
- Teores de humidade.

## Parâmetros sensoriais:

- Dureza;
- Fibrosidade;
- Crocância;
- Doce;
- Amargo;
- Ranço.



# Resultados e discussão



## aw do miolo de amêndoa

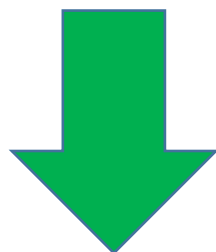
Amostra	T0	T1	T2	T3	T4
Sem Torra					
- Ambiente	0,539±0,004 <sup>d,B</sup>	0,462±0,007 <sup>b,B</sup>	0,484±0,003 <sup>c,B</sup>	0,474±0,003 <sup>b,c,B</sup>	0,444±0,005 <sup>a,B</sup>
- 50 °C	0,539±0,004 <sup>c,B</sup>	0,221±0,026 <sup>b,A</sup>	0,245±0,028 <sup>b,A</sup>	0,206±0,008 <sup>b,A</sup>	0,152±0,016 <sup>a,A</sup>
Com Torra					
- Ambiente	0,457±0,026 <sup>a,A</sup>	0,493±0,003 <sup>b,B</sup>	0,504±0,011 <sup>b,B</sup>	0,470±0,002 <sup>a,b,B</sup>	0,444±0,006 <sup>a,B</sup>
- 50 °C	0,457±0,026 <sup>c,A</sup>	0,245±0,039 <sup>b,A</sup>	0,225±0,009 <sup>b,A</sup>	0,197±0,003 <sup>a,b,A</sup>	0,163±0,004 <sup>a,A</sup>

# Resultados e discussão



## Humidade (% p.f.) do miolo de amêndoa

Amostra	T0	T1	T2	T3	T4
Sem Torra					
- Ambiente	4,33±0,16 <sup>a,B</sup>	6,47±0,06 <sup>c,C</sup>	6,31±0,09 <sup>b,c,C</sup>	7,30±0,20 <sup>d,B</sup>	5,91±0,20 <sup>b,B</sup>
- 50 °C	4,33±0,16 <sup>b,B</sup>	4,46±0,35 <sup>b,A</sup>	3,37±0,21 <sup>a,A</sup>	5,15±0,24 <sup>c,A</sup>	4,01±0,13 <sup>b,A</sup>
Com Torra					
- Ambiente	2,95±0,23 <sup>a,A</sup>	5,47±0,12 <sup>b,B</sup>	5,47±0,19 <sup>b,B</sup>	6,89±0,19 <sup>c,B</sup>	5,35±0,37 <sup>b,B</sup>
- 50 °C	2,95±0,23 <sup>a,A</sup>	4,39±0,21 <sup>c,A</sup>	3,57±0,21 <sup>b,A</sup>	4,86±0,23 <sup>c,A</sup>	3,65±0,14 <sup>b,A</sup>



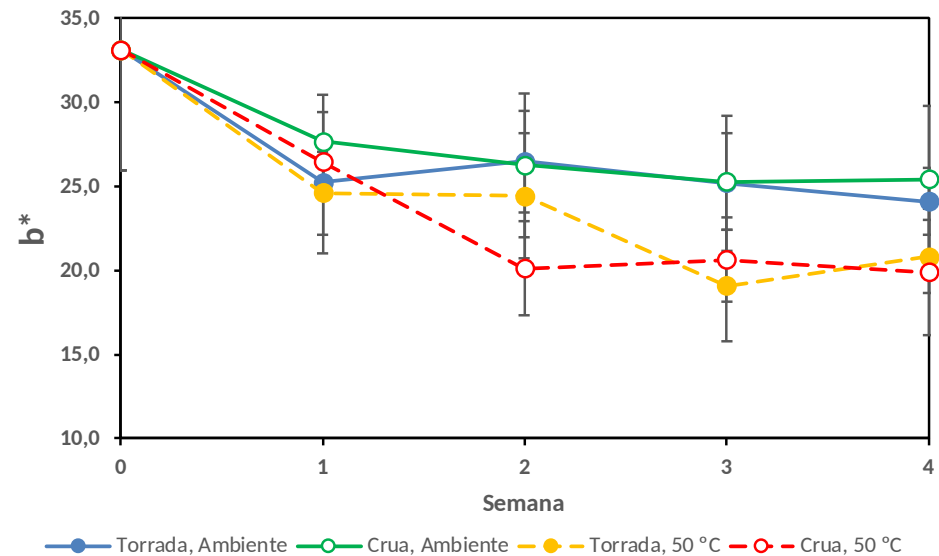
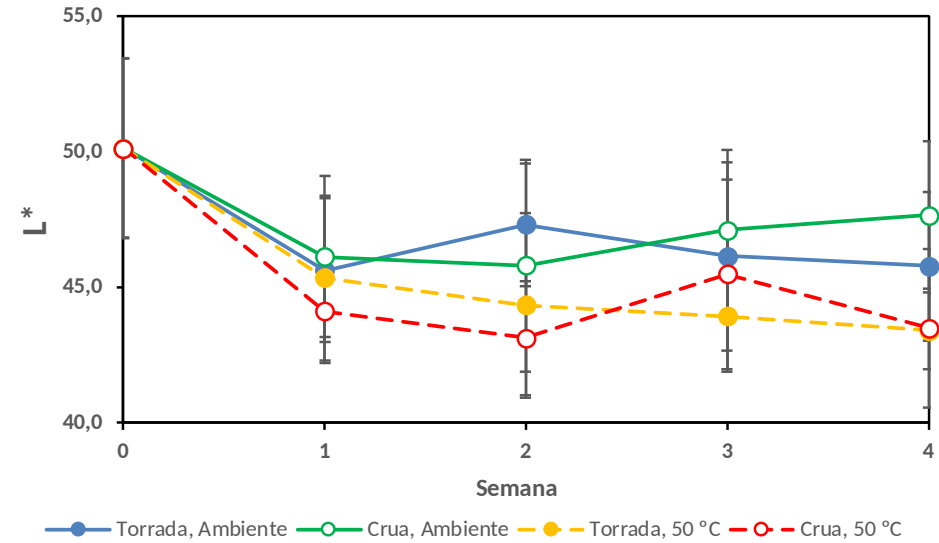
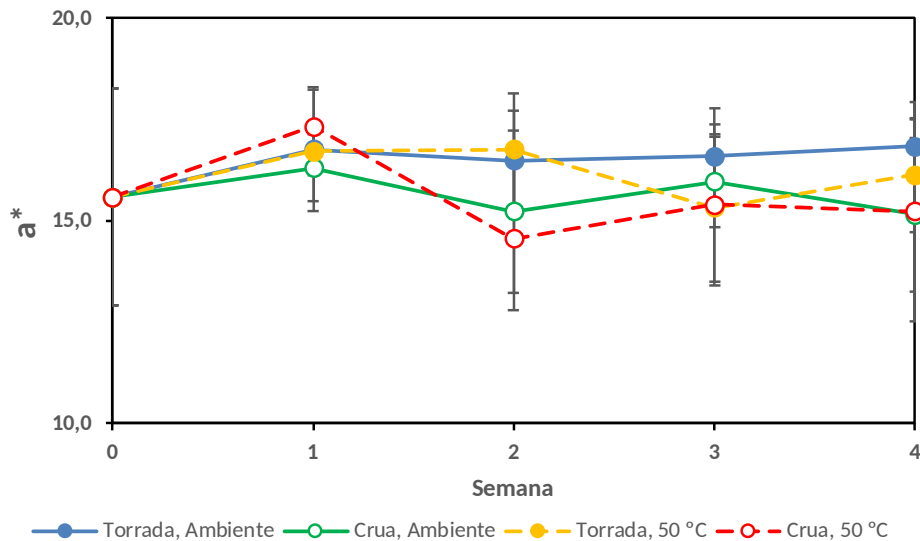
**32%**



# Resultados e discussão



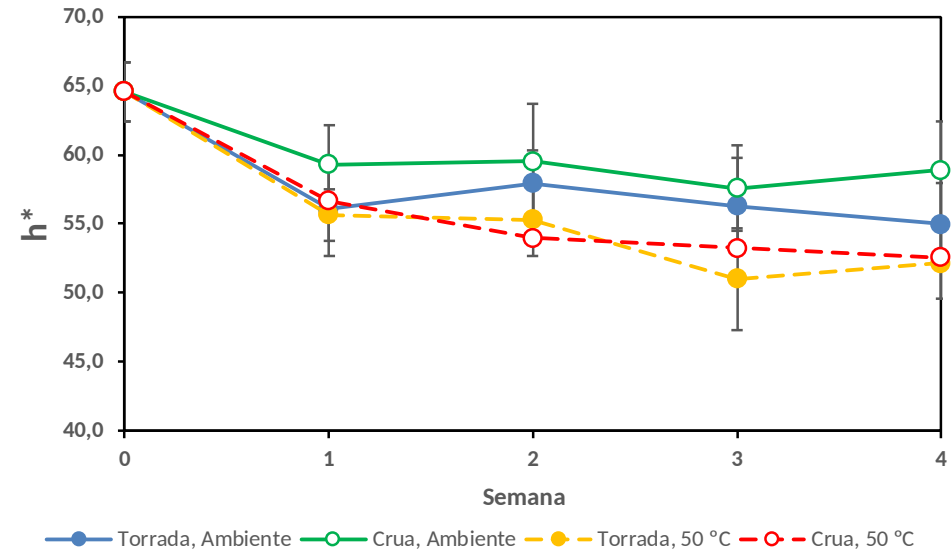
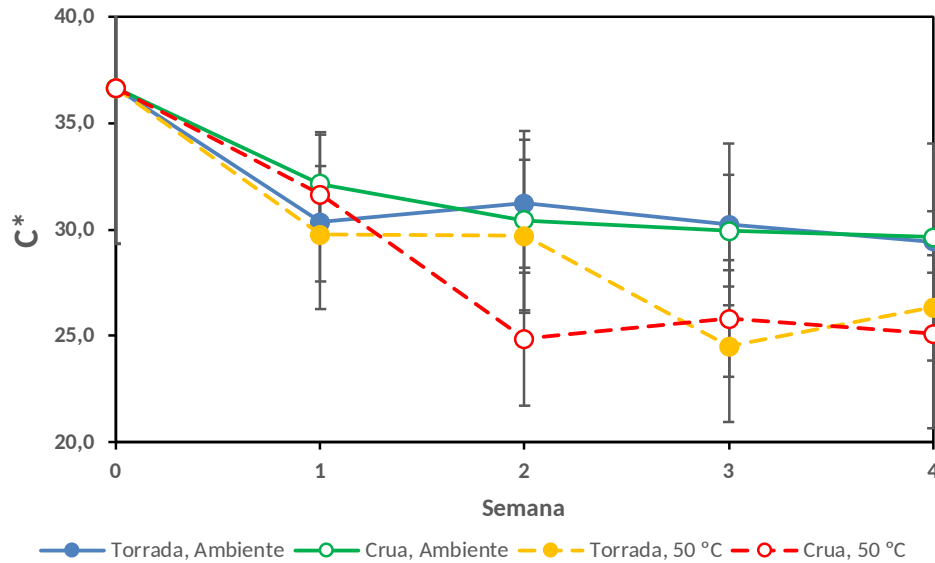
## Cor - exterior do miolo



# Resultados e discussão



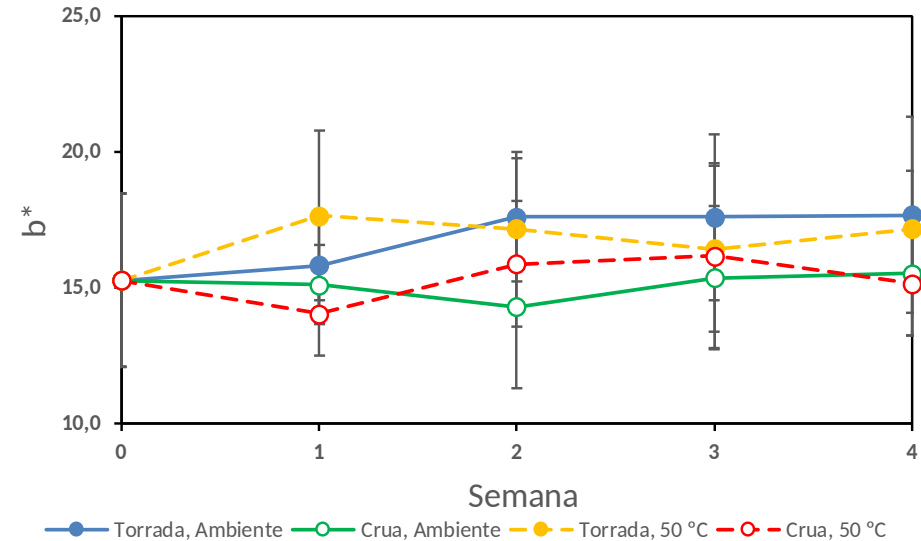
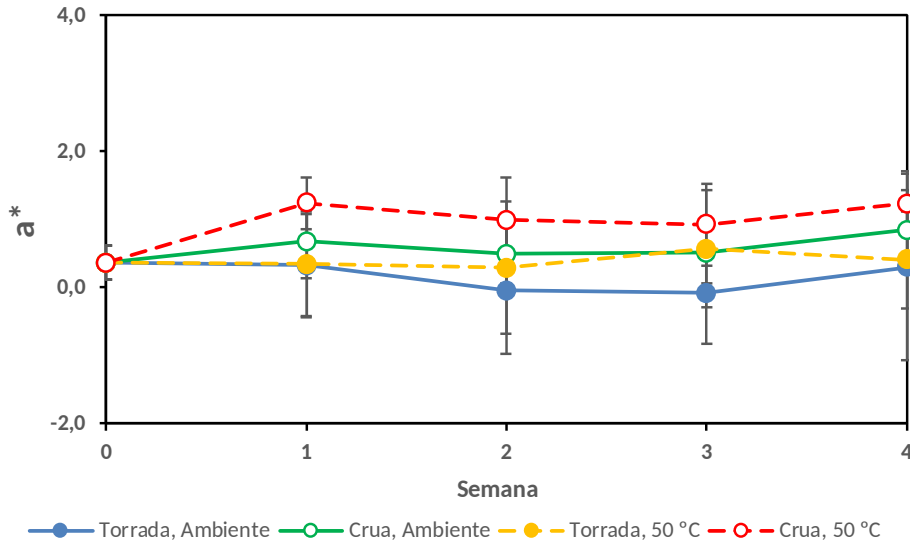
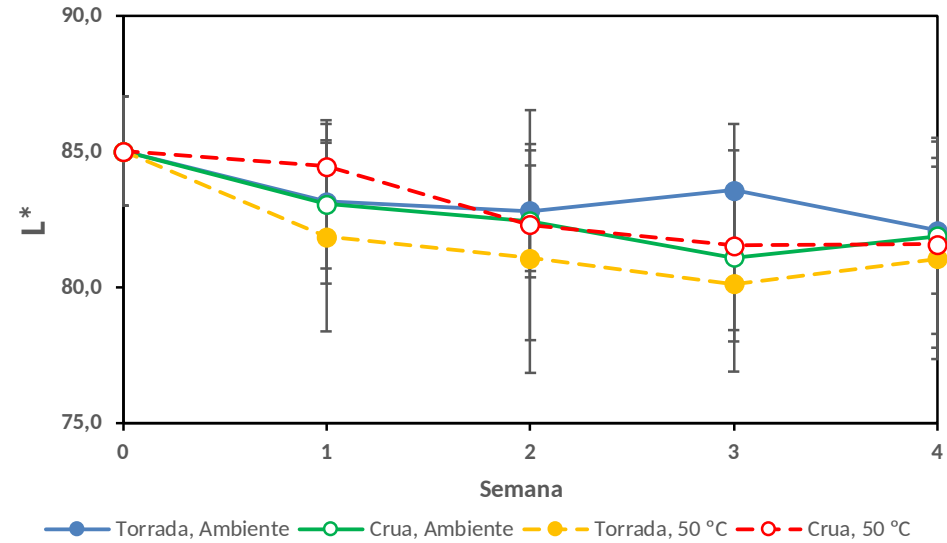
## Cor - exterior do miolo



# Resultados e discussão



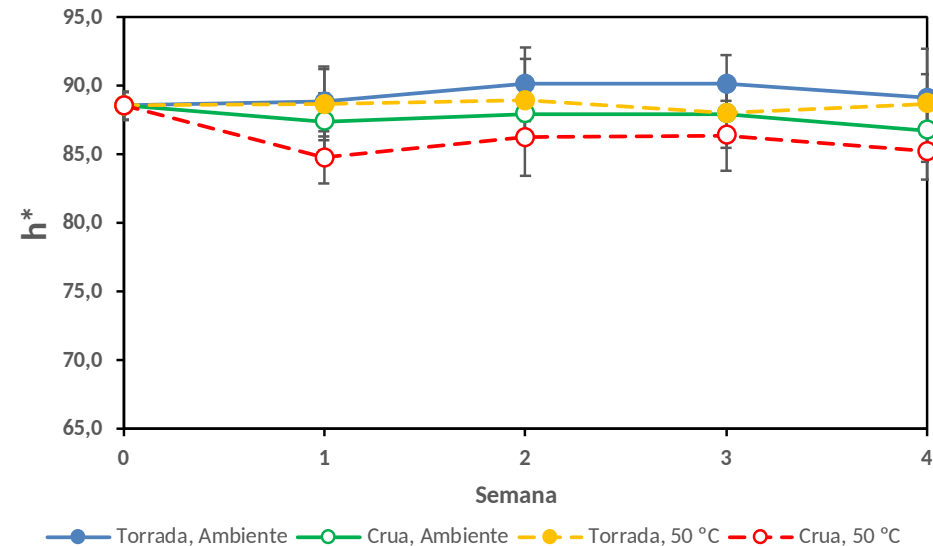
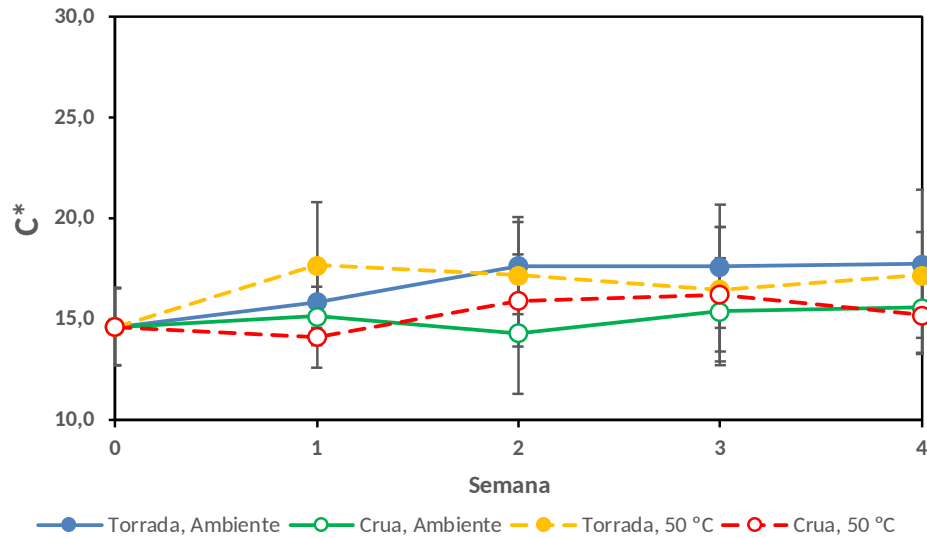
## Cor - interior do miolo



# Resultados e discussão



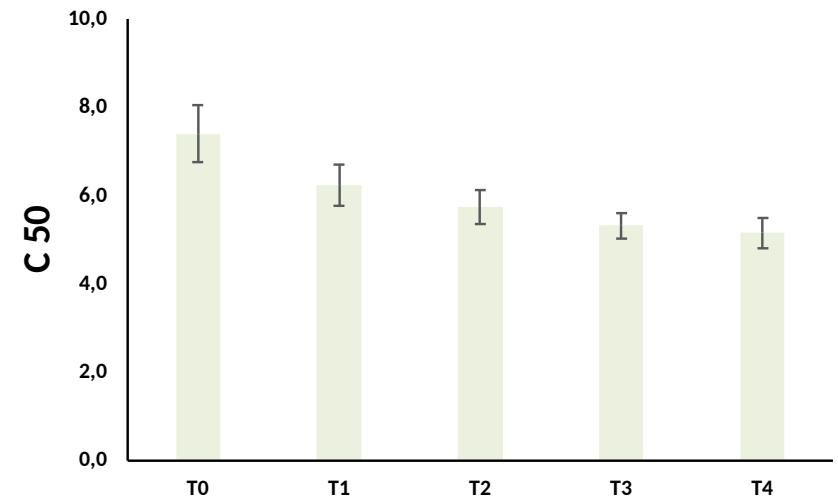
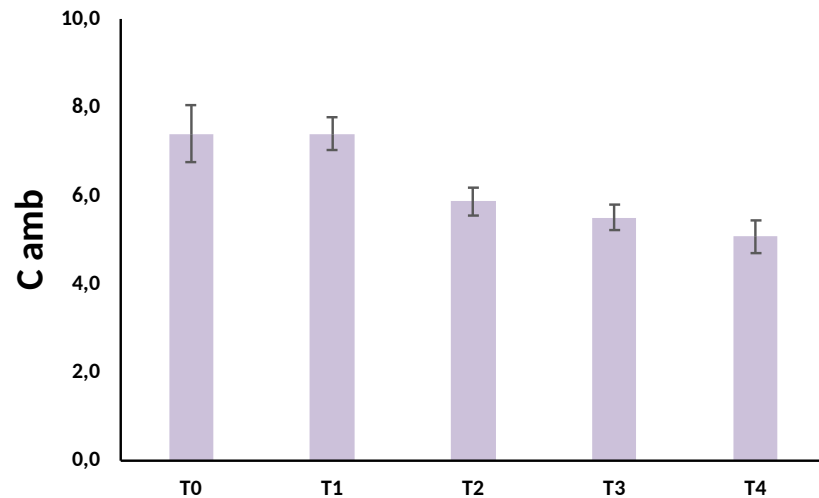
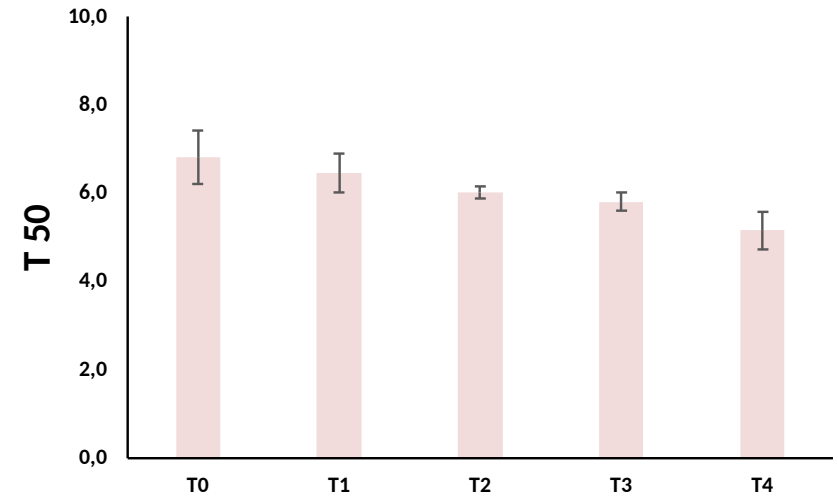
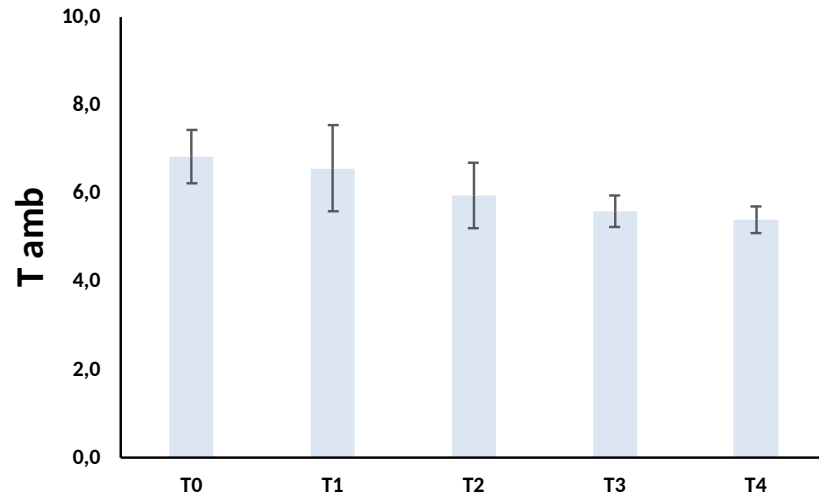
## Cor - interior do miolo



# Resultados e discussão



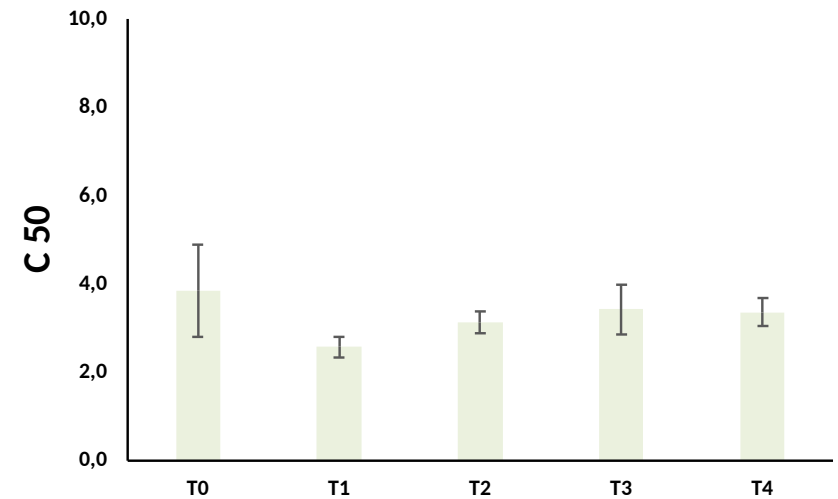
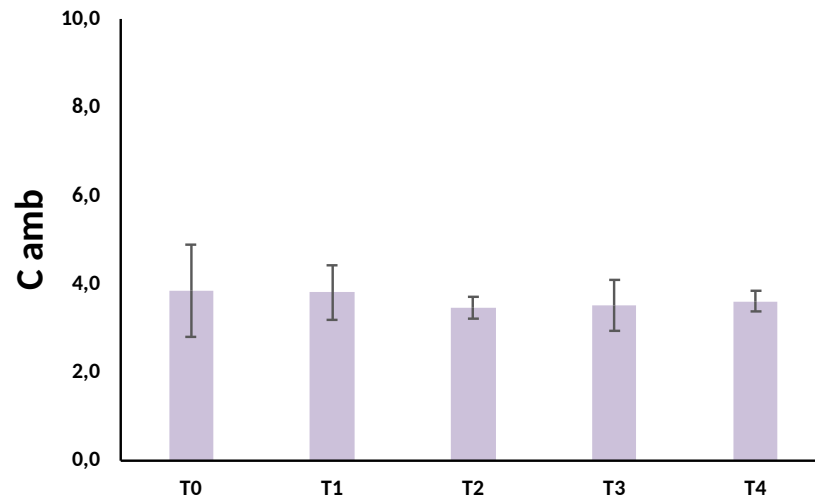
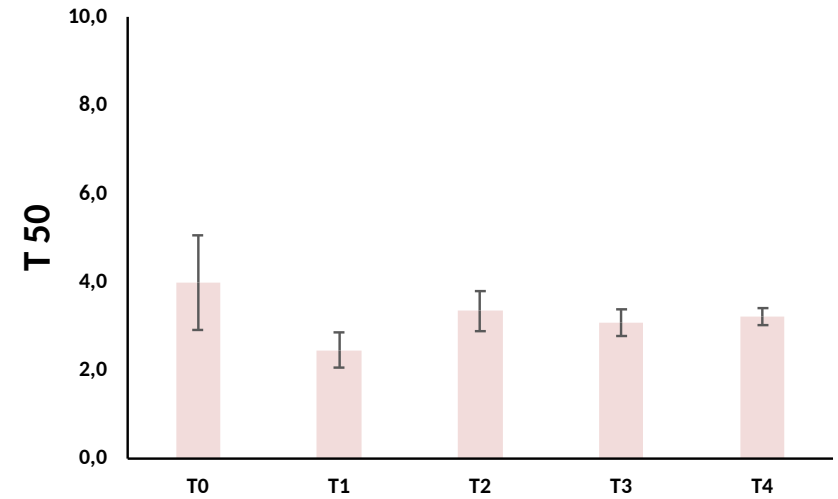
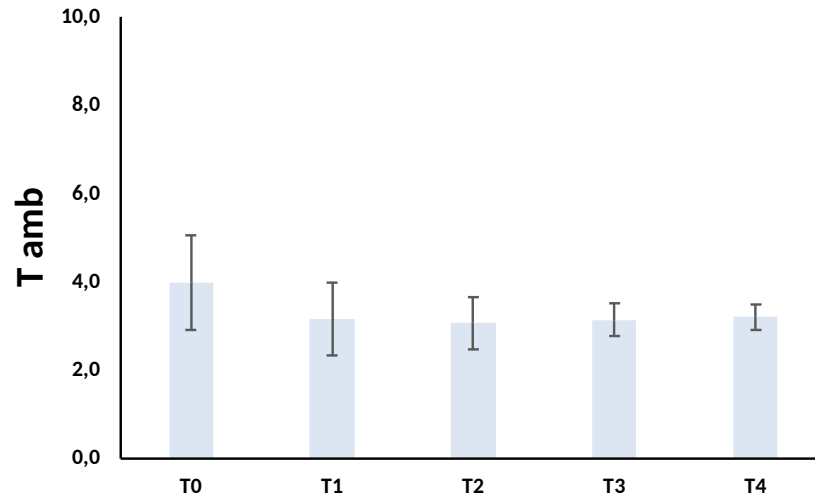
## Dureza



# Resultados e discussão

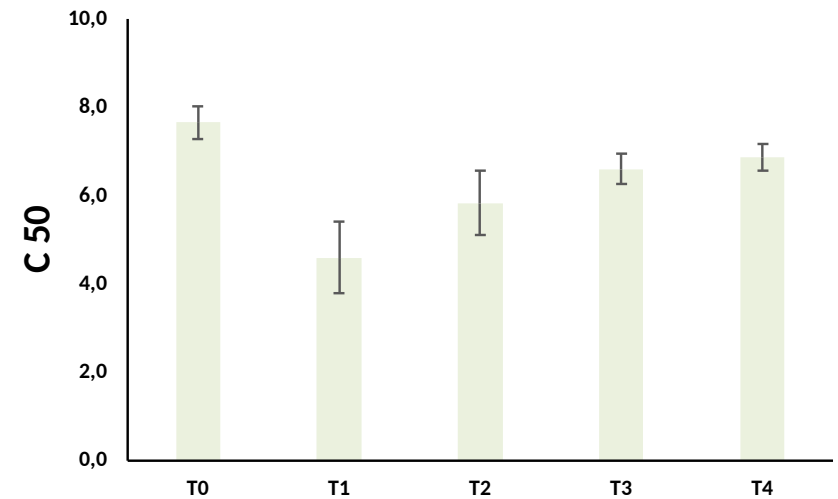
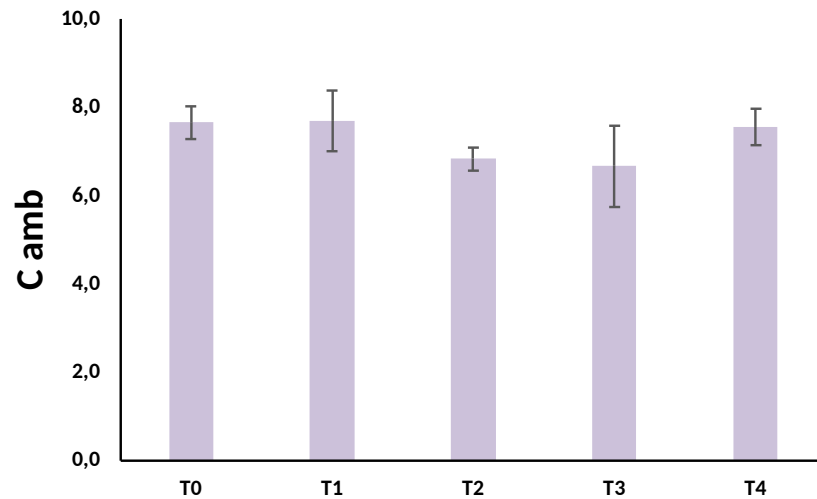
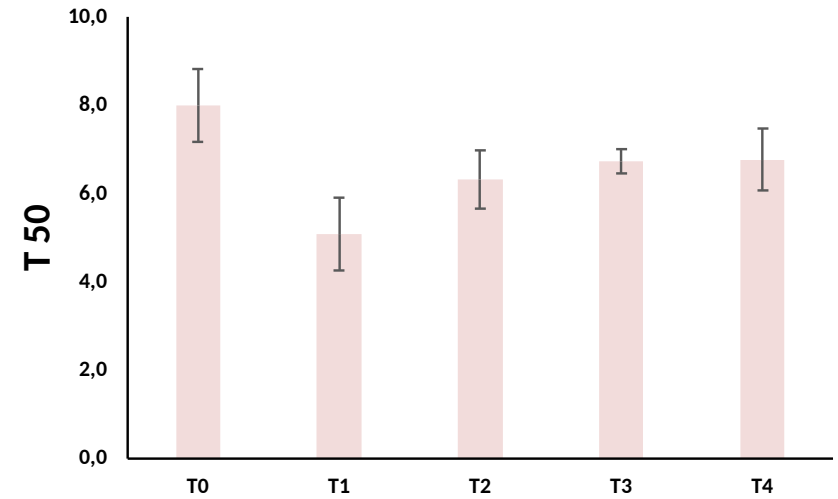
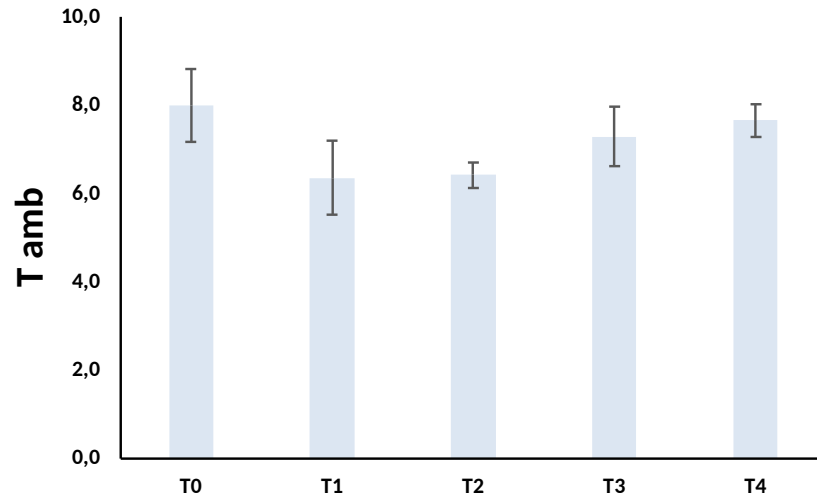


## Fibrosidade





## Crocância

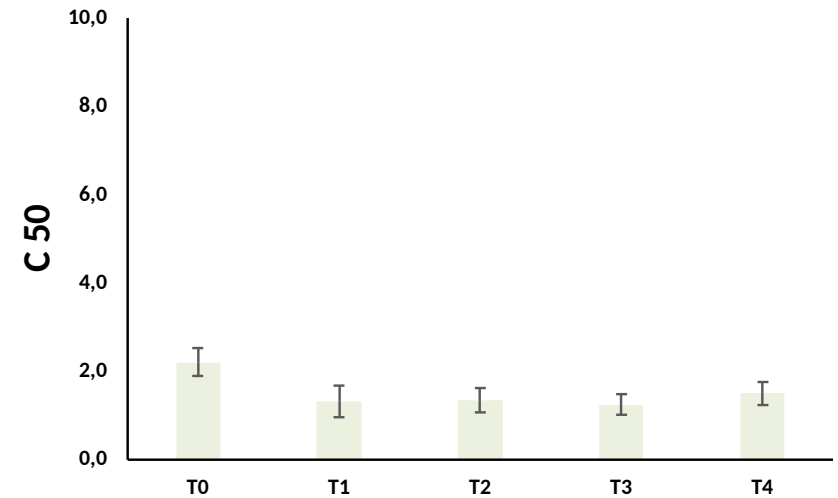
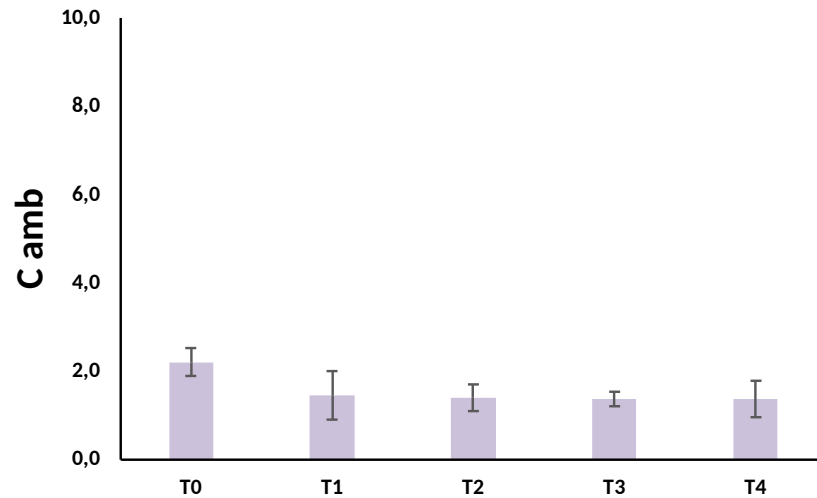
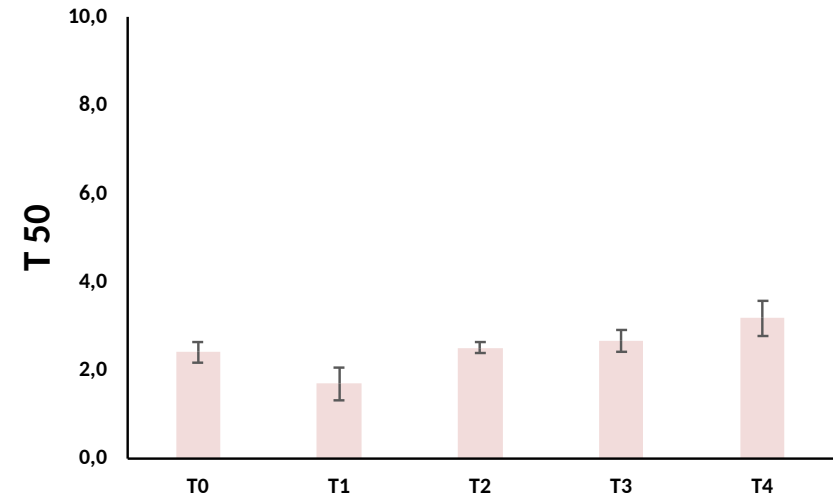
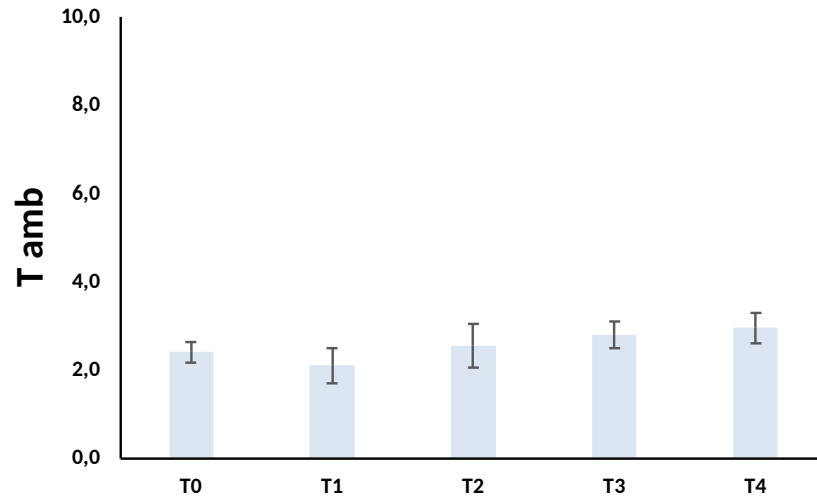




# Resultados e discussão



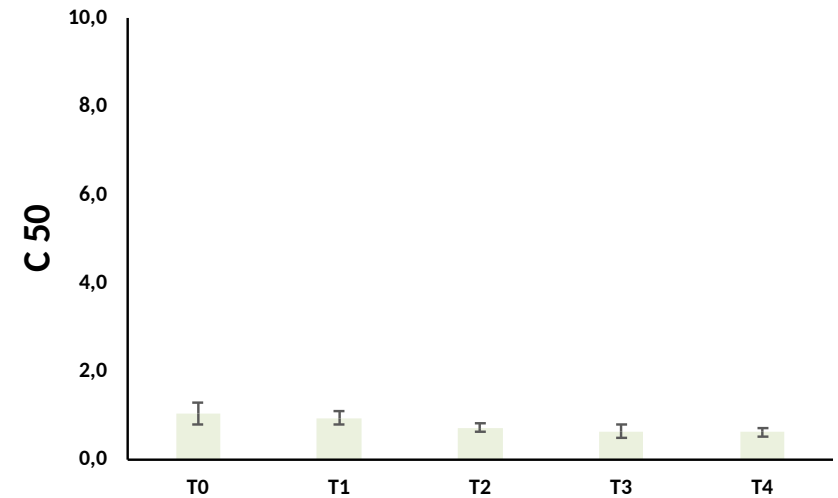
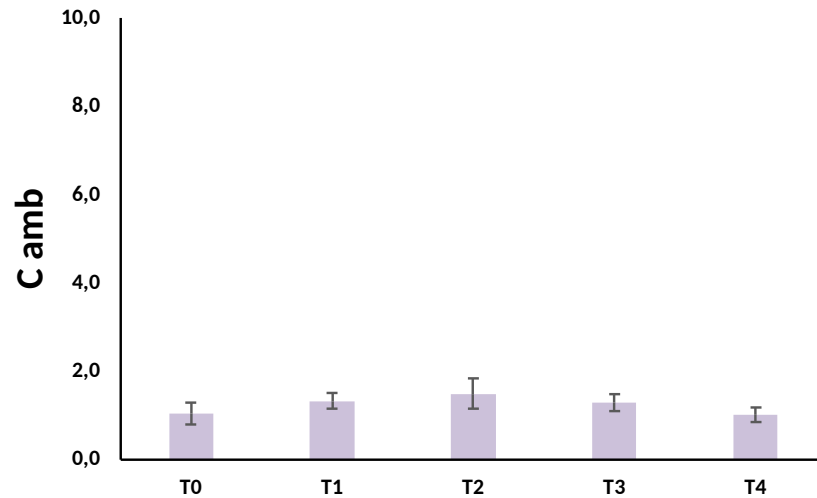
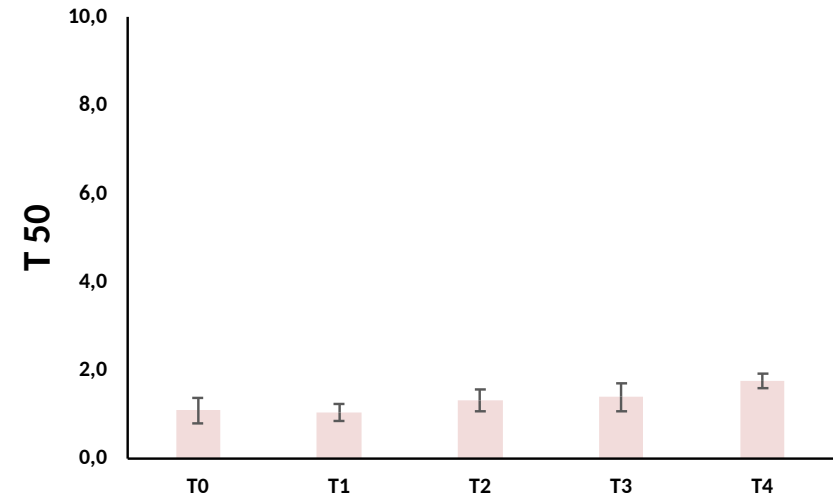
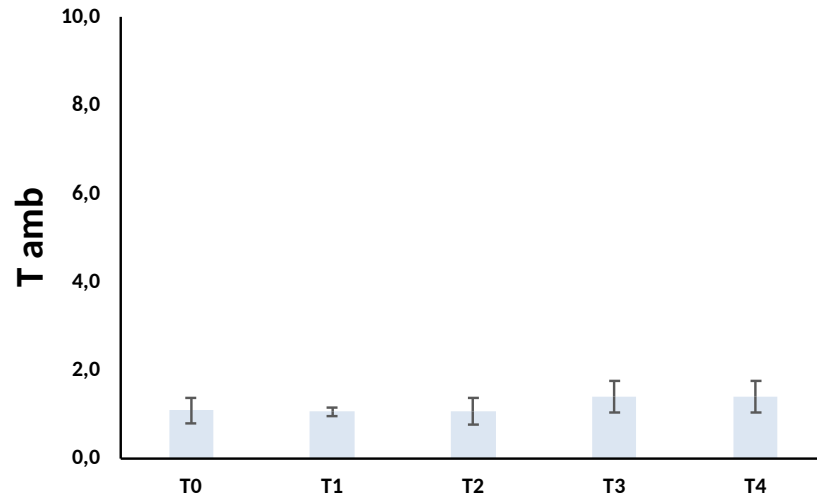
## Doce



# Resultados e discussão

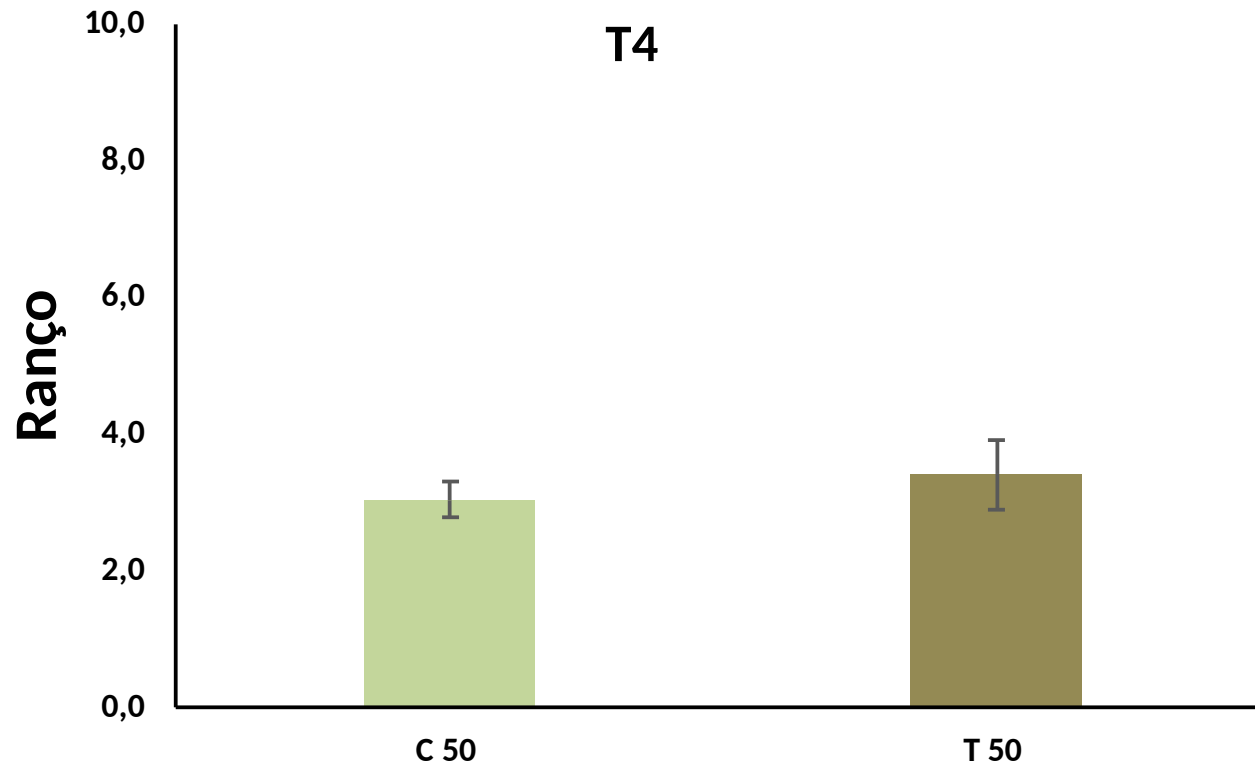


## Amargo





## Oxidação-Ranço





## As principais conclusões deste trabalho são:

- As sementes da cv. Duro Italiano quando armazenadas à temperatura ambiente mantiveram-se integras durante o período em estudo;
- A utilização de temperaturas elevadas (50°C) no armazenamento originou algumas alterações do ponto de vista físico-químico e sensorial, contudo inferiores ao registado na bibliografia para outras variedades;
- O comportamento o miolo cru e torrado foi semelhante, com a exceção da cor que sofreu alteração superior no torrado.

O presente trabalho contribuiu ainda para expandir o conhecimento acerca de uma variedade tradicional de amendoeira onde serão desenvolvidos mais trabalhos com vista à sua valorização.



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