



# Study of the volume and life of lemon juice

## 1. OBJECTIVE

The purpose of this study is to determine, for each type of treatment, the volume obtained from a specific quantity of lemons, the life of these by studying the amount of galacturonase present and the delay of maturation.

## 2. SAMPLES

To carry out the study, we start from two different treatments applied on the same dates and on the same farm.

- The first of the samples (A), was treated with products of the company TÉCNICA NUTRICIONAL FOLIAR S.L.
- The second sample (B) was treated with unspecified products from another company.

## 3. PREPARATION OF THE STUDY

To carry out the study, a first titration, lemon to lemon, is made of ten lemons of each type (A and B). In this assessment we obtain the weight, volume of juice obtained and the Brix. The values obtained are the following:

	A				B			
	Weight (kg)	Vol. (ml)	w/w	Brix	Weight (kg)	Vol. (ml)	w/w	Brix
1	204.35	56.1	27.45	8	121.14	39	32.19	8
2	209.26	52	24.85	8	105.12	33	31.39	9
3	212.09	57	26.88	7.2	95.45	26	27.24	9
4	175.92	52.5	29.84	7.8	162.76	49	30.11	8.2
5	233.85	66	28.22	7.6	123.29	49	39.74	8.6
6	218.82	65	2.70	8	110.31	29	26.29	8.6
7	194.00	58.5	30.15	8	120.80	36	29.80	9
8	138.08	44	31.87	7.2	135.27	36	26.61	9
9	154.33	46	29.81	7.4	140.77	39	27.7	8.8
10	201.08	57	28.35	6.8	112.17	25	22.29	8.2

During the preparation of the samples, sample A shows that they are lemons of a larger size. It is also observed that, at the time of cutting, a high amount of oils is released and that only from the cut a large amount of juice is obtained.



From sample B, a smaller calibre of lemons is observed. The amount of oils is also high during the cutting of the fruit, but the amount of juice released during the cutting is lower.



Left shows A, right wing shows B

## 4. ANALYTICAL

On March 13, 2019, the following results were obtained:

Average values obtained from the data of each lemon:

Sample	Weight Kg	Juice volume L	% W/W	Juice dens.	Juice pH	CE	Brix
A	1,942	0,5541	28,54	1,020	2,24	5.004	7
B	1,227	0,3610	29,42	1,017	2,16	5.296	8

pH

	0H	6H	24H	48H
A	2,24	2,14	2,26	2,12
B	2,16	2,17	2,25	2,07

Brix

	0H	6H	24H	48H
A	7	7	7	6.9
B	8	7.8	7.4	7.1

Concentration

Time	A			B		
	0 H	24 H	48 H	0 H	24 H	48 H
[N <sub>total</sub> ] mg/L	412.5	309.5	82.5	502.5	395.75	310
[NH <sub>3</sub> ] mg/L	500	375	100	612.5	482.25	380.25
[NO <sub>3</sub> .] mg/L	1822.5	1367	367.5	2227.5	1753.75	1372.5

