

# COFFEE

Increase vegetative and productive parameters



## PLACE

Test location:	Fazenda Cachoeirinha - São João da Boa Vista, São Paulo
Person in charge:	Teixeira Consultoria, IlsaBrasil
Number of thesis:	5
Type of cultivation:	Open field
Technique of distribution:	Soil application
Period:	05/11/2019 - 31/07/2021
Variety:	Catucai 2 SL (3 years, density: 4761 plants/ha)
Tested products:	FERTIL, AZOSLOW



## OBJECTIVE

To evaluate the efficacy of Agrogel<sup>®</sup>, hydrolysed gelatin for agricultural use, integrated into the solid fertilisation strategy of conventionally grown Arabica Coffee, on the increase of the vegetative and productive parameters.

# TROPICAL CROPS



## RESULTS ACHIEVED

After two consecutive years of repeated tests on the same fields and in the same conditions; the results with the use of fertilisers based on Agrogel<sup>®</sup>, Fertil and Azoslow, integrated into the nutritional strategy of Arabica Coffee which, in Brazil, makes extensive use of urea and other mineral fertilisers, were very interesting. The efficiency of Agrogel<sup>®</sup> in the gradual release of nitrogen, which is available to plants for a long time, made it possible to increase both the nutrient uptake (measured by foliar analysis) and the final productivity, particularly in the second season. The release efficiency is pointed out by the result of the sample in which Fertil was used at the lowest dosage, which produced more than the other sample in the second year.

## TEST PROTOCOL

STAGE	ILSA thesis 01	ILSA thesis 02	ILSA thesis 03	Company thesis 1	Company thesis 2
November	<b>Fertil: 250 kg/ha</b>	<b>Fertil: 400 kg/ha</b>	<b>Azoslow: 200 kg/ha</b>	Urea: 100 kg/ha	Urea: 130 kg/ha
December	NPK 20-0-20: 400 kg/ha	NPK 20-0-20: 400 kg/ha	NPK 20-0-20: 400 kg/ha	NPK 20-0-20: 400 kg/ha	NPK 20-0-20: 400 kg/ha
January	NPK 20-0-20: 400 kg/ha	NPK 20-0-20: 400 kg/ha	NPK 20-0-20: 400 kg/ha	NPK 20-0-20: 400 kg/ha	NPK 20-0-20: 400 kg/ha
February	NPK 20-0-20: 400 kg/ha	NPK 20-0-20: 400 kg/ha	NPK 20-0-20: 400 kg/ha	NPK 20-0-20: 400 kg/ha	NPK 20-0-20: 400 kg/ha
<b>Units / ha</b>	N = 271.25 K <sub>2</sub> O = 240	N = 290 K <sub>2</sub> O = 240	N = 298 K <sub>2</sub> O = 240	N = 286 K <sub>2</sub> O = 240	N = 299.8 K <sub>2</sub> O = 240

The other plant protection treatments were similar for all thesis, as per company practice.



# COFFEE

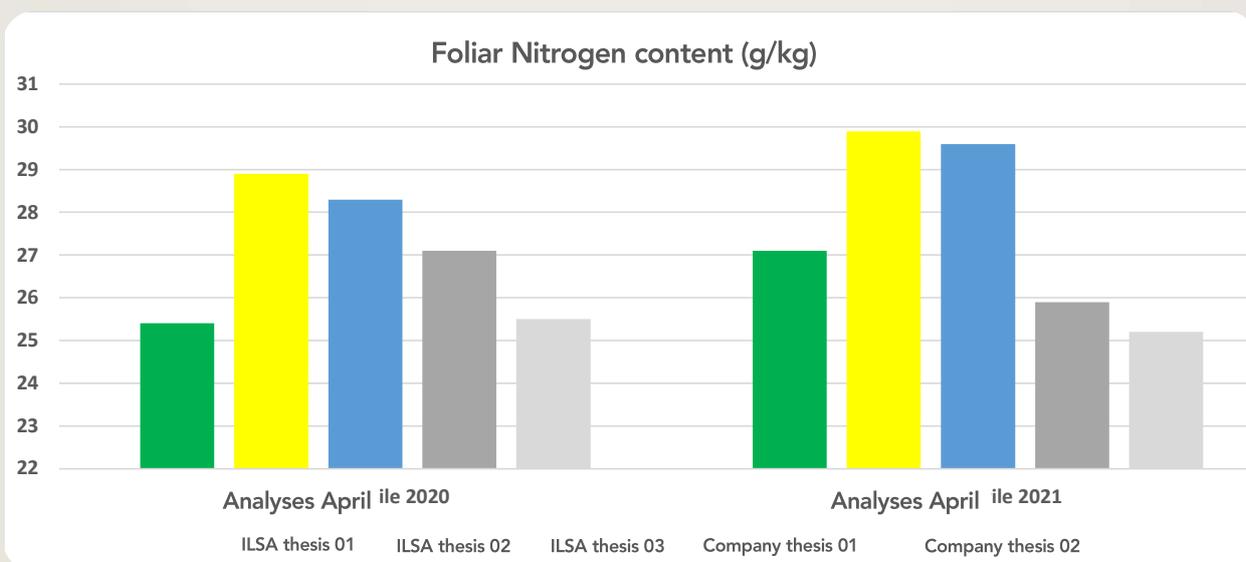
Increase in vegetative and productive parameters



## RESULTS ACHIEVED

FOLIAR ANALYSES		ILSA thesis 01	ILSA thesis 02	ILSA thesis 03	Company thesis 1	Company thesis 2
April 2020 analysis	N (g/kg)	25.4	28.9	28.3	27.1	25.5
	P (g/kg)	1.29	1.28	1.27	1.23	1.27
	K (g/kg)	19.1	18.8	19.5	18.2	18.9
April 2021 analysis	N (g/kg)	27.1	29.9	29.6	25.9	25.2
	P (g/kg)	1.45	1.48	1.46	1.43	1.46
	K (g/kg)	23.1	22.8	22.9	22.2	22.7

From the foliar analysis data, it can be seen that in the three **ILSA** thesis there is always a good balance between nitrogen, phosphorus and potassium, indicating a greater uptake efficiency of the three macro-elements. In particular, in the second year, there was also a significant increase in the nitrogen content, also of **ILSA** thesis 01 compared to the first year (despite the lower number of units), which confirms the greater and prolonged availability of nitrogen in the soil, thanks to Agrogel®.



# TROPICAL CROPS

## FINAL YIELD

		ILSA thesis 01	ILSA thesis 02	ILSA thesis 03	Company thesis 1	Company thesis 2
Test 2019/2020	Average litres of beans per plant	7.48	7.87	8.09	6.95	7.39
	Litres of beans per hectare	35,612	37,469	38,516	33,089	35,184
	Yield in bags per hectare	65.10	69.40	71.30	61.30	65.10
Test 2020/2021	Average litres of beans per plant	4.40	4.00	3.80	3.40	3.50
	Litres of beans per hectare	20,948	19,044	18,092	16,187	16,663
	Yield in bags per hectare	36.75	33.41	31.74	28.40	29.23

The final yield expressed both as total volume per hectare, and as bags of coffee harvested, shows the best result of the three **ILSA** thesis, in both years (despite the second, low-production year), compared to the two mineral-only thesis. It should be noted that in the second year, the thesis that gave the best result was the one with Fertil at a lower dosage, indicating nutritional efficiency and improved soil fertility thanks to Agrogel®, which is more efficient even when fewer nitrogen units in total are applied.

Yield (litres of beans per hectare)

