

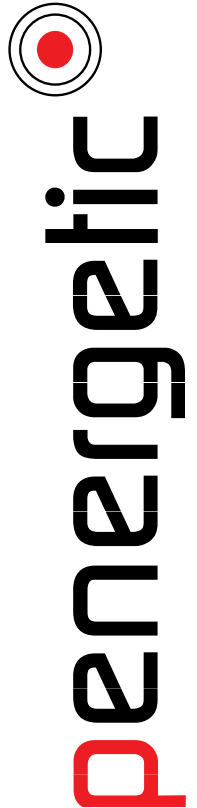
**penergetic** 

# **CARROTS**

## **Field Results and Economics**



# Penergetic Results with Carrots



**ALL results herein presented were commissioned by (and courtesy of):  
Renovagro Agricultura Renovável LTDA (Penergetic Distributor in Brazil)**

**Translation from Portuguese by: Derek Pratt, Penergetic Canada**

**Note: All Penergetic Application rates shown are expressed in oz. per acre.  
Examples: 2.1 oz./ac = 60 grams/acre || 8.4 oz/ac = 240 grams/acre**

CCR:	Luis Eduard	Producer:	Aparecido Mendes
RTV:	Francis Bio	Municipality/StateUF:	Mauá da Serra/ PR
RGD:		Farm:	Spring Site
Agricultural Year:	2014	Local Distributor:	Belagrícola
Region:	Minuano	Culture:	Carrot
		Variety / Hybrid:	Juliana
		Cycle:	150 days

Treatment	Fertilizer - at Planting		Fertilizer - In-crop	
	Formula	lb/ac	Formula	lb/ac
Growers Standard Practice	02 28 00	880	04 14 08	1,230
GSP + Penergetic	02 28 00	880	04 14 08	1,230
Penergetic				

Treatments	Area (ac)	Dates		Production (pro-rated/ac)	
		Planting	Harvest	Actual	Relative
GSP	37.5	30/08/2013	06/01/2014	204 boxes	100
GSP + Penergetic	12.5	30/08/2013	06/01/2014	282 boxes	139
Penergetic					

**Observations:** Penergetic Application Rates: Penergetic K (8.4 oz./ac at planting) and Penergetic P (4 applications of 2.1 oz./ac – at 15 day intervals). Harvest comparison done by harvesting from 4 plots of 20 feet of row length for each treatment in the field. Carrots harvested were classified into first and second grade and discards/culls. With Penergetic treatment, there were more first grade carrots and fewer discards/culls. The Penergetic treated area produced 38.4% more carrots.



# PC - Penergetic In the field

Treatment GSP



Treatment GSP + Penergetic



CCR:	Luis Eduard	Producer:	Edio Pascoal
RTV:	Francis Bio	Municipality/State:	Mauá da Serra/ PR
RGD:		Farm:	
Agricultural Year:	2014	Local Distributor:	Belagrícola
Region:	Minuano	Culture:	Carrot
		Variety / Hybrid:	Juliana
		Cycle:	150 days

Treatment	Fertilizer - at Planting		Fertilizer - In-crop	
	Formula	lb/ac	Formula	lb/ac
Growers Standard Practice	02 28 00	1,156	04 14 08	1,320
GSP + Penergetic	02 28 00	1,156	04 14 08	1,320
Penergetic				

Treatments	Area (ac)	Dates		Production (pro-rated/ac)	
		Planting	Harvest	Actual	Relative
GSP	50.0	20/05/2014	06/10/2014	600 boxes	100
GSP + Penergetic	30.0	20/05/2014	06/10/2014	738 boxes	123
Penergetic					

Observations: Penergetic K was used in the planting at the dosage of 7 oz. / acre and Penergetic P was used at post emergence of the culture at the dosage of 7 oz. / acre, divided into 2 applications. The Penergetic k and p used cost \$61.35 / acre. Whereas, at \$6.75 per box, the 138 extra boxes of carrots produced using Penergetic generated an extra income of \$931.50 / acre for a net income (after the Penergetic cost is deducted) of \$870.15 / acre. The Penergetic treated field produced 23% more boxes of carrots than the Control. [Currency conversion done at 1.0 US\$ : 2.22 BR Real (Jun 10/14).]



# PC - Penergetic no Campo

Treatment: GSP (left) || GSP + Penergetic (right)

Treatment: GSP || GSP + Penergetic



Growers Standard Practice (GSP) || GSP + Penergetic



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A energia que faltava no campo

The energy that was lacking in the field

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# Analysis of the yield of carrots with the use of Penergetic

Proprietor: Irmãos Bergamasco

Farm: Rosária I

Municipality: Perdizes



**Carrot variety:** Bangoe

**Fertilization:** 1,760 lbs. / ac 02-30-10 + 265 lbs. / ac 12-06-18, coverage in two applications

**Comparison:** area with standard fertilization (GSP) of the farm against area with GSP plus Penergetic [Penergetic K 8.4 oz. / ac soil applied + Penergetic P 8.4 oz. / ac foliar applied)









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TECNOLOGIA EM  
BIOATIVACÃO





## Standard farm fertilization (GSP)

Boxes of carrots per linear meter: 0.63 boxes / meter

Average GSP carrot production: 3,600 boxes / ha

[equals: 1,440 boxes / acre]



## **Production with standard fertilization (GSP) + Penergetic**

Boxes of carrots per linear meter: 0.76 boxes / meter  
Average GSP + Penergetic production: 4,340 boxes / ha  
[equals: 1,736 boxes / acre]



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TECNOLOGIA EM  
NUTRIVACAO





Producer:  
Valdir Gomes

Comparison  
of benefits of  
Penergetic  
in area of  
nematodes



Standard fertilization  
(no Penergetic)  
Nematodes evident



Standard fertilization  
+ Penergetic  
Nematodes ??

# Thank you!



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The energy that was lacking in the field

**A energia que faltava no campo**

## FIELD REPORT

***PROPERTY OWNER: JOSÉ APARECIDO MENDES***

***ADMINISTRATOR: VILMO E ANDERSON***

***PROPERTY: SÍTIO PRIMAVERA***

***COUNTY: MAUÁ DA SERRA***

***BRANCH: MAUÁ DA SERRA***

***RESPONSIBLE: EIZO KURAMAE***

***DATE: AUGUST 19, 2013***

## TREATMENT

### Grower Standard Practice (GSP)

Fertilizer when planting: 880 lbs/ac of 02-28-00

Subsequent: 02-28-00, 2 x 616 lbs./ac. and Ammonia Sulfate 2 X 616 lbs./ac

### PENERGETIC

GSP plus:

Penergetic K 8.4 oz./ac

Lime 880 lbs./ac

Penergetic P 8.4 oz./ac



**X**

### CONTROL

Growers Standard Practice



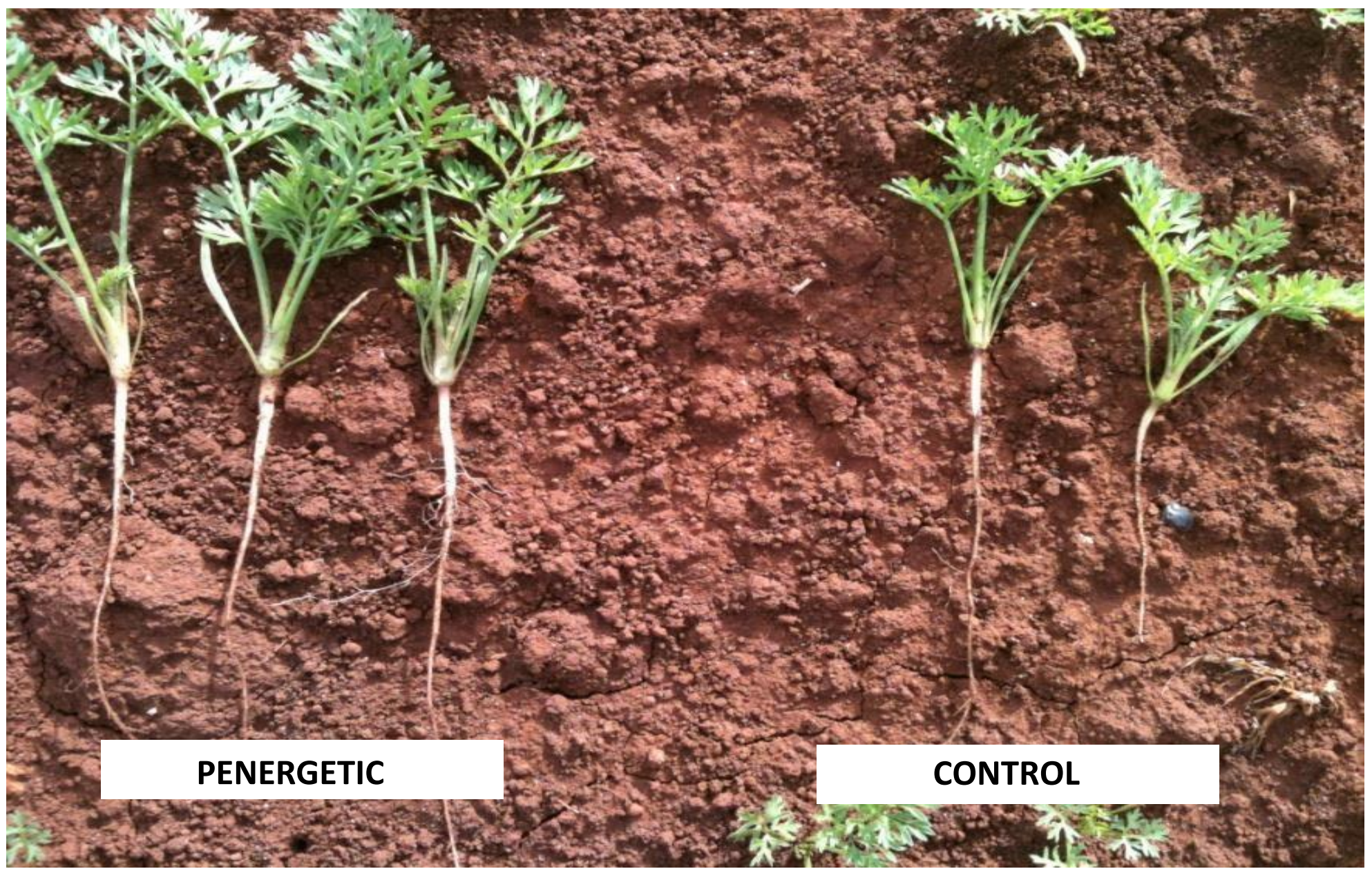
**Evaluation Date: September 19, 2013 (30 days after planting)**

CONTROL

PENERGETIC WITH LIME



**Treatment: after 30 days only shows effect of Penergetic K**



**PENERGETIC**

**CONTROL**

**Evaluation Date: Harvest**

CONTROL

PENERGETIC





**Date of Review: January 6, 2014**



**Penergetic & Lime: 38.2% more No. 1 grade carrots.**

**Control: More No. 2 grade carrots**

Date of Review: January 6, 2014



**METHODOLOGY:** carrots from four 20 feet long plots were collected from each side (Penergetic treatment and Control), were evaluated according to the client's classification in terms of grade: No. 1, No. 2 and culls. They were then weighed and washed.

**Dave of Review: January 6, 2014**

**Penergetic Field Results:** 282 boxes/ac No. 1 carrots, 74 boxes/ac No. 2 carrots and 28 boxes cull carrots

**Control Field Results:** 204 boxes/ac No. 1 carrots, 91 boxes/ac No. 2 carrots and 60 boxes cull carrots

**Difference in Production:** The Penergetic treated fields produced 78 boxes more of No. 1 carrots than the Control. No. 1 carrots sell for US\$9.28/box (57.2 lbs). Whereas, No. 2 carrots sell for US\$4.22/box.

**Treatment Expense:** Penergetic K, P and Lime = \$200.27

**Profitability Difference:** 282 boxes X \$9.28 = \$2,616.96/ac for Penergetic treated compared to 204 boxes X \$9.28 = \$1,899.12/ac for Control = difference of \$723.84

[Note: Economic calculation done based on an exchange rate (Jan 6, 2014) of 2.37 Brazilian Real = 1.00 US\$].

**Increased Profit with Penergetic Treatment: \$723.84/ac**

**INVESTMENT OF \$220.27 = \$503.57/acre**

**Producer's Concluding Testimonial:**

*"Carrot production was more even, the root system went much deeper and the leaves were darker.*

*The most important was with respect to productivity. There were more No. 1 carrots, which have a commercial value double the value of No. 2 carrots."*



**AFFILIATE: MAUÁ DA SERRA - PR**  
**EQUIPMENT: EIZO KURAMAE**  
**MAICON MARCHIORI**  
**MANAGEMENT: ALEXANDRE YAMAMOTO**



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## Penergetic Assessment – Carrot culture



Eng. Agr. Paulo Matos de Sousa Júnio  
CGD-Penergetic Márcio Santana

São Gotardo, 23 de dezembro de 2014



## PC - Penergetic no Campo

Produtor: Grupo Leopoldis

Fazenda: Lote 43

Cultura: Cenoura

Município: Rio Paranaíba

UF: MG

Contato: Paulo César

Telefone:

E-mail:

### Testemunha

Área:	80ha	
Data do Plantio:	22/09/2014	
Variedade:	Híbrida maestro	
Sementes / Metro :		
Adubação <u>plântio</u> :	Fórmula	kg/ha
	02-24-12	2200
Adubação <u>cobertura</u> :	Fórmula	kg/ha
	25-0-25	200
	Fórmula	kg/ha
	kcl(60)	300

### penergetic

2ha	
22/09/2014	
Híbrida maestro	
Fórmula	kg/ha
02-24-12	2200
Fórmula	kg/ha
25-0-25	200
Fórmula	kg/ha
kcl(60)	300





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## Posicionamento:

### 1. Penergetic k Application

Dosage: 8.4 oz./acre

Timing: Pre-planting.

22/09/2014



### 2. Penergetic P Application

16/10/2014..

Dosage: 3.5 oz./ac.

### 3. Penergetic P Application

10/11/2014.

Dosage: 3.5 oz./ac.

### 4. Penergetic P Application

02/12/2014..

Dosage: 3.5 oz./ac.



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# 60 Day Carrot Evaluation

Cenouras amostradas	1	2	3	4	5	6	7	8	MÉDIA(%)	VARIANCIA	DESVIO PADRÃO	CV	DISPERSÃO
<b>PENERGETIC(peso em gramas)</b>	93	74	88	113	108	130	76	137	102,4	557,4	23,6	23%	MEDIA DISPERSAO
<b>Padrão(peso em gramas)</b>	40,0	69,0	85,0	79,0	54,0	98,0	91,0	97,0	76,6	438,0	20,9	27%	MEDIA DISPERSAO

Carrots Sampled	1	2	3	4	5	6	7	8	Avg. (%)	Variance	Std Dev	CV	Dispersal
<b>PENERGETIC (in grams)</b>	93	74	88	113	108	130	76	137	102.4	557.4	23.6	23%	half dispersion
<b>GSP (weight in grams)</b>	40	69	85	79	54	98	91	97	76.6	438.0	20.9	27%	half dispersion

TABLE OF COMPARISON PERFORMED THE SAMPLING OF 08 CARROTS STANDARD TREATMENT AND 08 CARROTS TREATMENT WITH PENERGETIC.

Evaluation carried out on 10/11/2014 by Márcio Santana



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## Harvest Evaluation Method

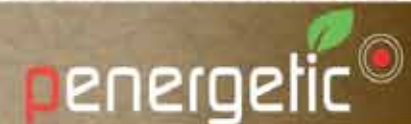
**The Penergetic area was evaluated on December 20th and 21st (Sat. & Sun). The GSP (Control) area was evaluated on December 22nd and 23rd (Mon. & Tues).**

**The methodology used to evaluate the samplings was studied with Cleison Technical – responsible for the carrot crop of Agropecuária Leópolis.**



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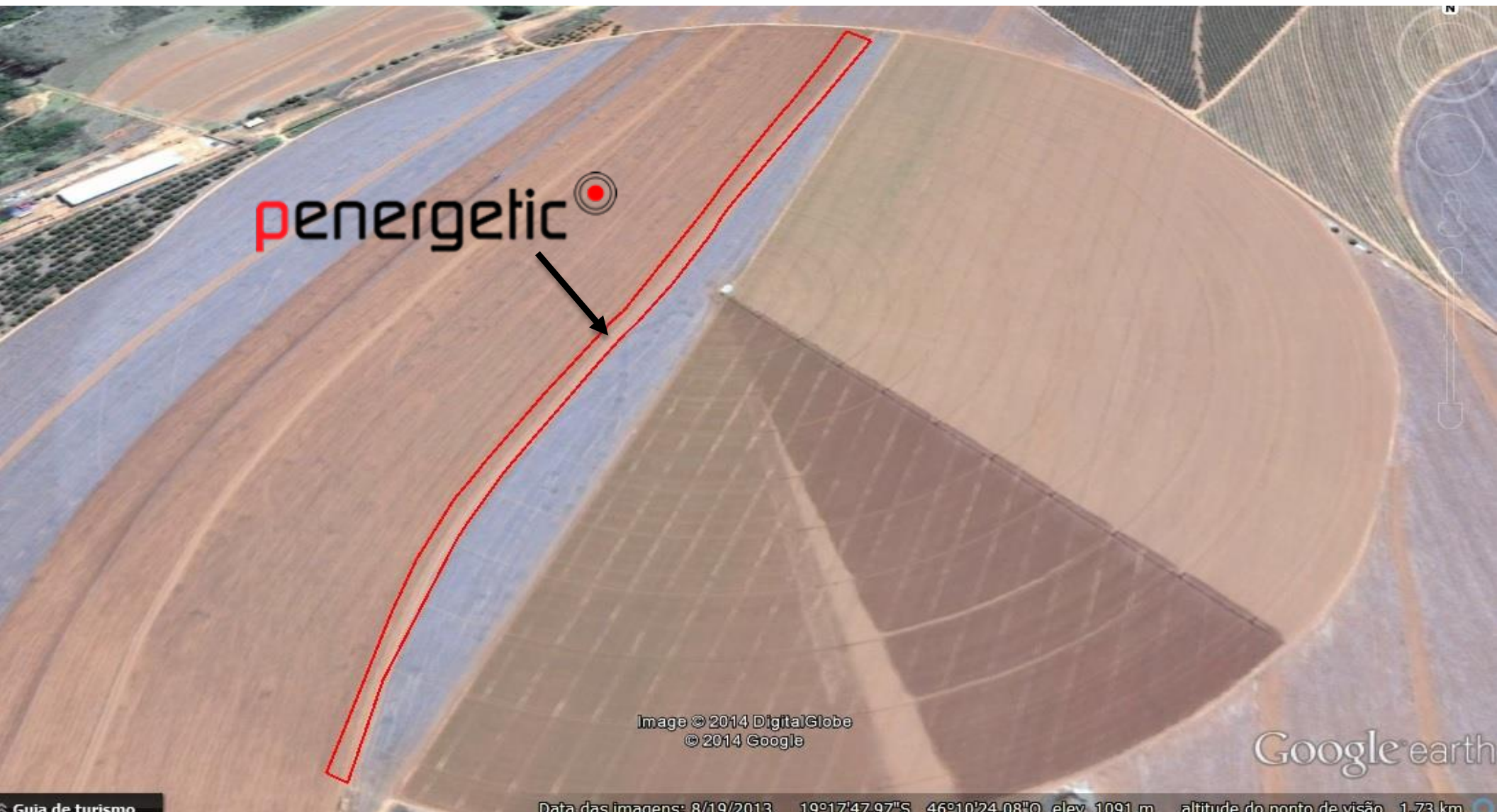
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Guia de turismo Data das imagens: 8/19/2013 19°17'47.97"S 46°10'24.08"O elev 1091 m altitude do ponto de visão 1.73 km



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Avaliações de produtividade



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## Productivity Rating

PENERGETIC				Growers Standard Practice (GSP)			
meters	boxes	average	m/box/ac	metros	boxes	average	m/box/ac
50	22	2.27	978	27	12	2.25	988
35	14	2.50	889	21	9	2.33	952
44	16	2.75	808	30	12	2.50	889
25	10	2.50	889	50	19	2.63	844
27	12	2.25	988	50	19	2.63	844
41	20	2.05	1084	32	14	2.29	972
22	10	2.20	1010	21	8	2.63	846
39	18	2.17	1026	43	16	2.69	827
32	13	2.46	903	18	8	2.25	988
35	15	2.33	952	50	19	2.63	844
350	150	2.33	average	342	136	2.51	média
Productivity		952				884	
<b>Increase (difference)</b>				<b>68</b>	<b>boxes/ac</b>		

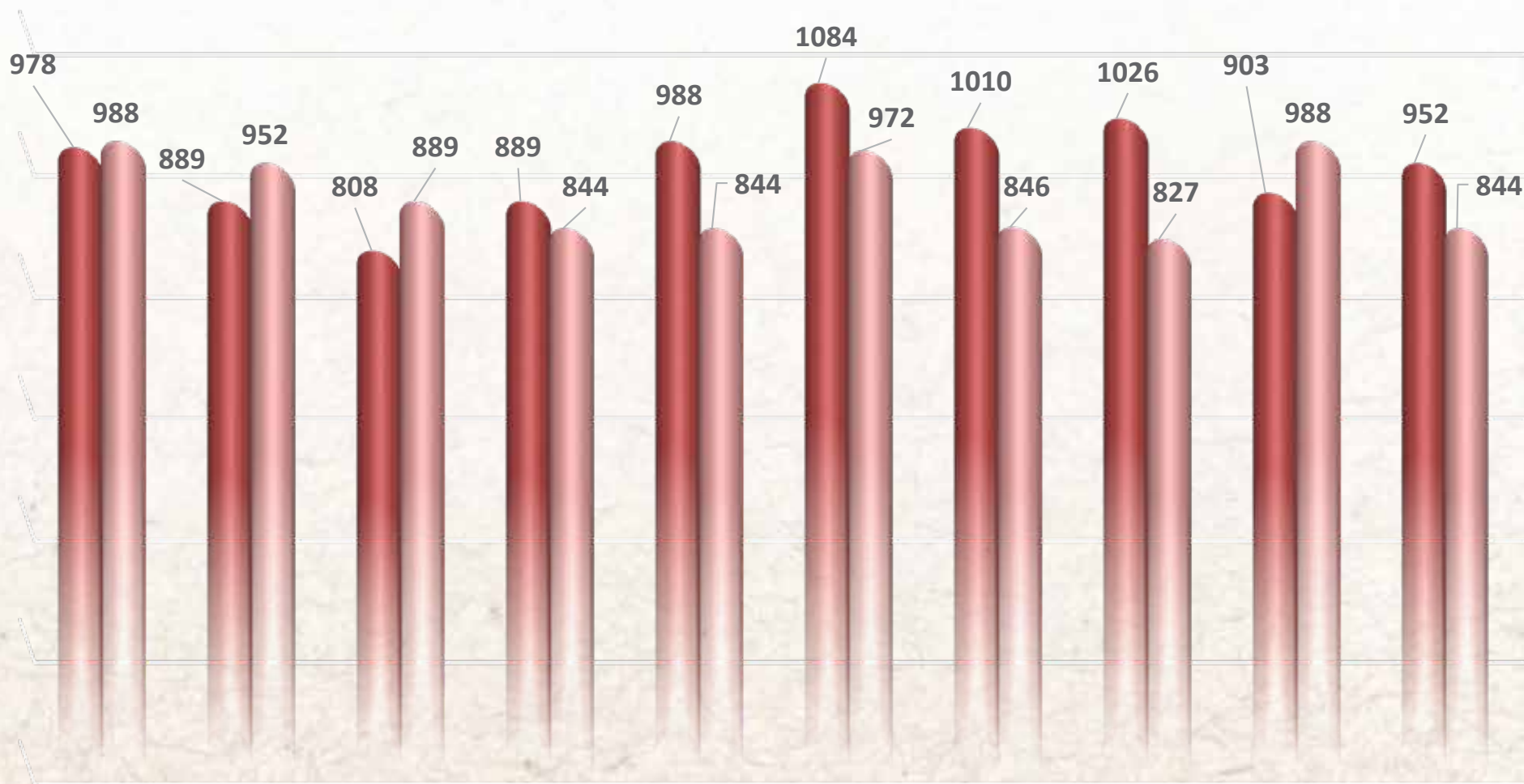


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# Harvest Results

## AVERAGE YIELDS OF THE EVALUATION



■ PENERGETIC ■ PADRÃO

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