HUMA GRO™

Overall of field research in Costa Rica

.

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SEEING IS BELIEVING

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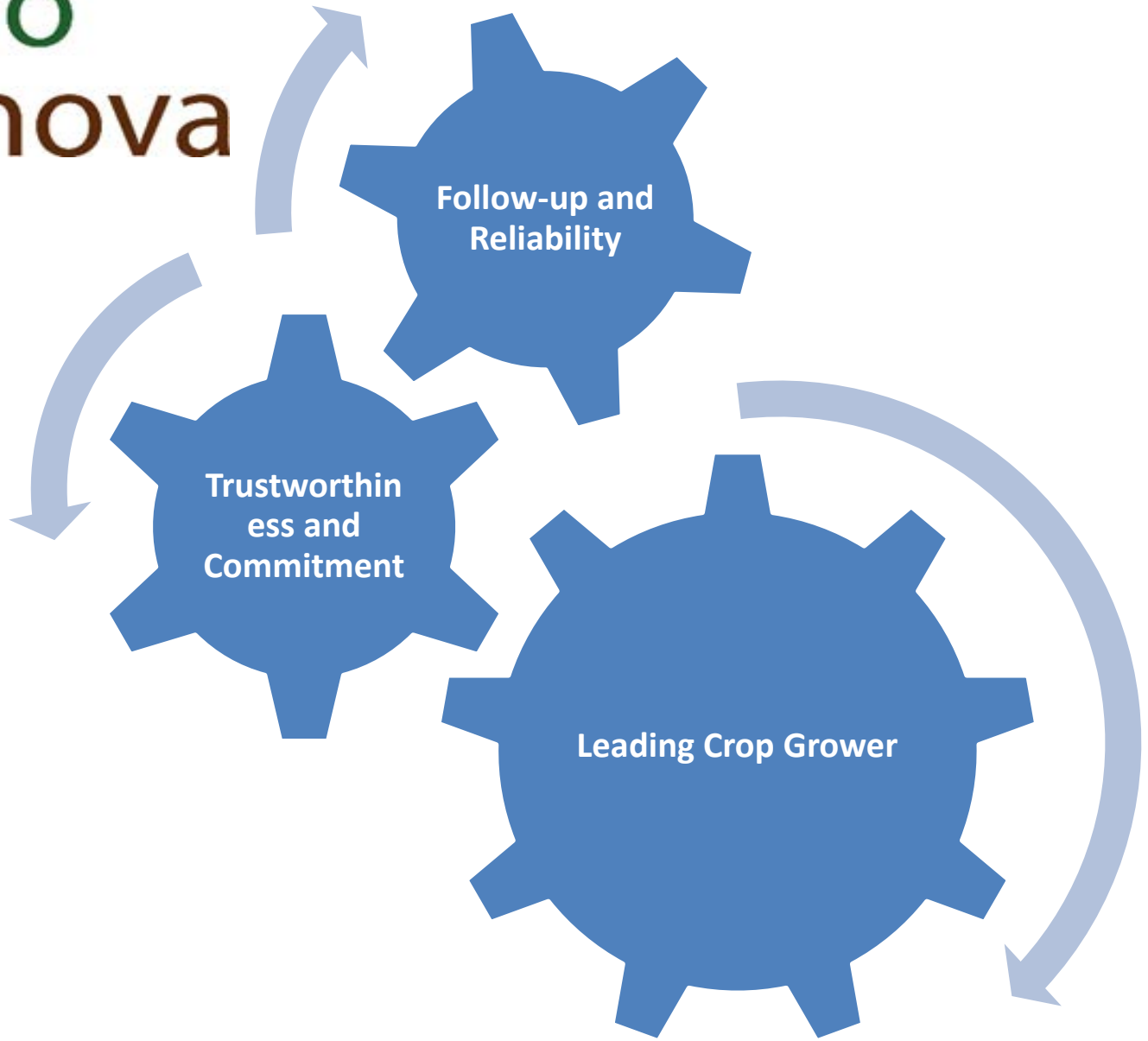
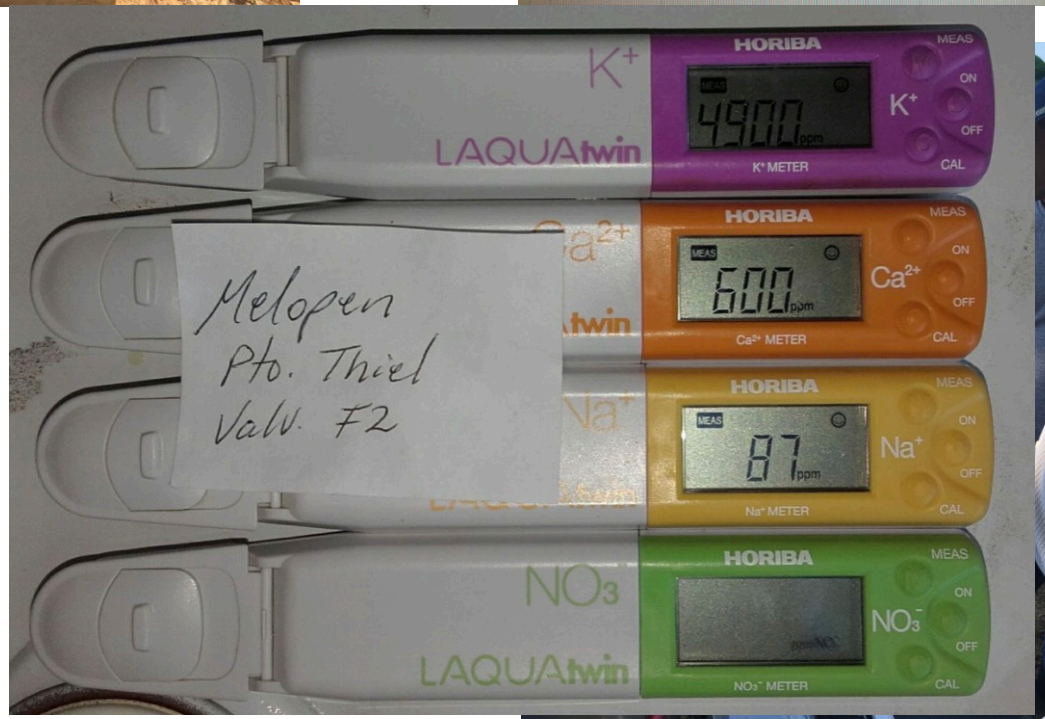
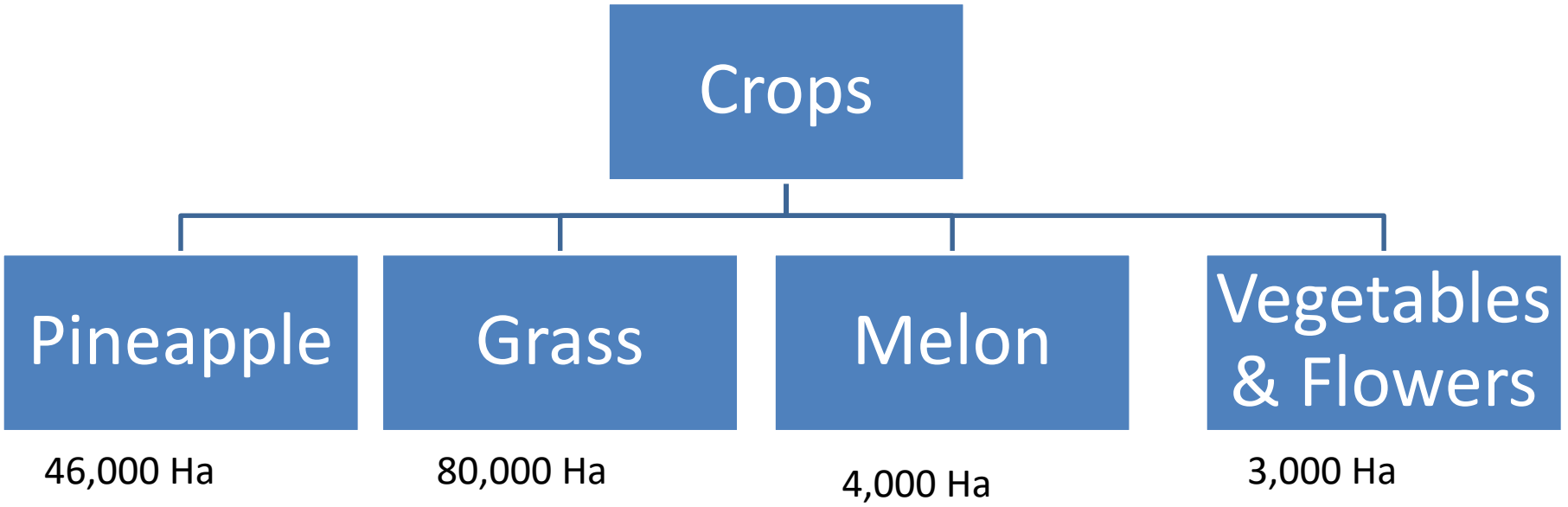

Follow-up and Reliability
Trustworthin ess and Commitment
Leading Crop Grower

PROGRAMA HOMA GRO

PURA VIDA MELONS - LOTE 46 - VALVULA 1

		AREA	0,85	Ha									
PA FENOLOGICA		DESARROLLO VEGETATIVO					FLORACIÓN			CUAJE FRUTOS			LLEN
D.D.T.		2	4	8	12	16	20	24	28	32	35	38	41
A	PHOSMAX	0,43	0,43	0,43	1,49	1,49	1,06	1,06	1,06	1,06	0,85	0,85	0,8
A	CALCIUM	0,00	0,21	0,21	1,91	0,85	0,85	0,85	1,06	0,85	1,06	0,85	0,8
A	MAX PAK	0,00	0,17	0,17	0,17	0,00	0,17	0,00	0,17	0,17	0,00	0,17	0,1
A	BREAKOUT	0,00	0,43	0,43	0,00	0,00	0,43	0,43	0,00	0,00	0,00	0,00	0,0
A	ACTIVOL	0,09	0,09	0,09	0,09	0,09	0,00	0,09	0,00	0,09	0,00	0,09	0,0
A	FULVI PRO	0,00	0,00	0,00	0,21	0,21	0,00	0,00	0,21	0,21	0,00	0,00	0,0
B	SUPER NITRO	0,43	0,00	0,43	0,00	0,64	0,00	0,00	0,00	0,00	0,00	0,00	0,0
B	44-MAG	0,21	0,00	0,21	0,00	0,64	0,43	0,43	0,00	0,43	0,00	0,43	0,4
B	ZAP	0,43	0,00	0,43	0,00	0,00	0,00	0,00	0,43	0,00	0,43	0,00	0,0
B	SOILMAX	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,21	0,0
C	SILIMAX	0,00	0,00	0,00	0,00	0,00	0,04	0,04	0,04	0,04	0,04	0,09	0,0
C	SUPER K	0,00	0,00	0,43	0,43	0,85	1,06	1,28	1,70	1,91	2,13	2,55	2,8




Crops
Pineapple
Grass
Melon
Vegetables & Flowers
46,000 Ha
80,000 Ha
4,000 Ha
3,000 Ha

Soil improvers

Materials and methods

•30 days after application, sampling was applied to quantify the microbial population per pg of DNA/g of sample.

•Samples were counted by Laboratorios LAMA.

Below there is a list of products used, doses and time of application.

	PRODUCT	DOSE L/Ha	TIME
HumaGro	SOILMAX	2	Applied to soil by irrigation or sprinkling systems
	ZAP	2	
	FERTIL HUMUS	2	
Finca	Finca Control Product		

RESULTS

CONTROL

PRODUCT

SOIL + HUMAGRO

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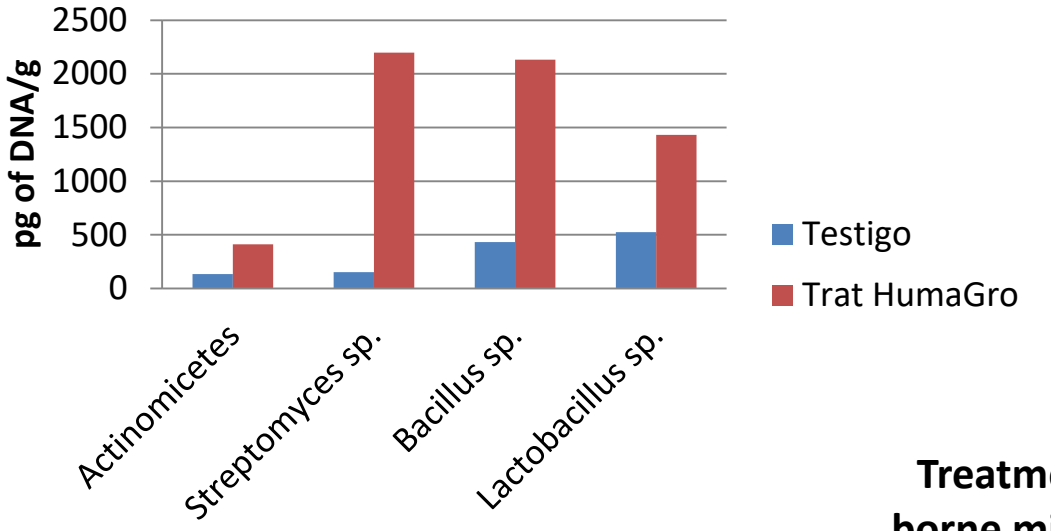
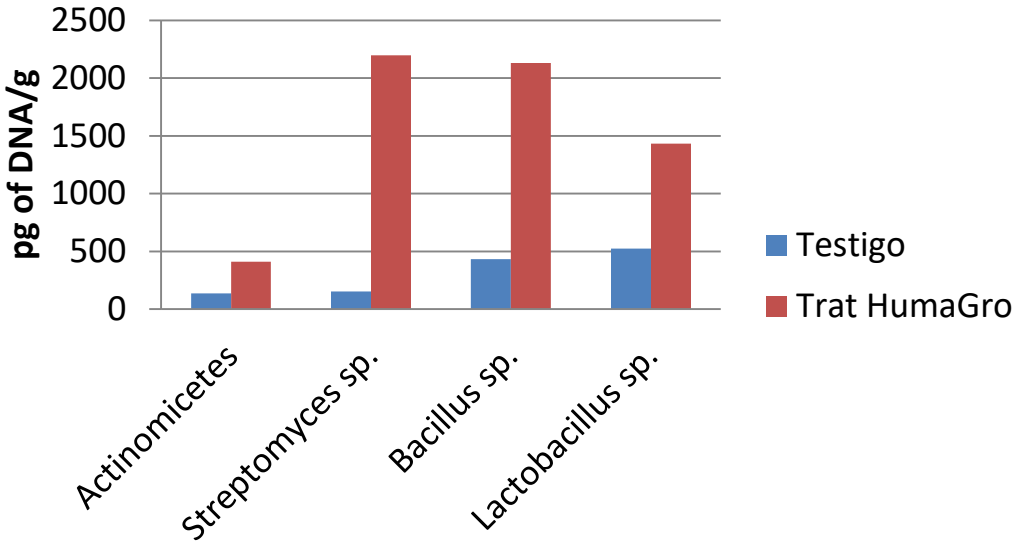
MICRO CARBON TECHNOLOGY™

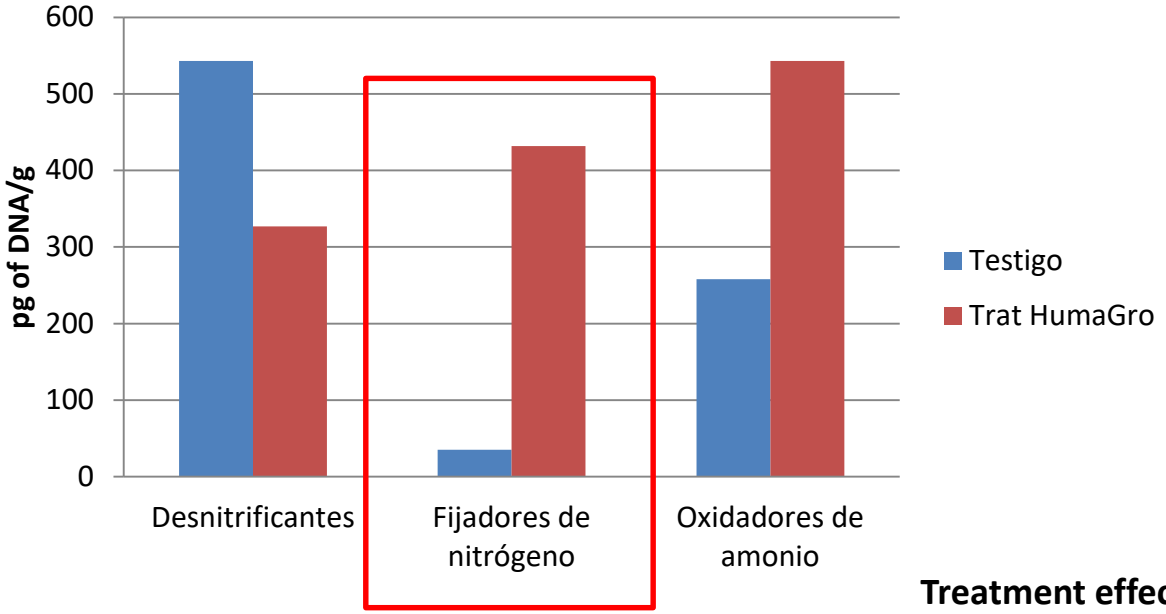
Treatment effect on the population of soil-borne micro-organisms in terraced rice fields. 3/4/16



Treatment effect on the population of soil-borne micro-organisms in terraced rice fields. 3/29/16

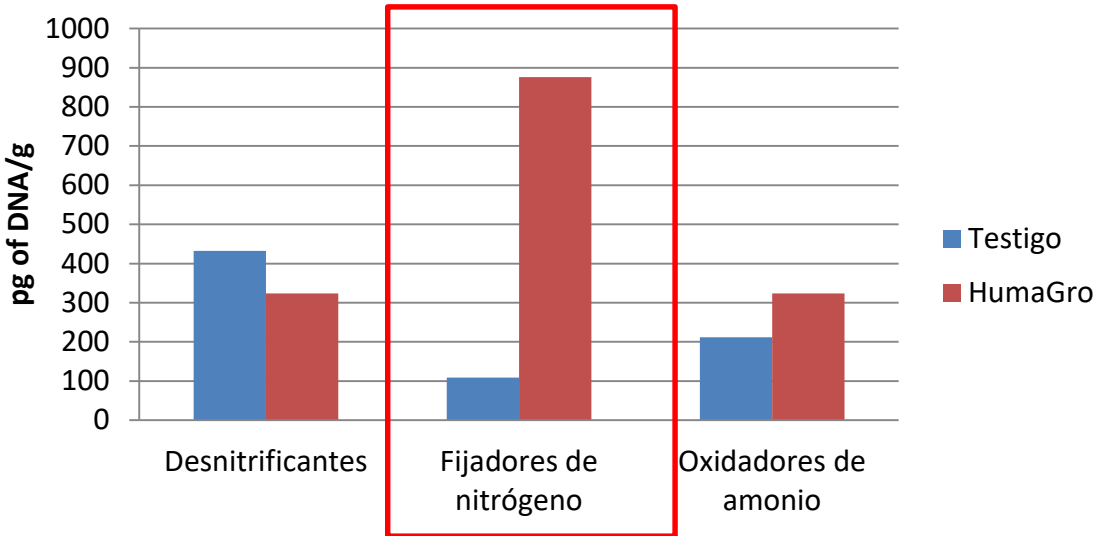


Treatment effect on the population of soil-borne nitrogen-fixing micro-organisms in terraced rice fields. 3/4/16

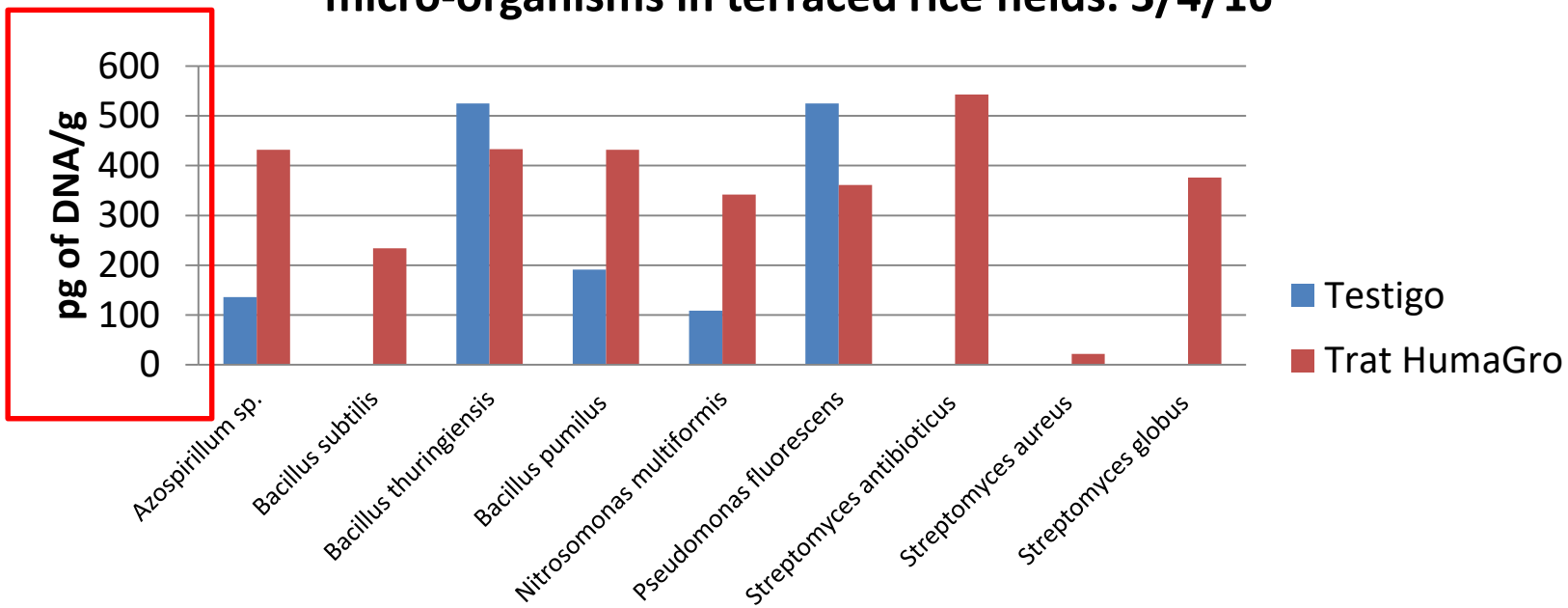


Increased nitrogen-fixing organisms

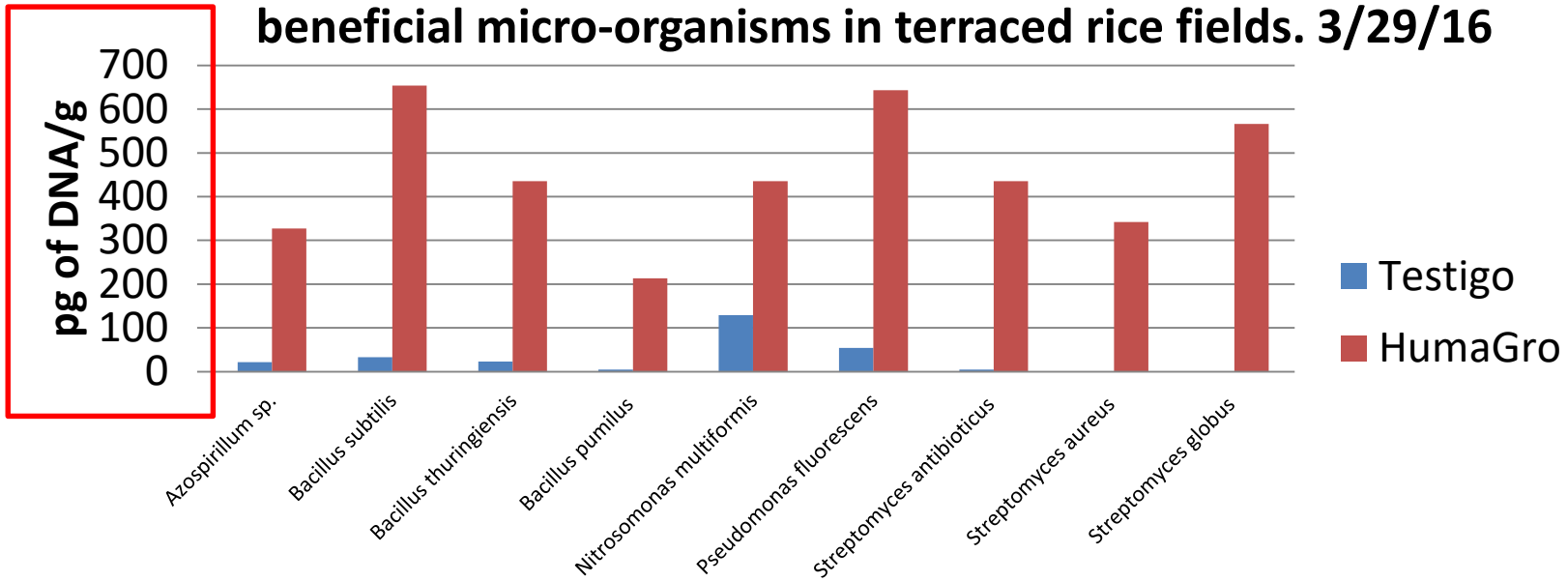
Treatment effect on the population of soil-borne nitrogen-fixing micro-organisms in terraced rice fields. 3/29/16



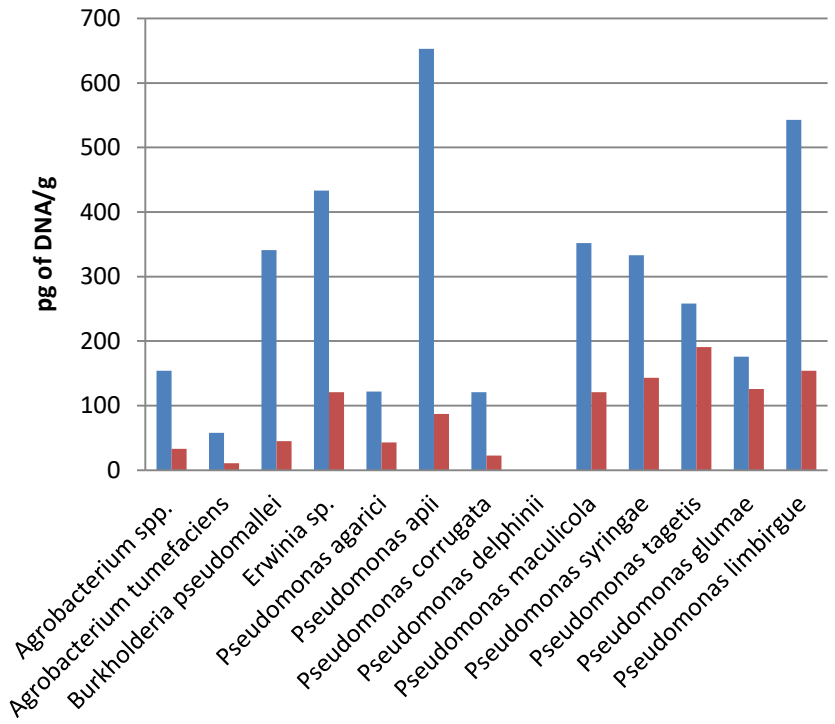
Treatment effect on the population of soil-borne beneficial micro-organisms in terraced rice fields. 3/4/16



Treatment effect on the population of soil-borne beneficial micro-organisms in terraced rice fields. 3/29/16

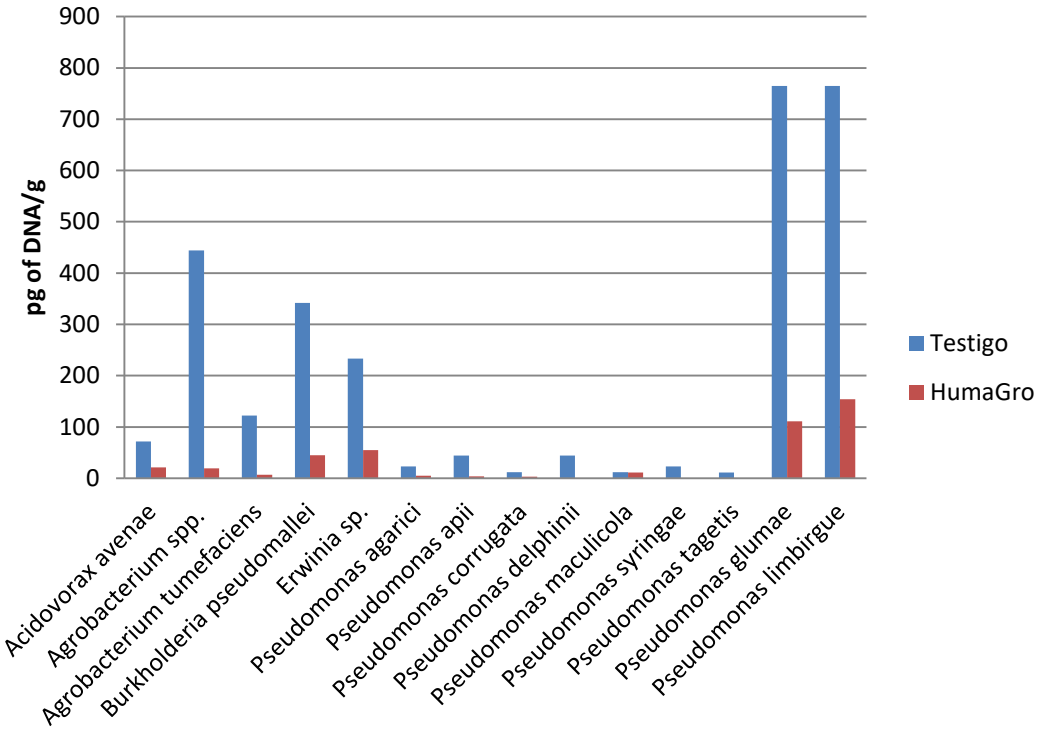


Treatment effect on the population of soil-borne pathogenic bacteria in terraced rice fields. 3/4/16

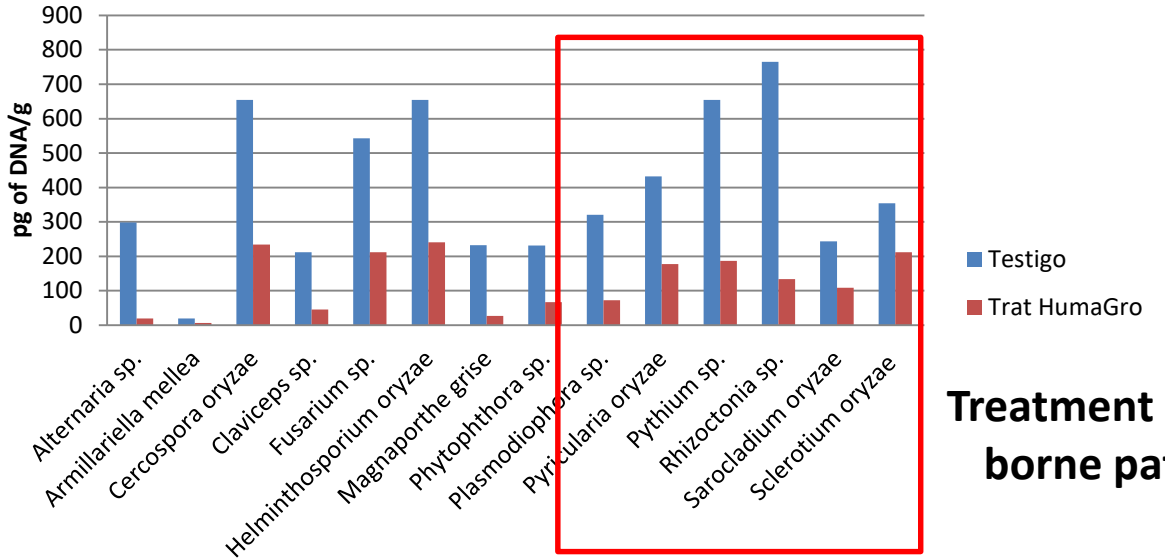


Phytopathogen suppression effect

Treatment effect on the population of soil-borne pathogenic bacteria in terraced rice fields. 3/29/16

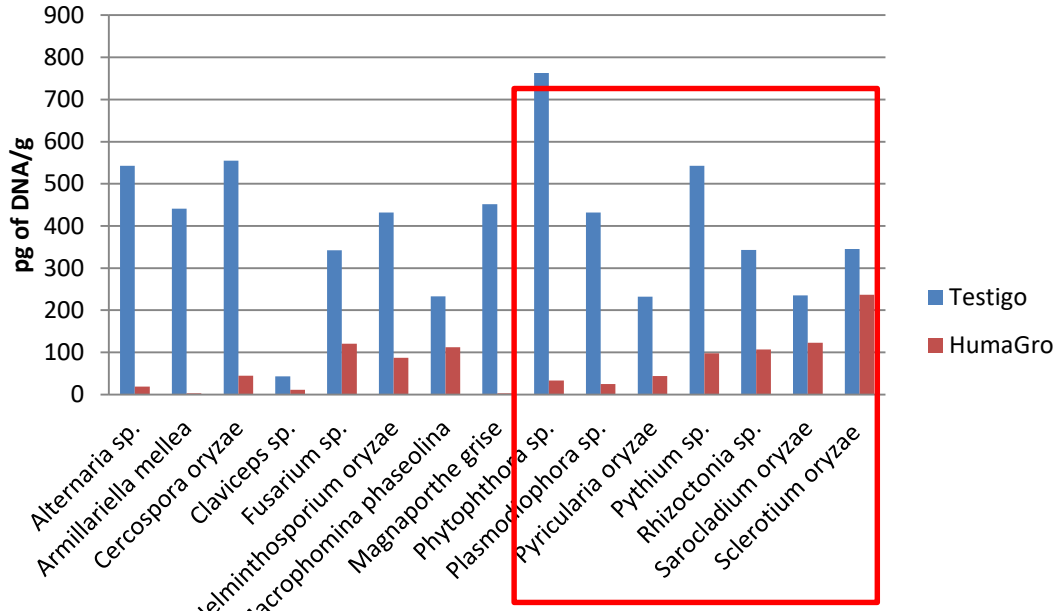


Treatment effect on the population of soil-borne pathogenic fungi in terraced rice fields. 3/4/16

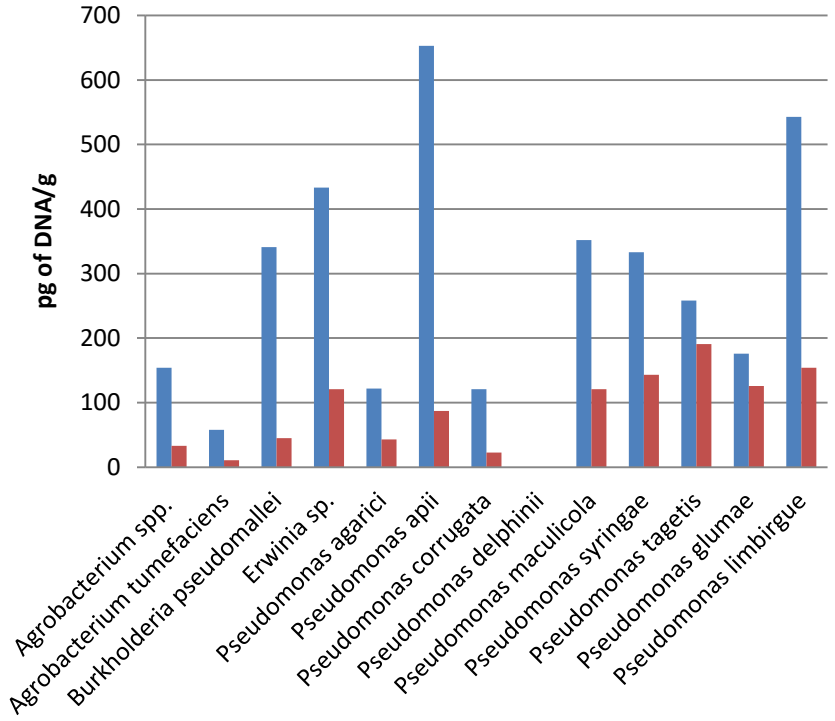


Phytopathogen suppression effect

Treatment effect on the population of soil-borne pathogenic fungi in terraced rice fields. 3/29/16

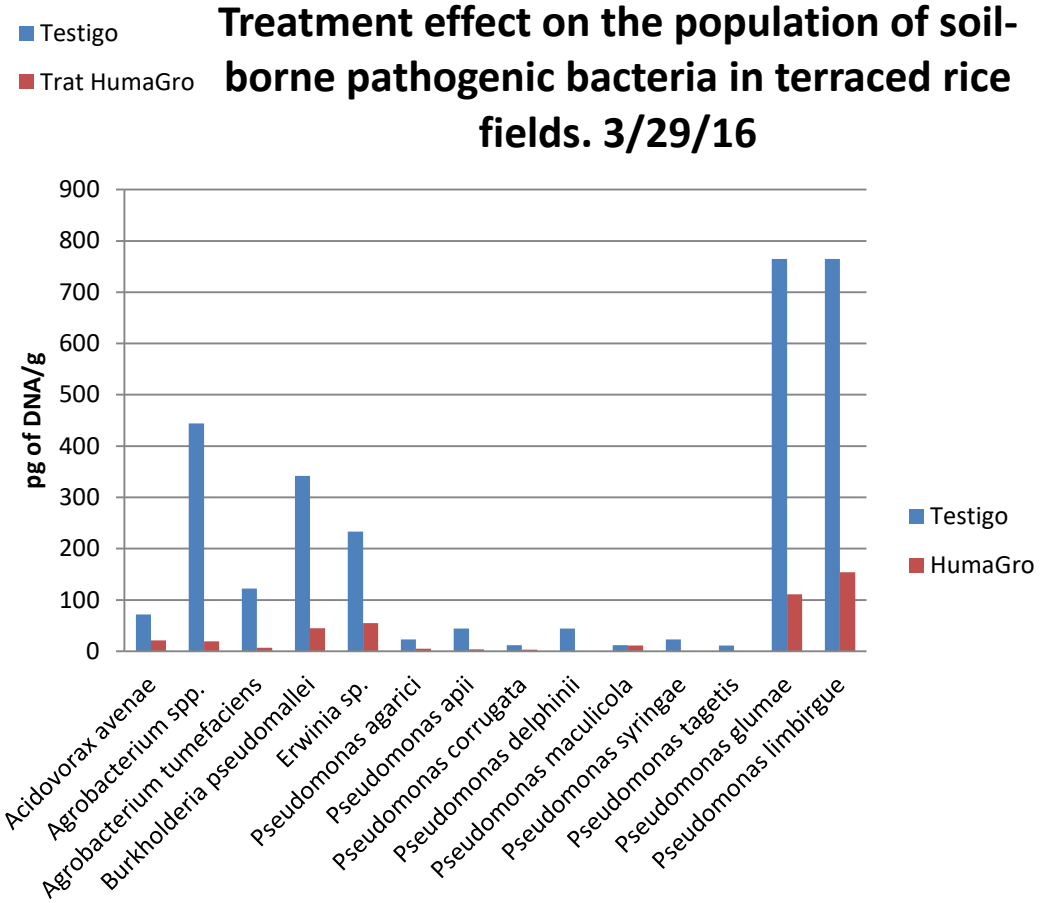


Treatment effect on the population of soil-borne pathogenic bacteria in terraced rice fields. 3/4/16



Phytopathogen suppression effect

Treatment effect on the population of soil-borne pathogenic bacteria in terraced rice fields. 3/29/16



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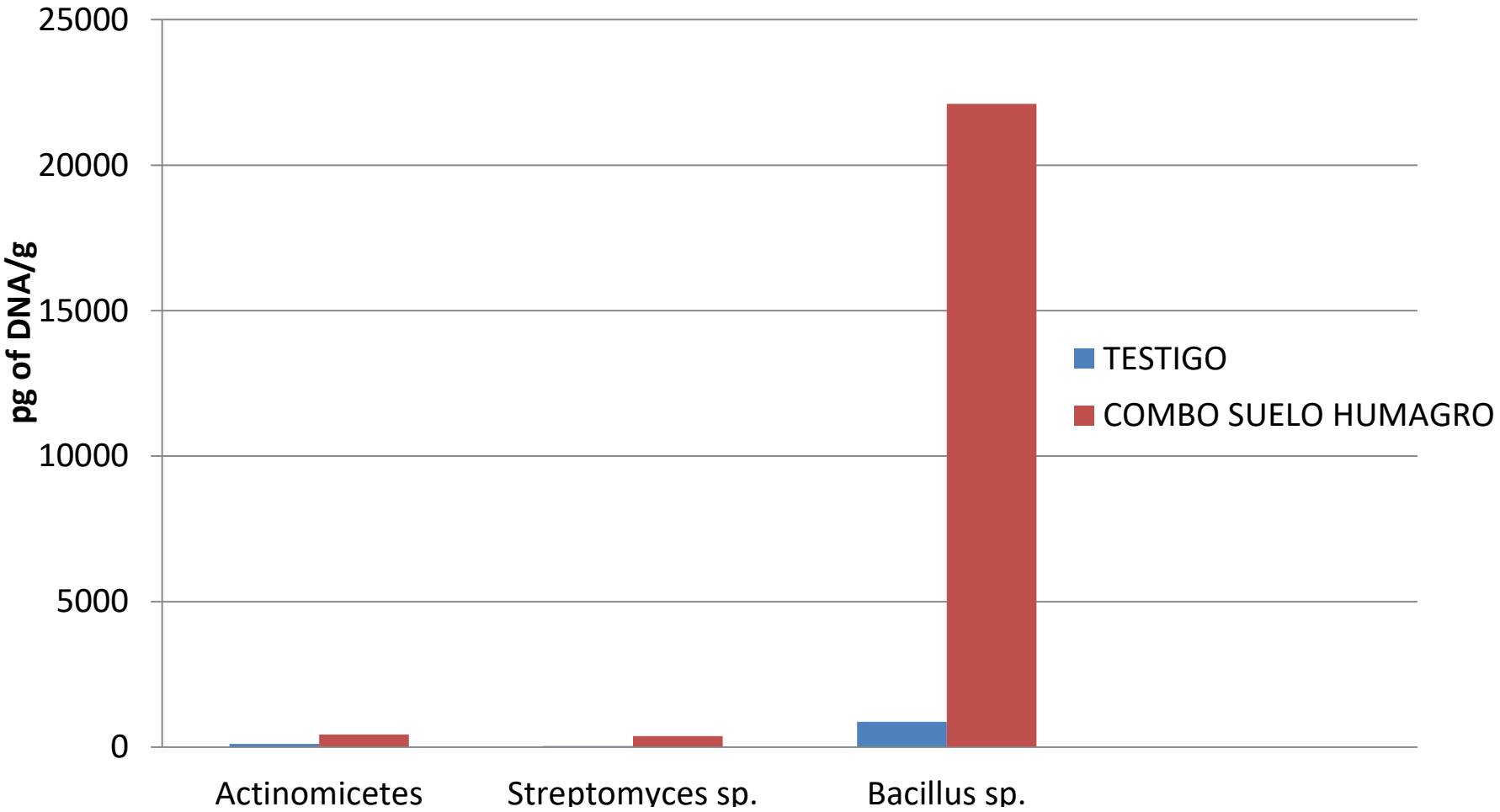
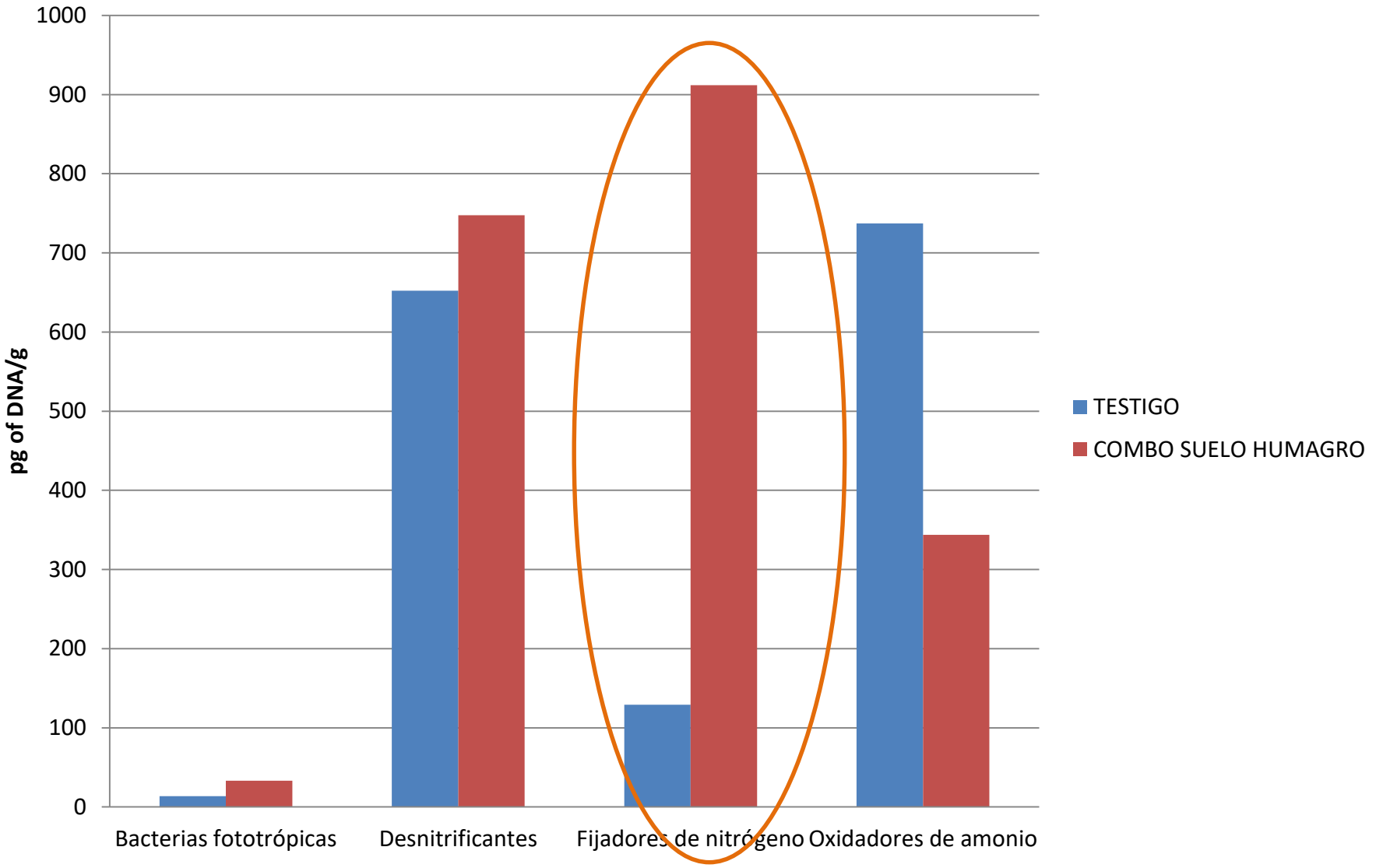
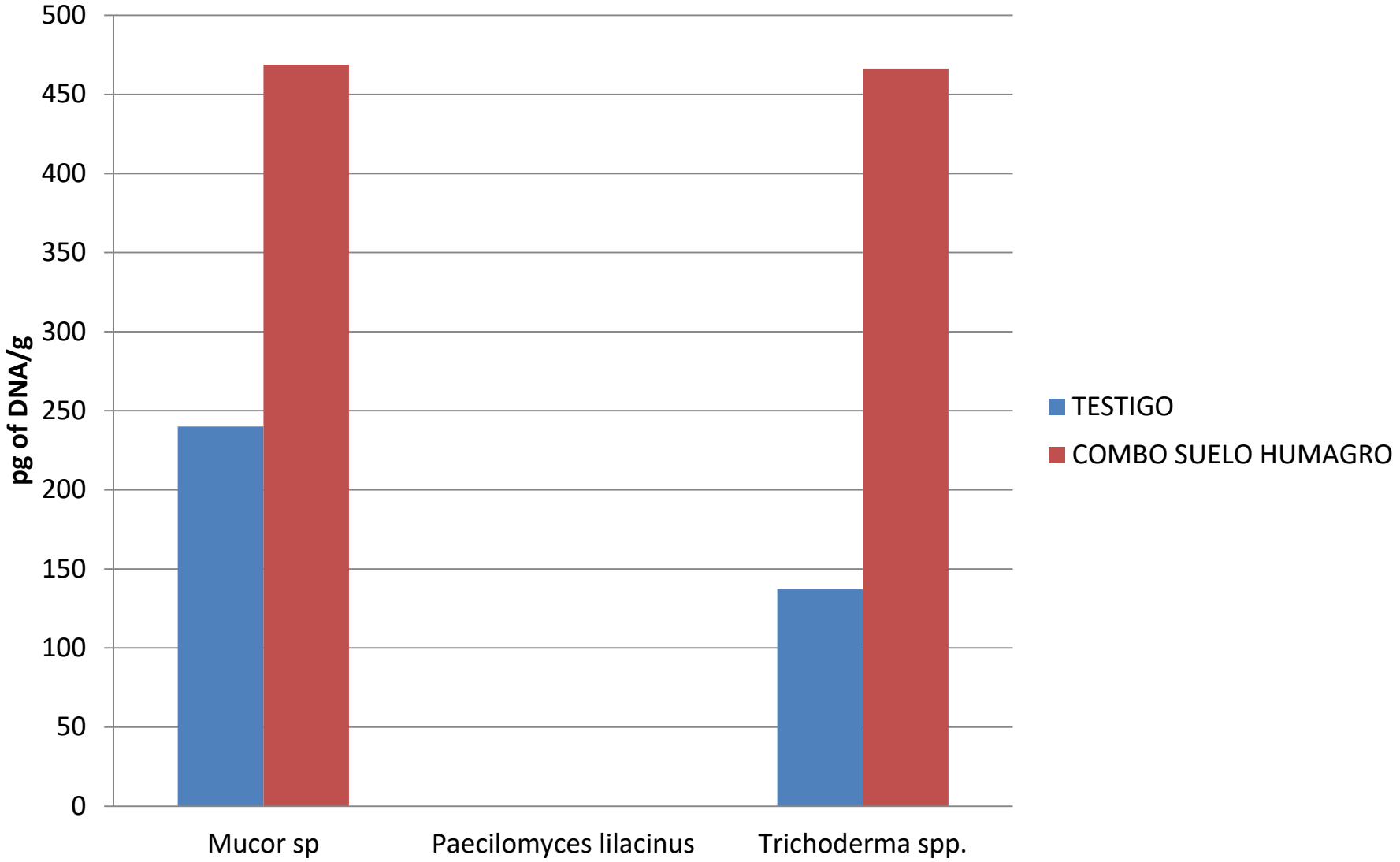
Treatment effect on the population of soil-borne micro-organisms in a tomato field, 30 ADI (admissible daily intake). June 2016 Greece. JR Partner



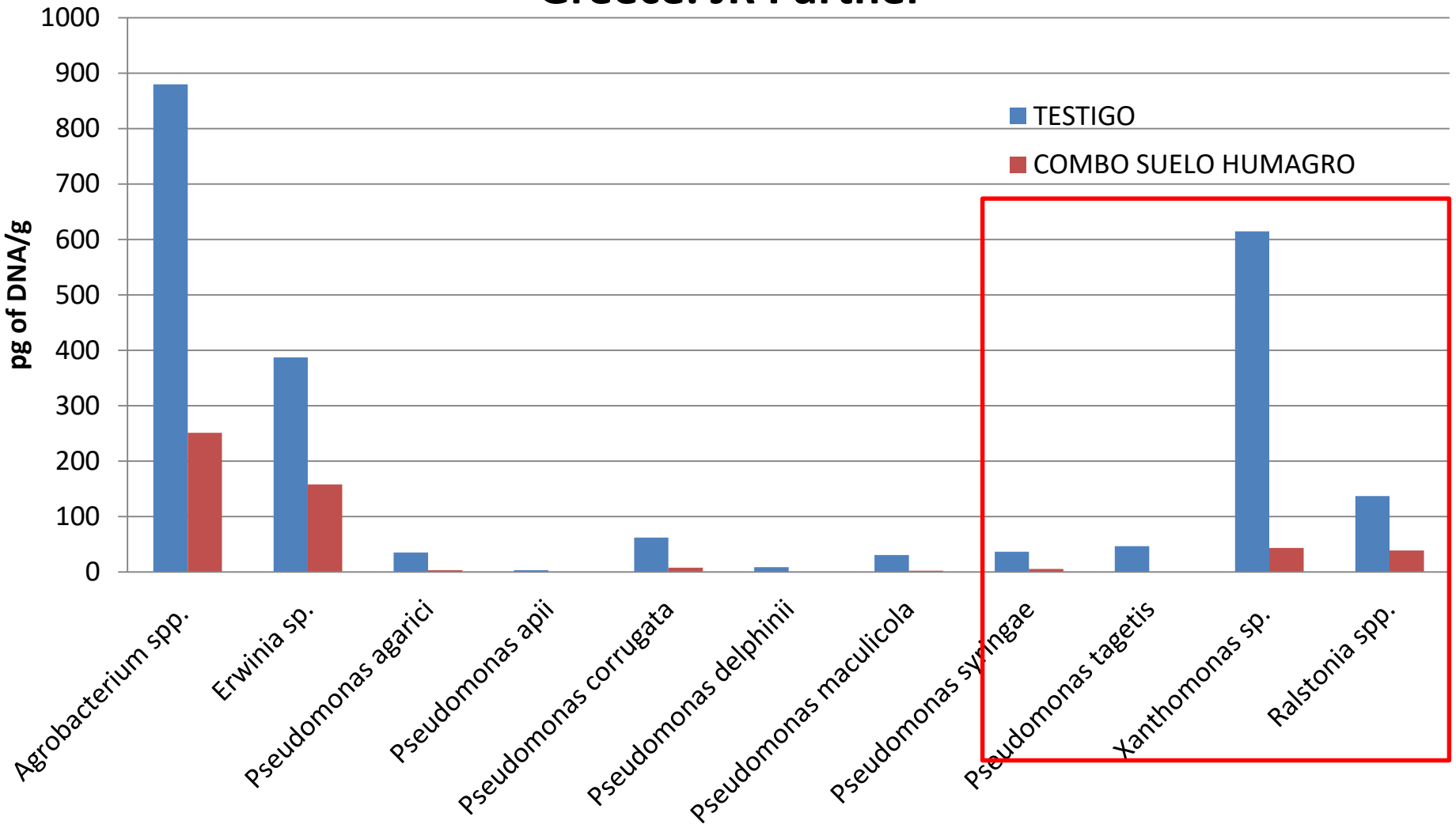
Treatment effect on the population of soil-borne nitrogen-fixing micro-organisms in a tomato field, 30 ADI. June 2016 Greece. JR Partner



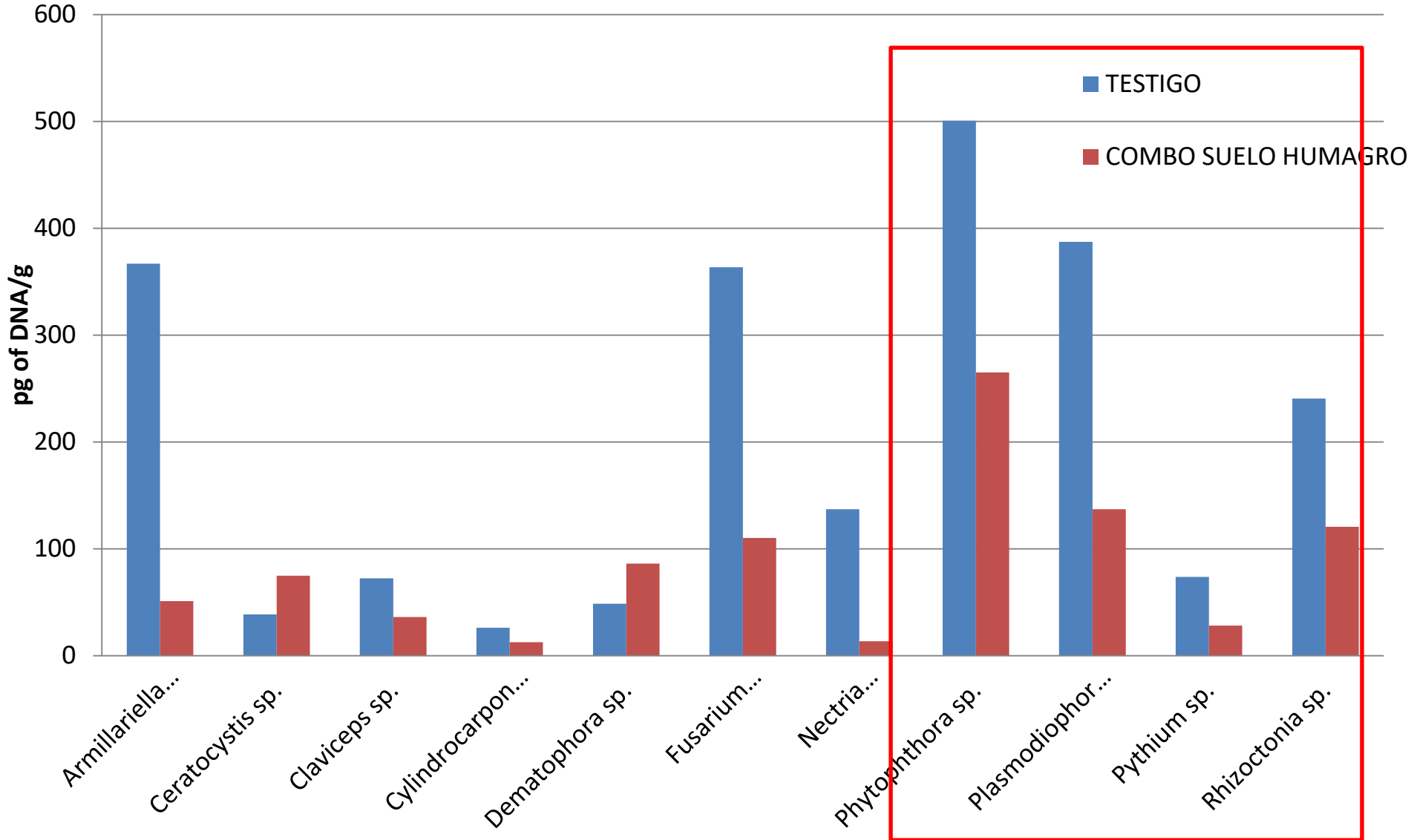
Treatment effect on the population of soil-borne beneficial fungi in a tomato field, 30 ADI. June 2016 Greece. JR Partner



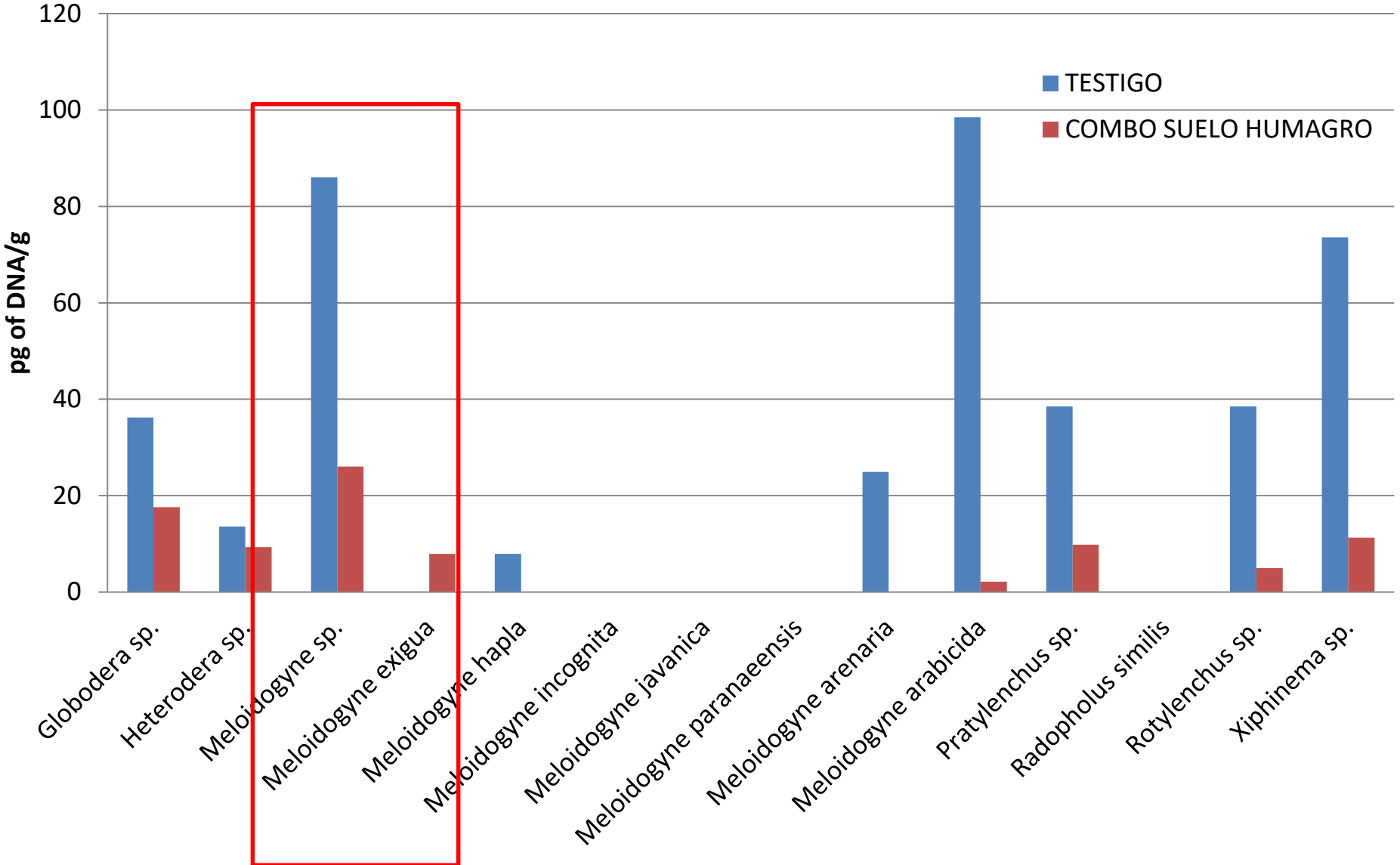
Treatment effect on the population of soil-borne pathogenic bacteria in a tomato field, 30 ADI. June 2016 Greece. JR Partner



Treatment effect on the population of soil-borne pathogenic fungi in a tomato field, 30 ADI. June 2016 Greece. JR Partner



Treatment effect on the population of soil-borne pathogenic nematodes in a tomato field, 30 ADI. June 2016 Greece. JR Partner

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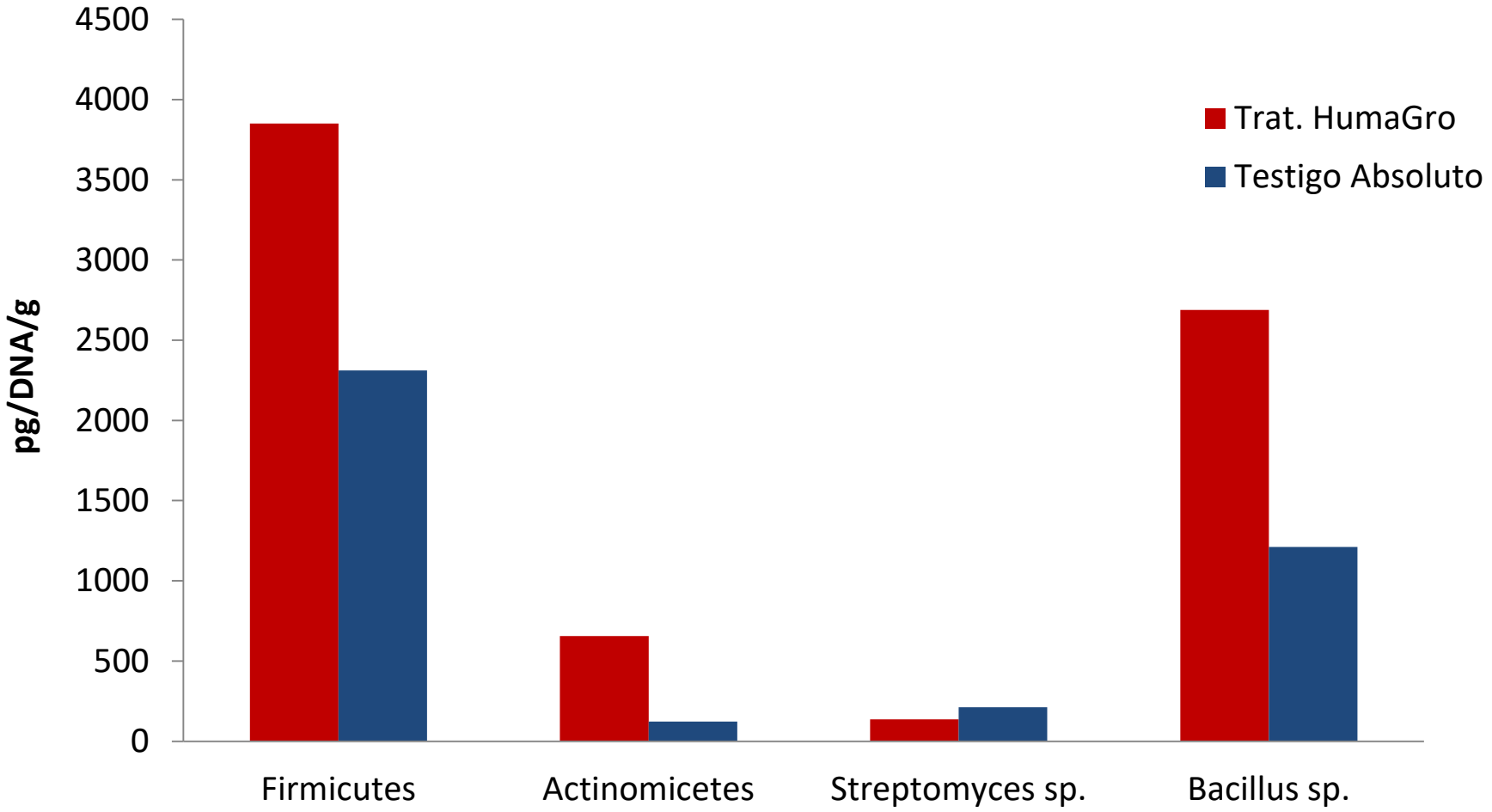
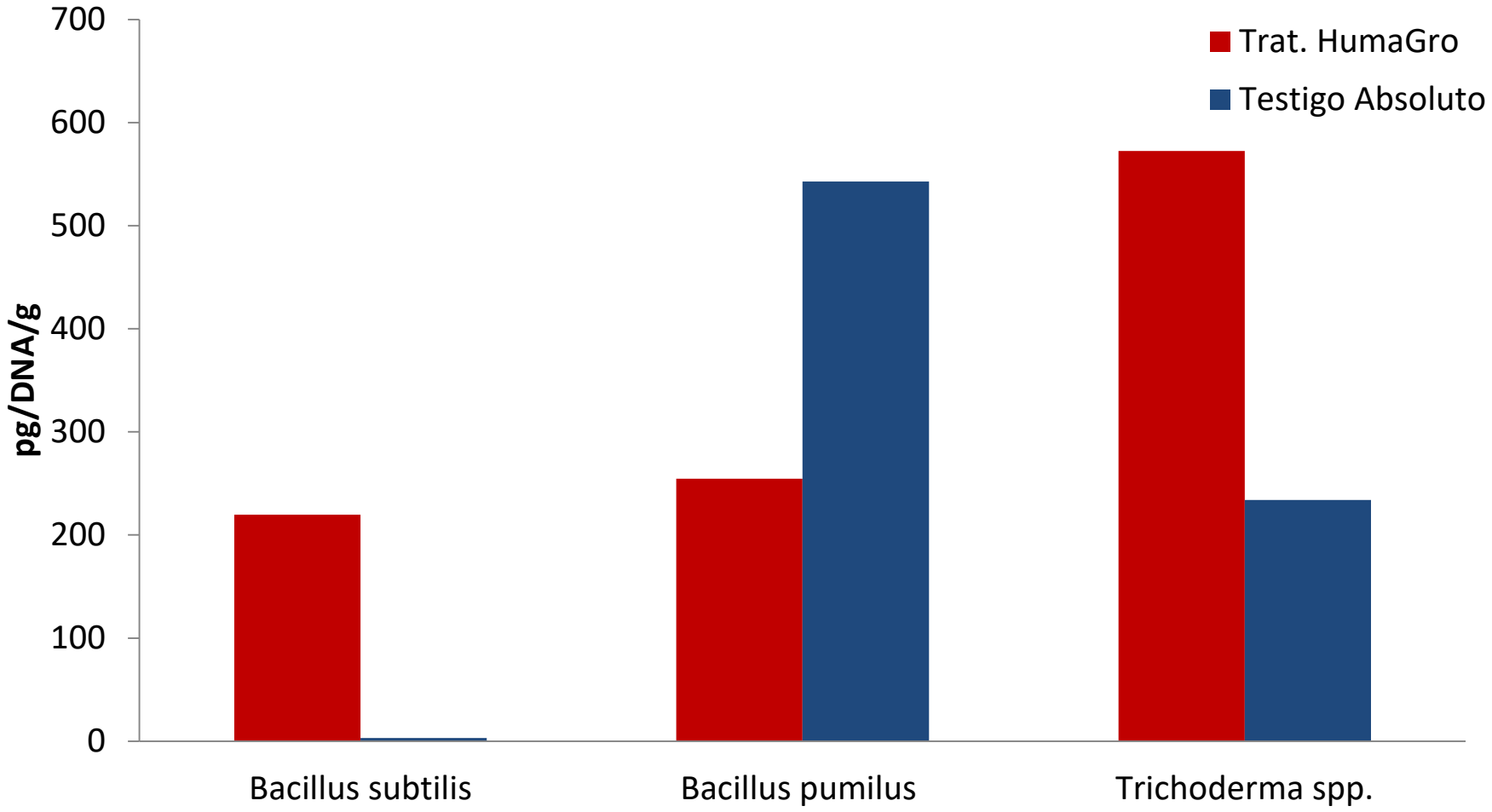
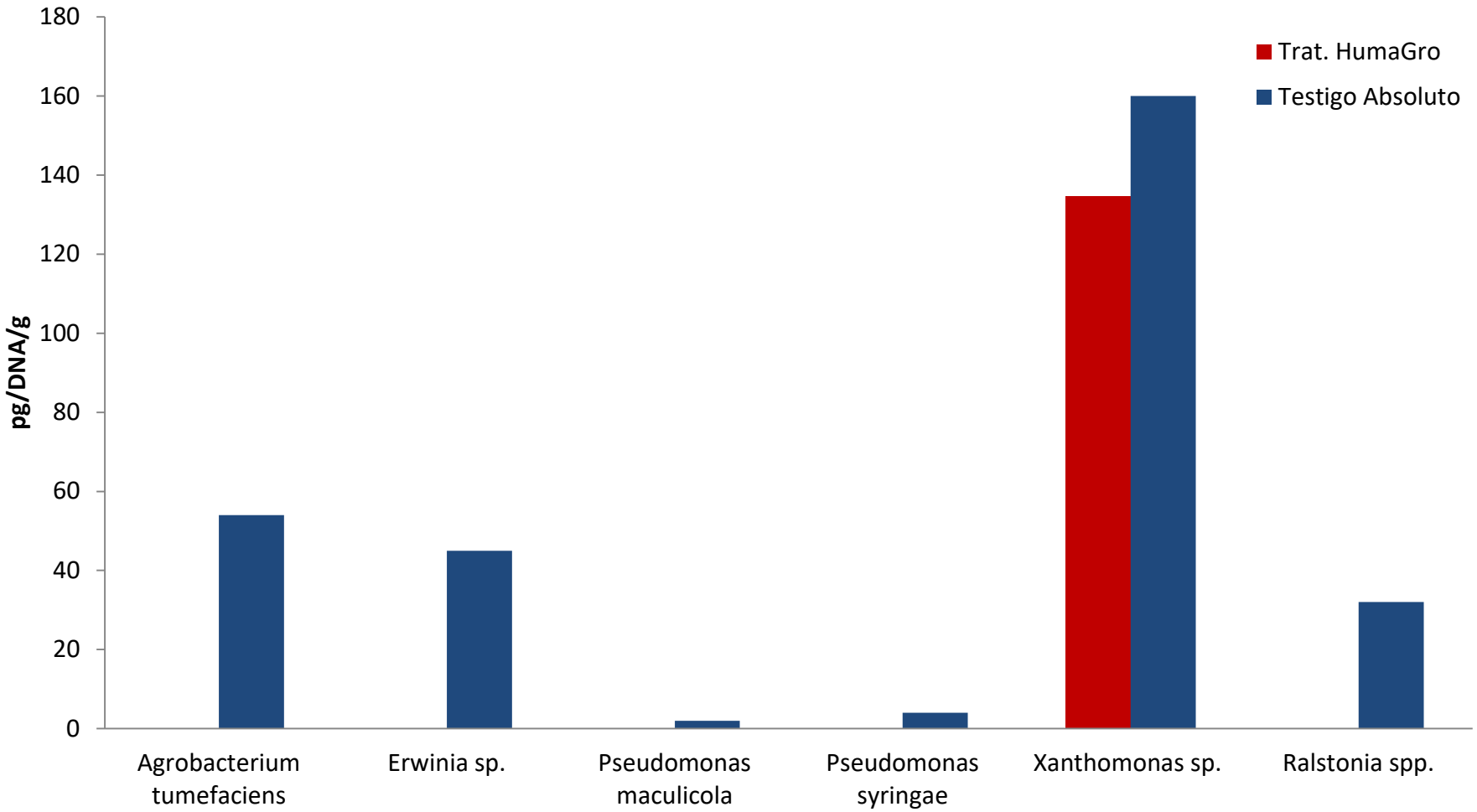
Treatment effect on the population of soil-borne beneficial fungi and bacteria in an Ilena strawberry field, 30 ADI. June 2016 Vara Blanca de Heredia, FRESEP.



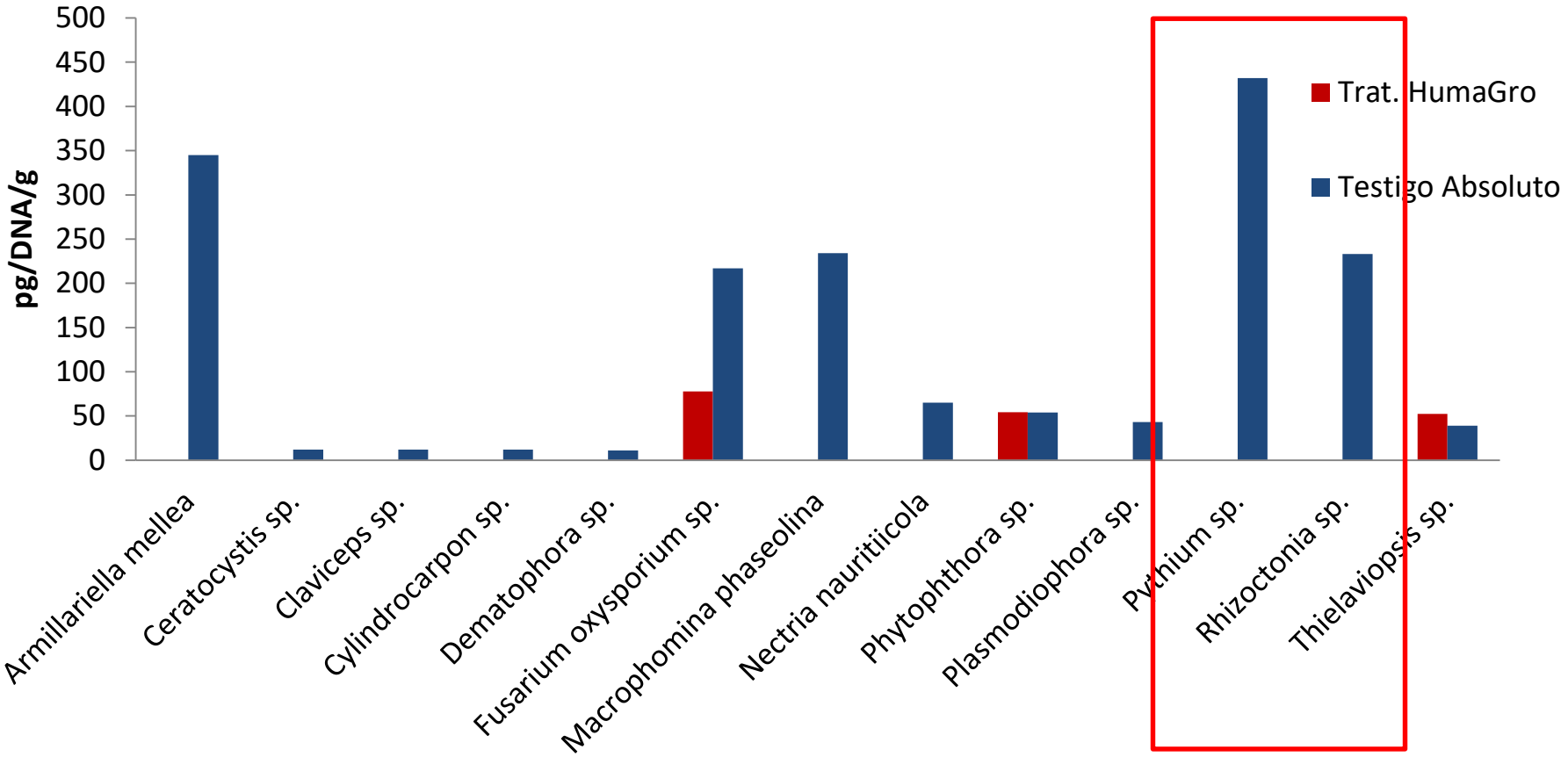
Treatment effect on the population of soil-borne beneficial fungi and bacteria in an Ilena strawberry field, 30 ADI. June 2016 Vara Blanca de Heredia, FRESEP.



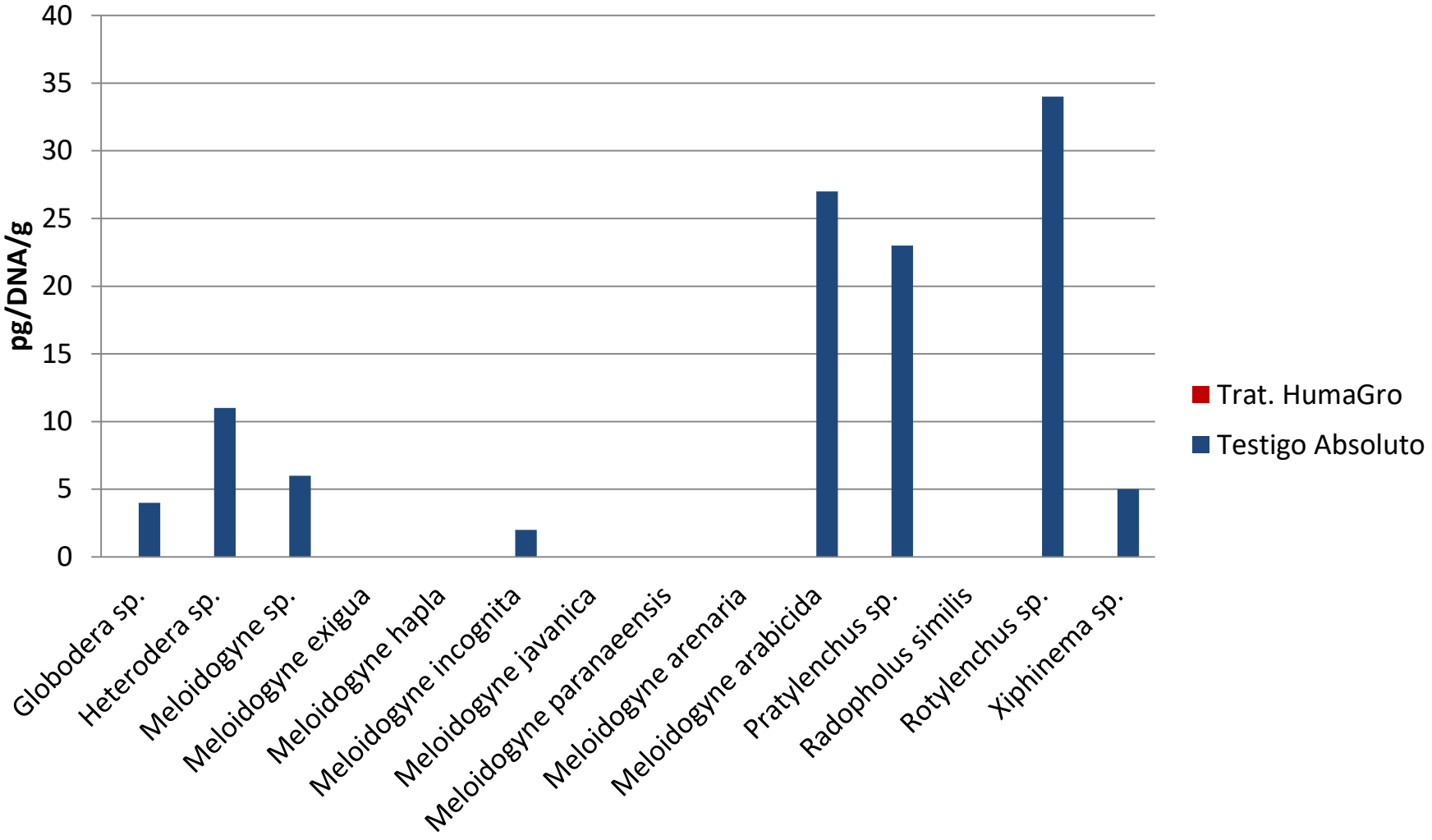
Treatment effect on the population of soil-borne pathogenic bacteria in an Ilena strawberry field, 30 ADI. June 2016 Vara Blanca de Heredia, FRESEP.



Treatment effect on the population of soil-borne pathogenic fungi in an Ilena strawberry field, 30 ADI. June 2016 Vara Blanca de Heredia, FRESEP.



Treatment effect on the population of soil-borne nematodes in an Ilena strawberry field, 30 ADI. June 2016 Vara Blanca de Heredia, FRESEP.



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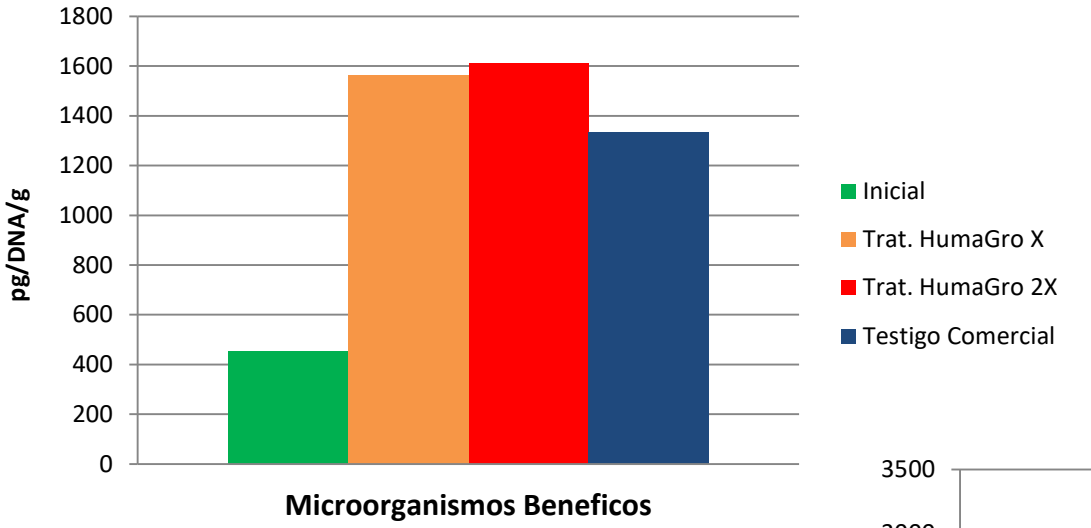
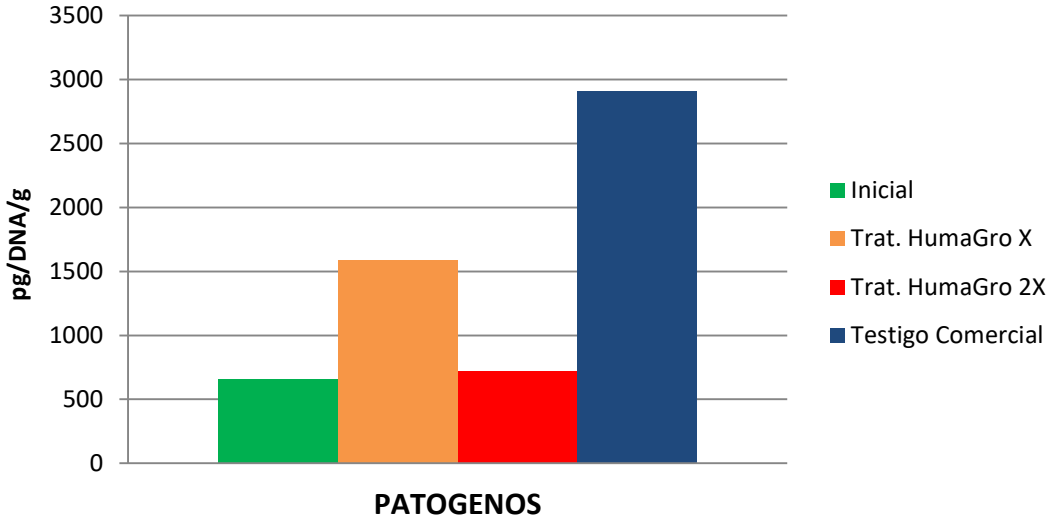
MICRO CARBON TECHNOLOGY™


1800
1600
1400
1200
1000
800
600
400
200
0
pg/DNA/g
Microorganismos Beneficos
Inicial
Trat. HumaGro X
Trat. HumaGro 2X
Testigo Comercial


3500
3000
2500
2000
1500
1000
500
0
pg/DNA/g
PATOGENOS
Inicial
Trat. HumaGro X
Trat. HumaGro 2X
Testigo Comercial

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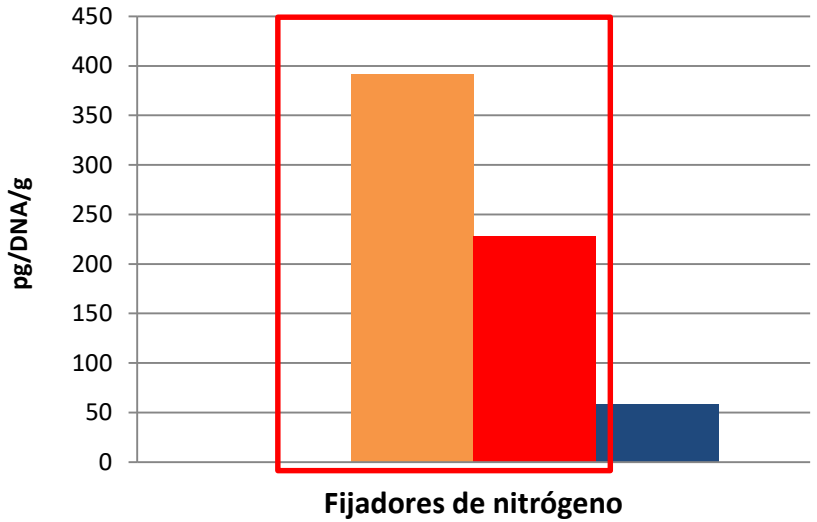
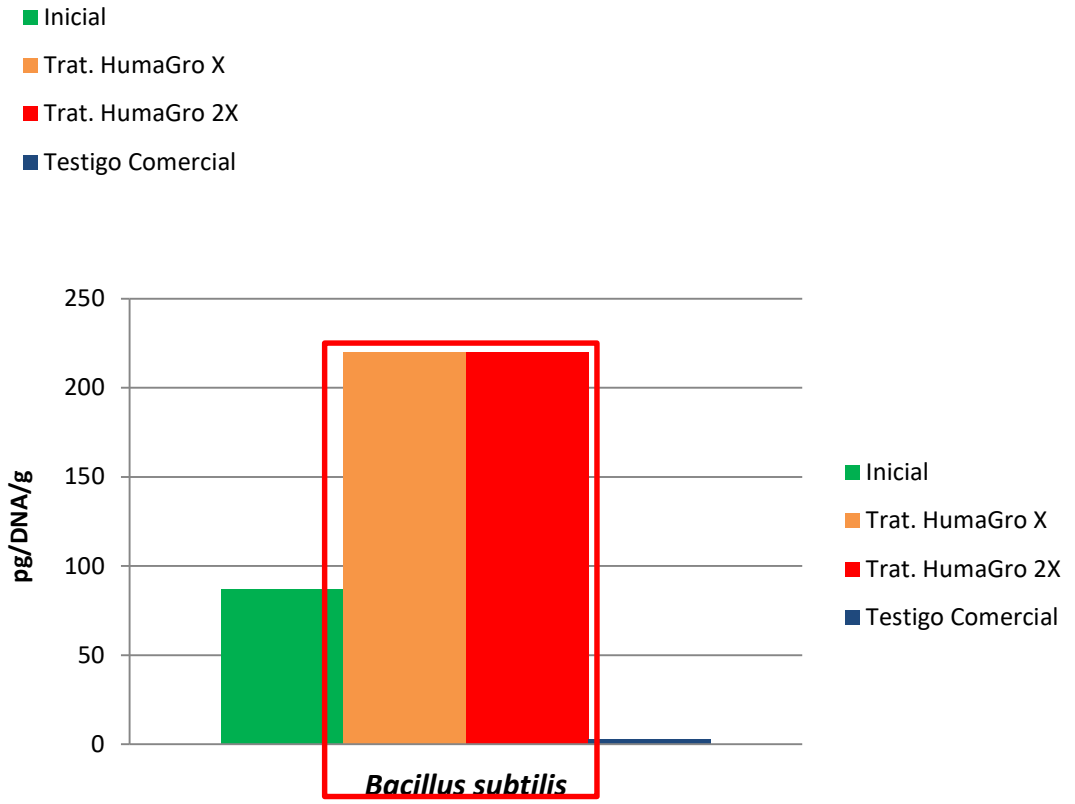
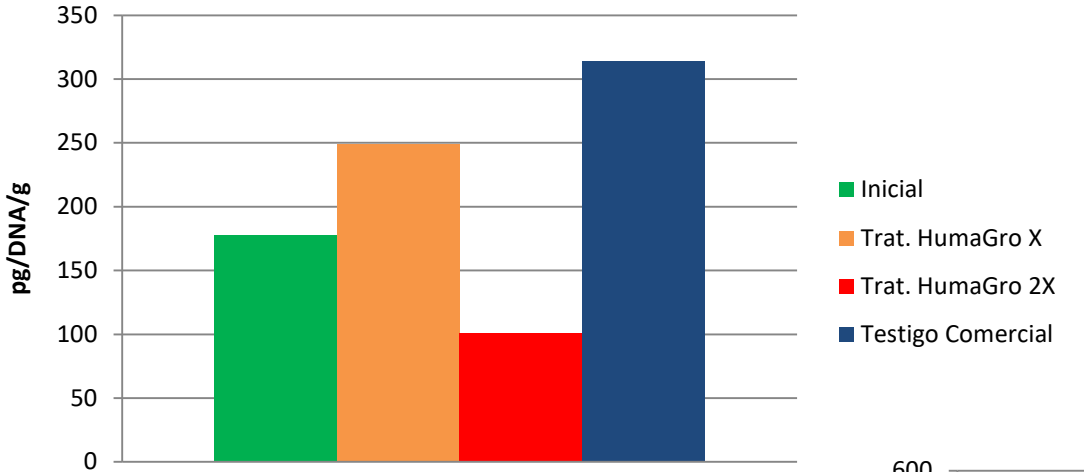
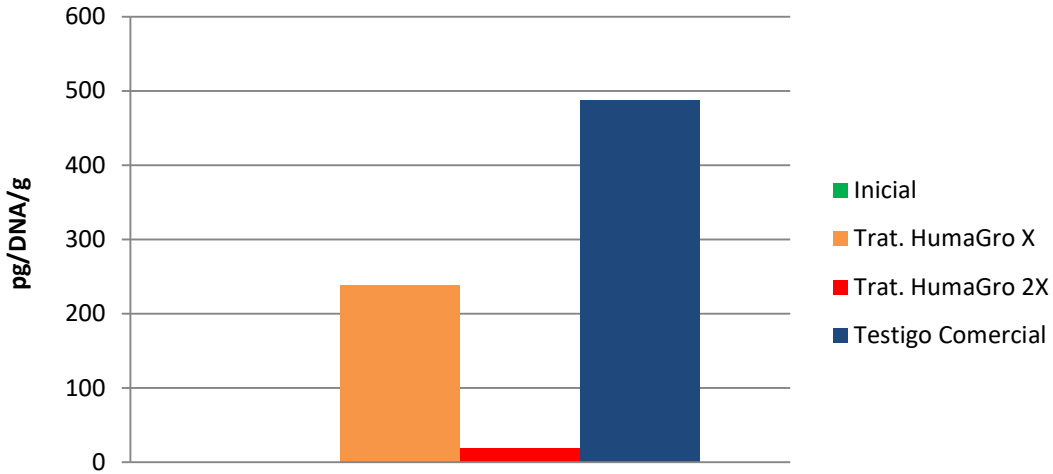
MICRO CARBON TECHNOLOGY™



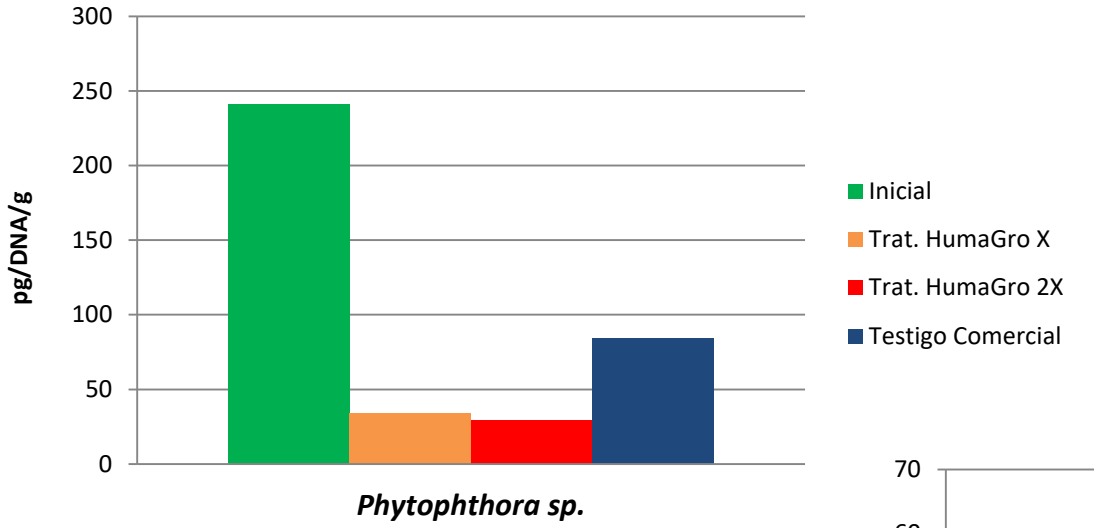




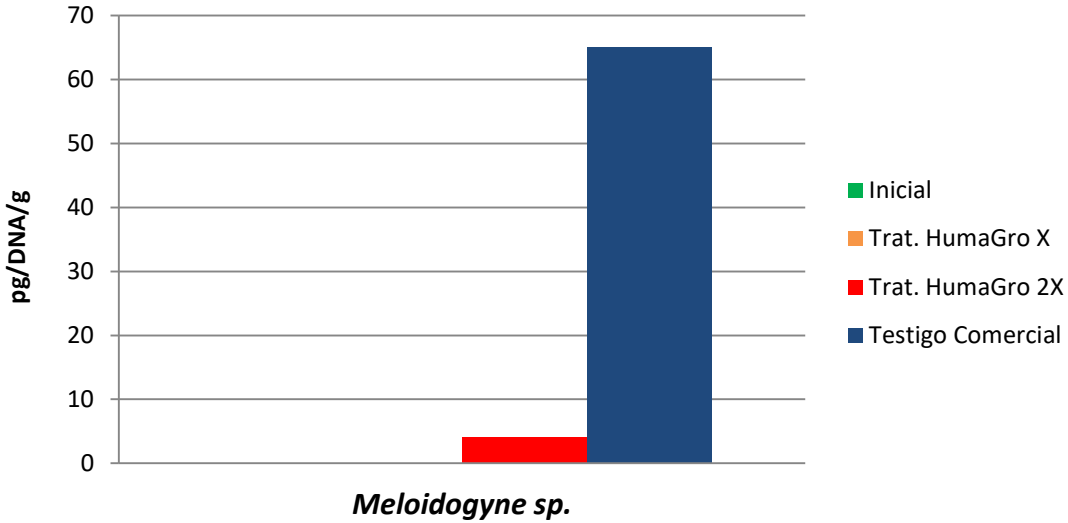
Fusarium oxysporium sp.



Pythium sp.

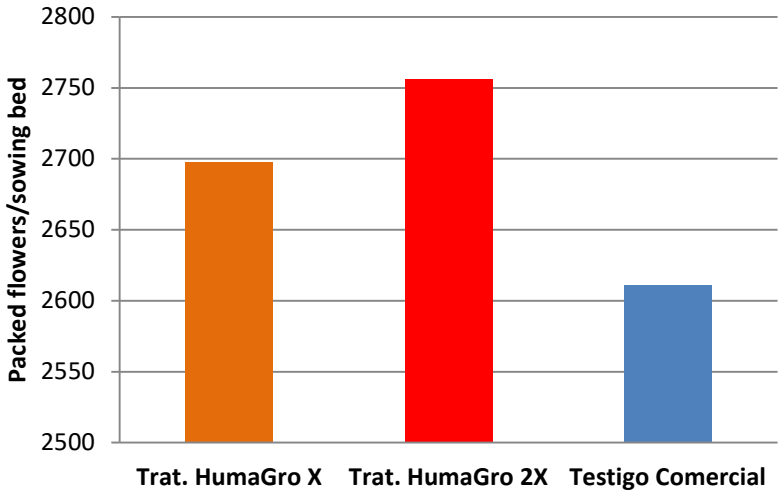


Phytophthora sp.

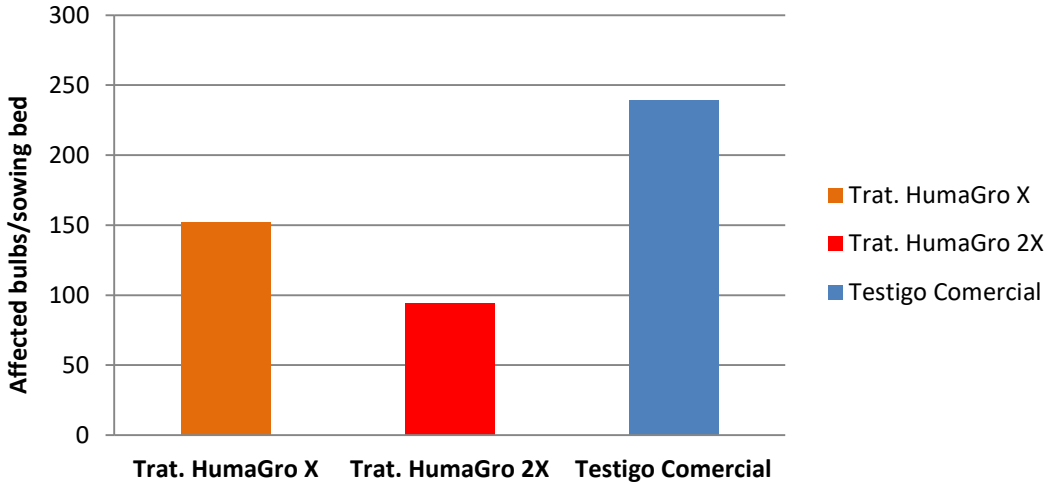


Meloidogyne sp.

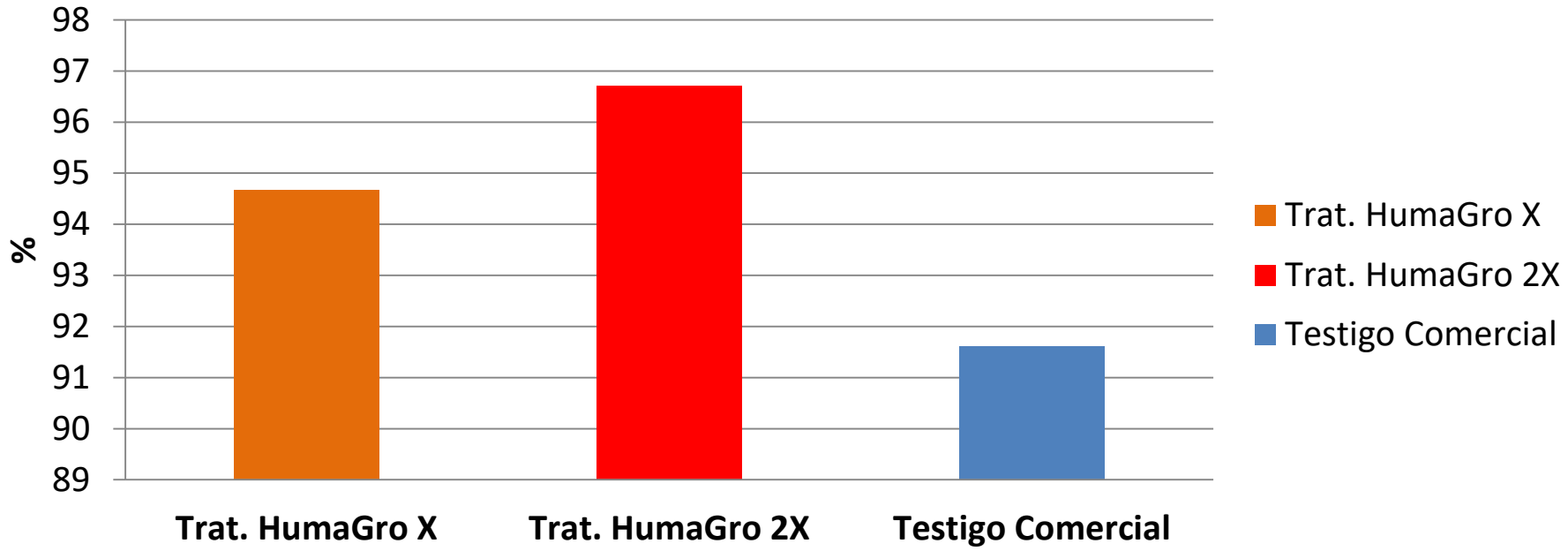
Output



Unproductive bulbs



Output efficiency



Bulbs sown per bed: 2850


agro
Innova
Creando valor con innovación
HUMA
GRO
agro
Innova
Creando valor con innovación
Manejo de
Pastos
Forrajeros

agro Innova

Soil improvers

GRASSLAND COMBO

HUMA GRO
SUPER NITRO

HUMA GRO
MAX PAK

SILIMAX

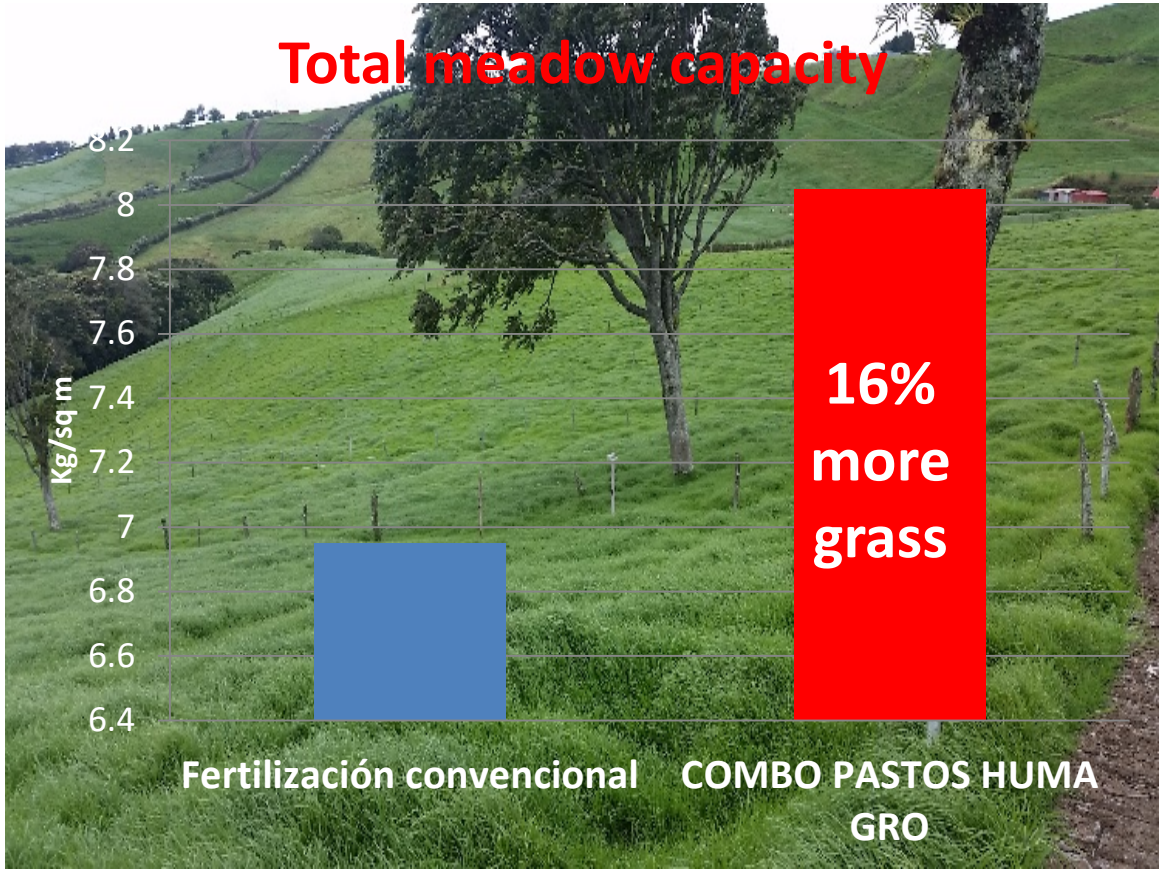
VITOL


INCREMENTE LA CALIDAD DE SUS FORRAJES CON:
TECNOLOGÍA MICRO CARBONO™
Tecnología Micro Carbono™ es nuestro ingrediente base, fundamental para todos los productos fabricados por Bio Huma Netics, Inc. La Tecnología Micro Carbono™ aumenta la eficiencia y la eficacia de cada producto y, en general, hace que los fertilizantes Huma Gro sean mucho más efectivos y mejor asimilados que los convencionales.
COMBO PARA NUTRICIÓN FOLIAR EN PASTOS:
SUPER NITRO + VITOL + SILIMAX + SILWET L77
Es un fuerte estimulador de la actividad enzimática, de carbohidratos y de aminoácidos. Ideal en manejo de pastos de alta calidad.
Es un bioestimulante natural formulado con tecnología Micro Carbono que incrementa la energía de la planta, activa el desarrollo vegetativo y radicular.
Fuente esencial para pastos que ayuda a reforzar el desarrollo de brotes y de hojas.
Coadyuvante organosiliconado que mejora la cobertura en las aplicaciones.
LE RECOMENDAMOS NUESTRAS VARIEDADES DE SORGO FORRAJERO Y SILERO:
SORGO 71 DP
SORGOS FORRAJEROS TOB TFI 1416 BMR
HUMA GRO
Silwet L 77
Distribuye
agro Innova
Creando valor con Innovación
Dirección: 2 km oeste y 300 m norte de la Cruz Roja de Santa Ana. San José, Costa Rica.
Tel. Ofibodega: 2438-0098 / Cel: 8341-9639
Email: ameneses@agroinnovacr.com
Pagina Web: www.agroinnovacr.com

Grassland combo: Increased grassland production

- José Alberto Duran Rojas Delivery #: 7597 partner 3894
- Palmira, Zarcero
- Pastures: *Pennisetum* ***clandestinum*** (Kikuyo)

MEADOW CAPACITY	Conventional fertilization Kg/sq m	HUMA GRO Kg/sq m
UPPER STRATUM	3.40	3.80
MIDDLE STRATUM	2.40	2.80
LOWER STRATUM	1.15	1.45



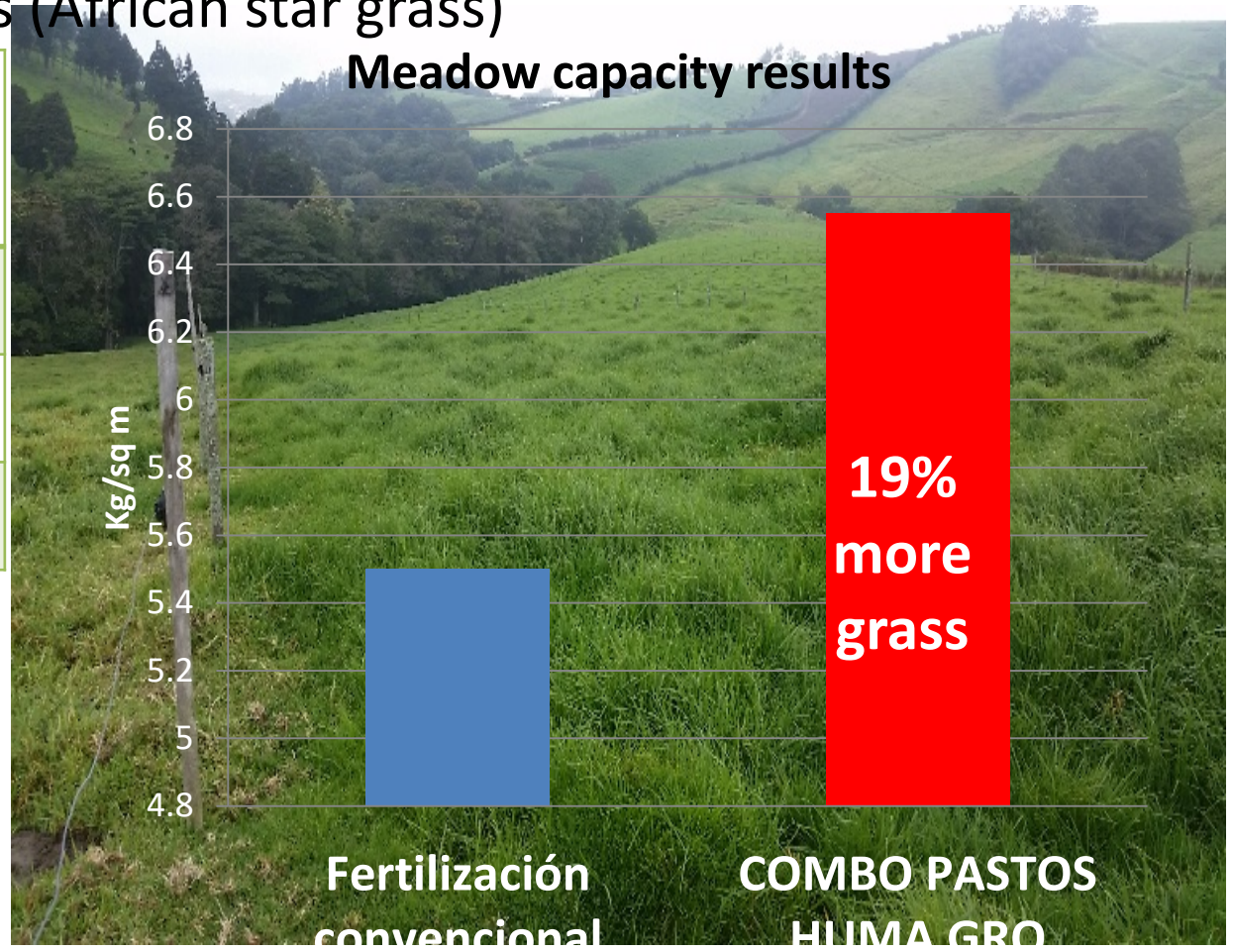
Grassland combo: Increased grassland production

Jorge Benavides Blanco, delivery #1171.

San Vicente, San Carlos.

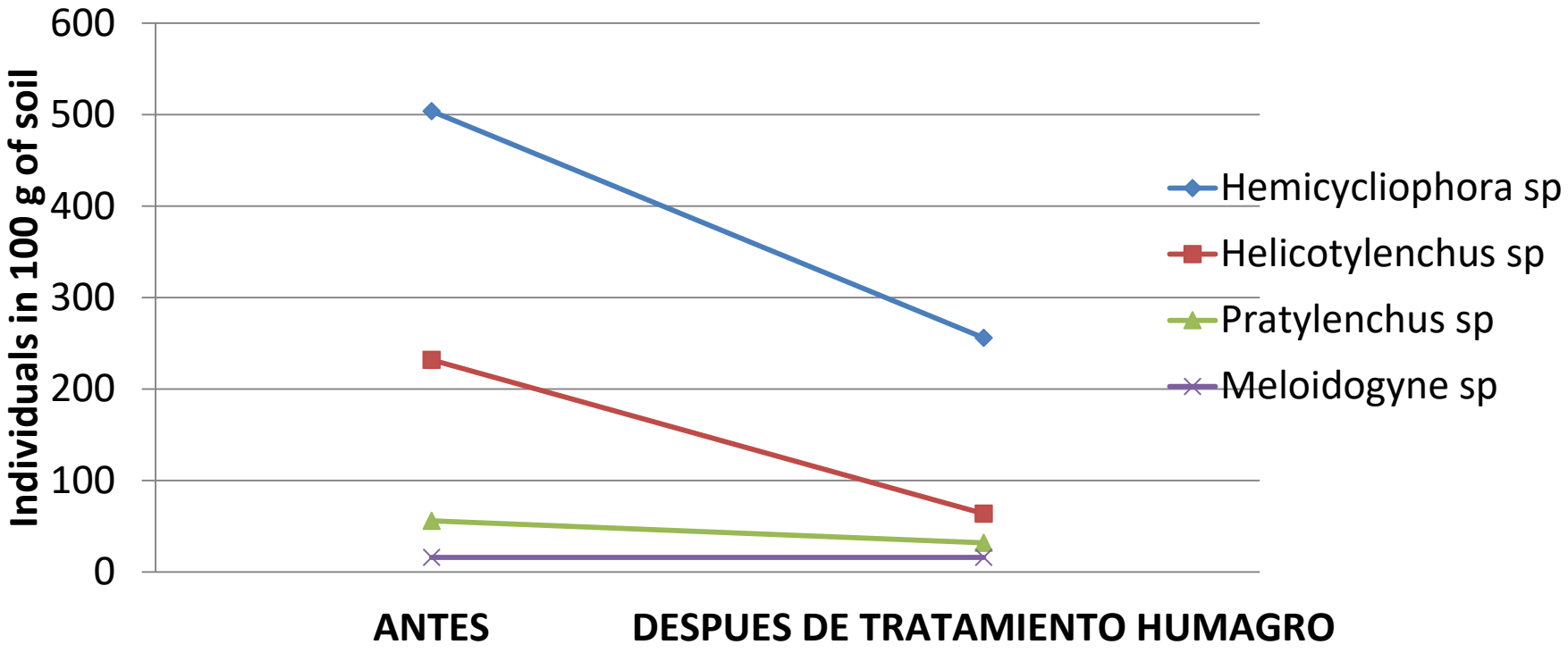
Cynodon nlemfluensis (African star grass)

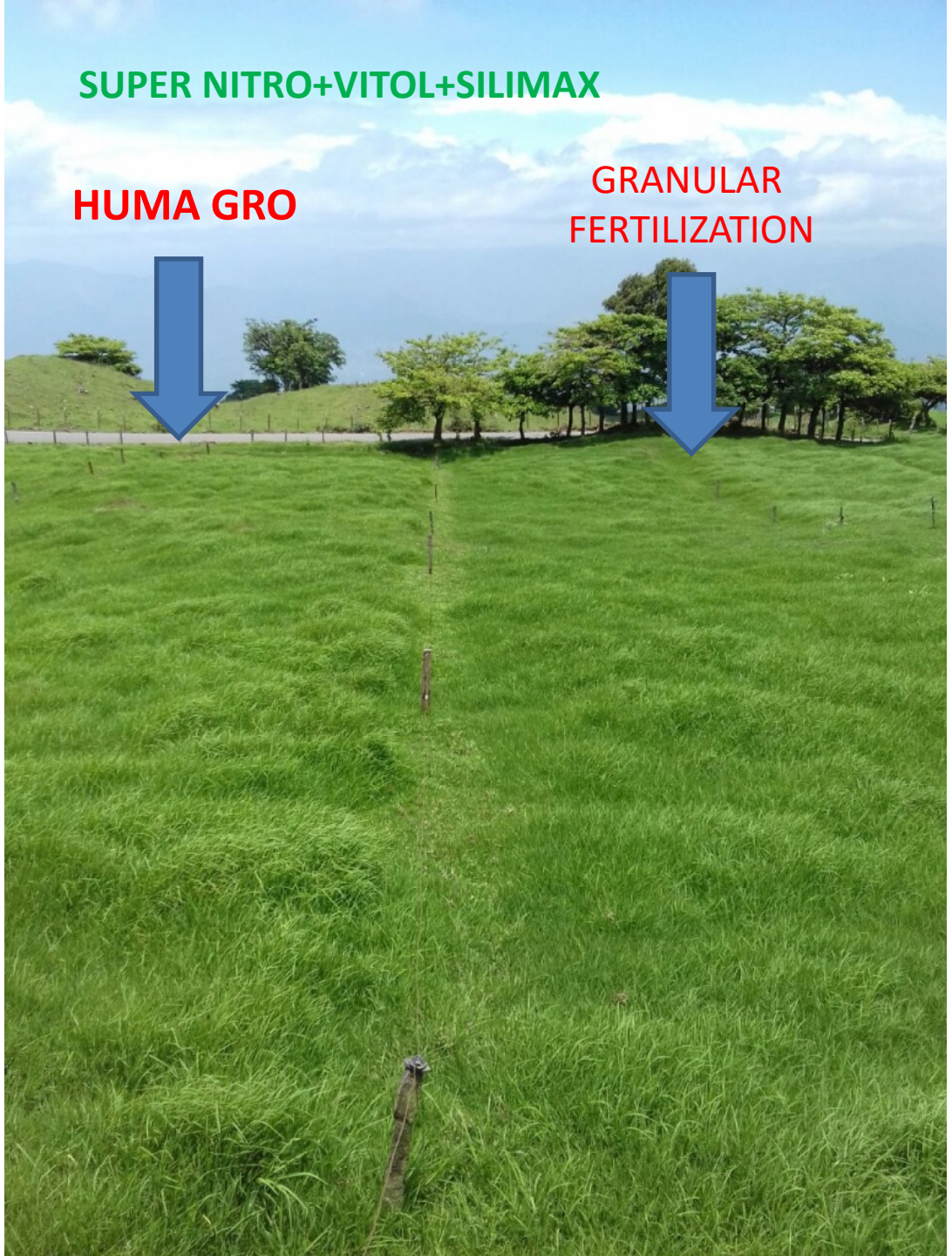
MEADOW CAPACITY	Conventional fertilization Kg/sq m	HUMA GRO Kg/sq m
UPPER STRATUM	2.15	2.55
MIDDLE STRATUM	1.75	2.35
LOWER STRATUM	1.60	1.65



Soil combo

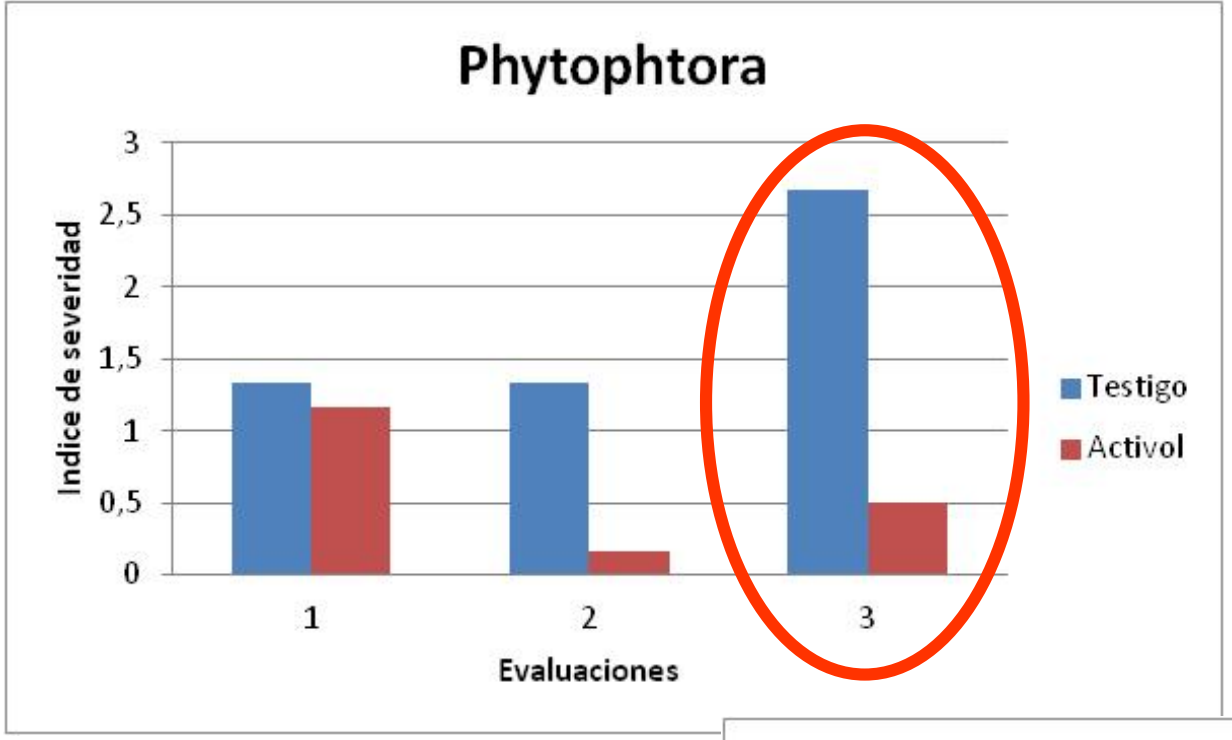
Population of soil-borne nematodes in a Cynodon Sp (Star grass) meadow. San Carlos, September 2016.




SUPER NITRO+VITOL+SILIMAX
HUMA GRO
GRANULAR
FERTILIZATION

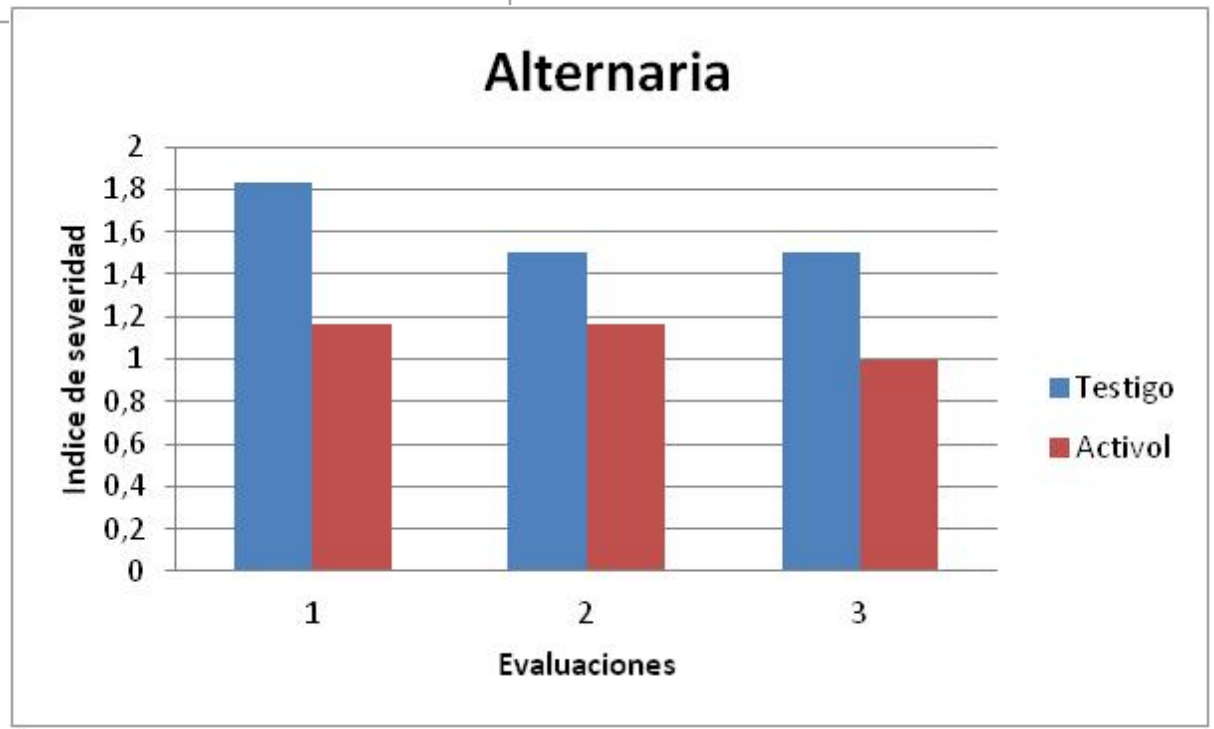
ACTIVOL

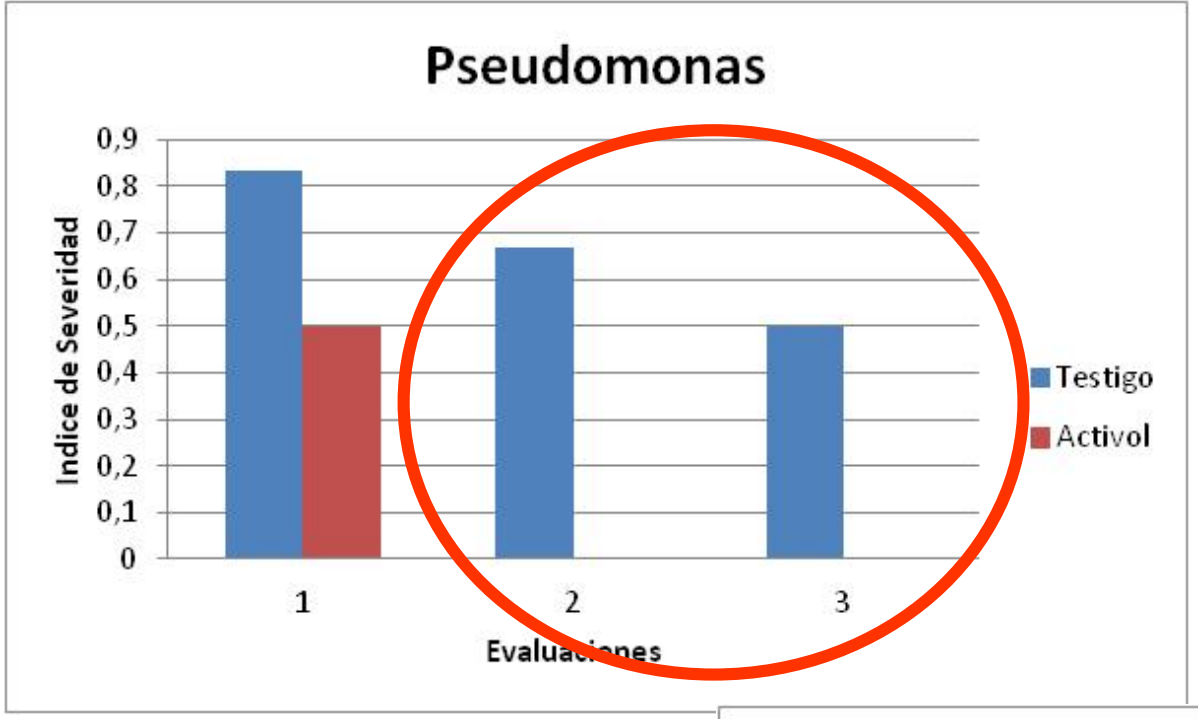
RESISTANCE INDUCER: A VACCINE FOR PLANTS



Increases plant resistance to blight

Less lower leaves, healthier plants

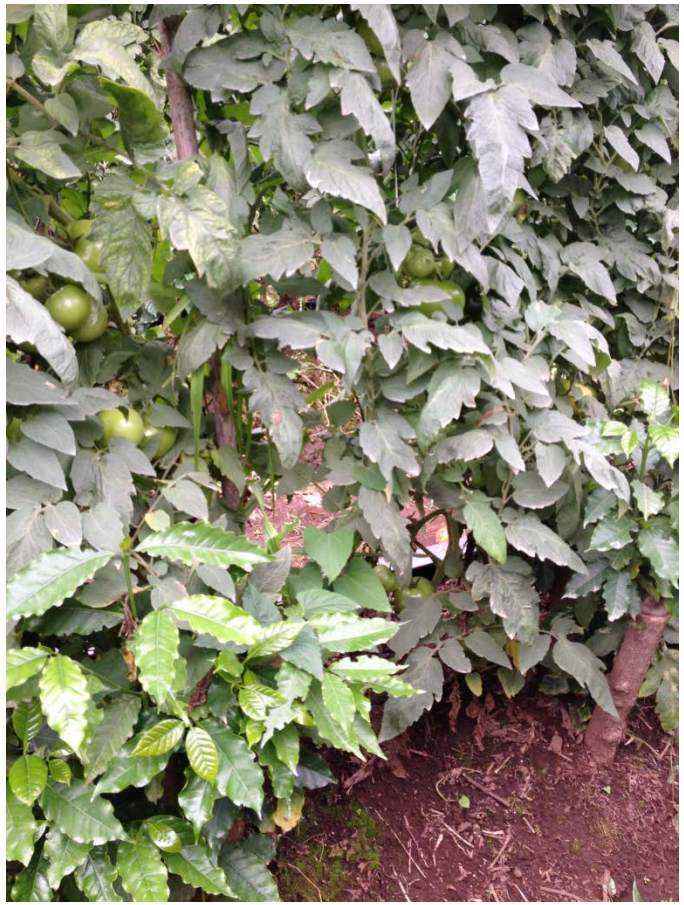




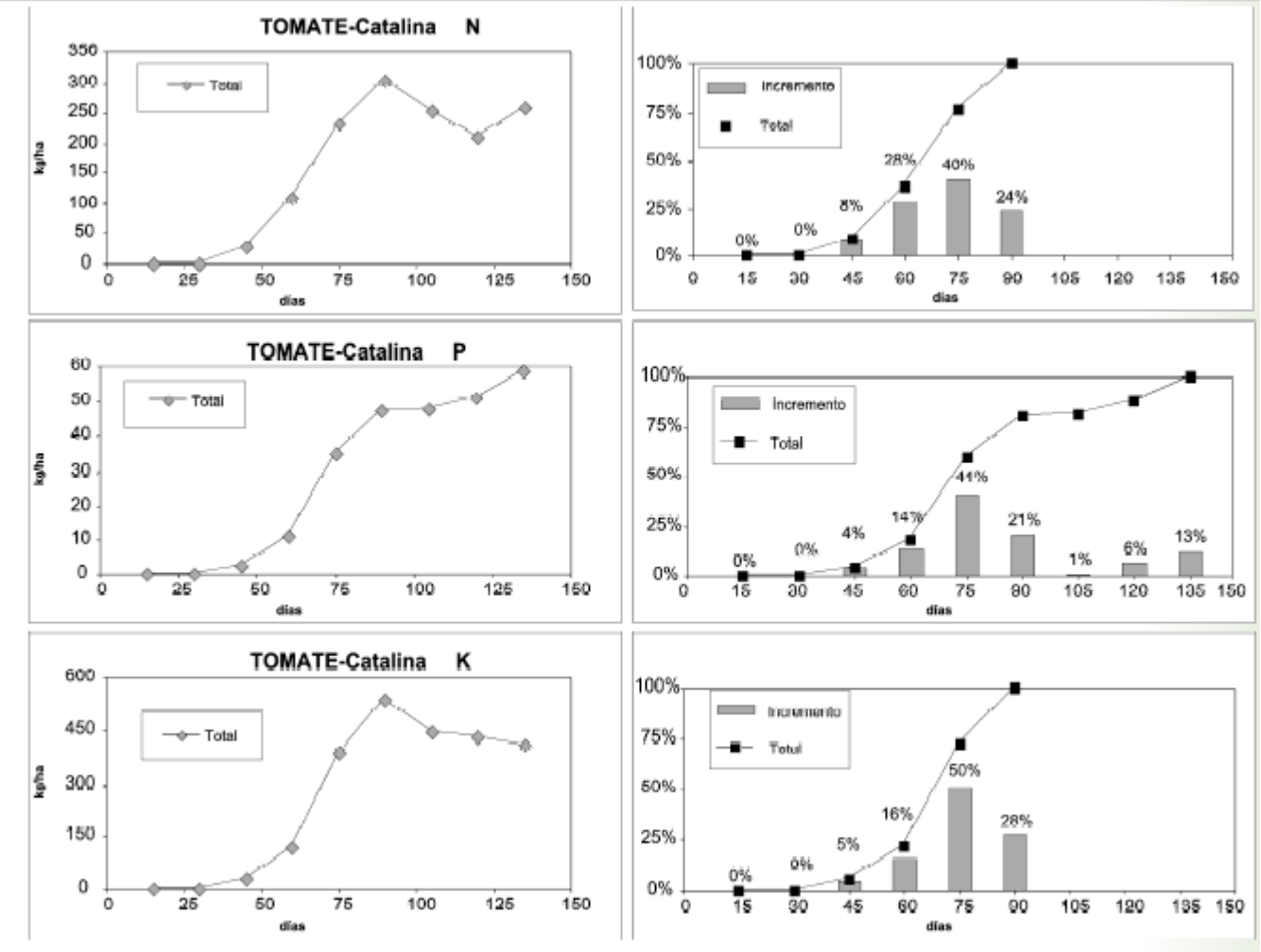
Less bacterial attacks on leaves

Healthier leaves result in increased production


ACTIVOL



NUTRITIONAL PACKAGES



TAILORED PACKAGES

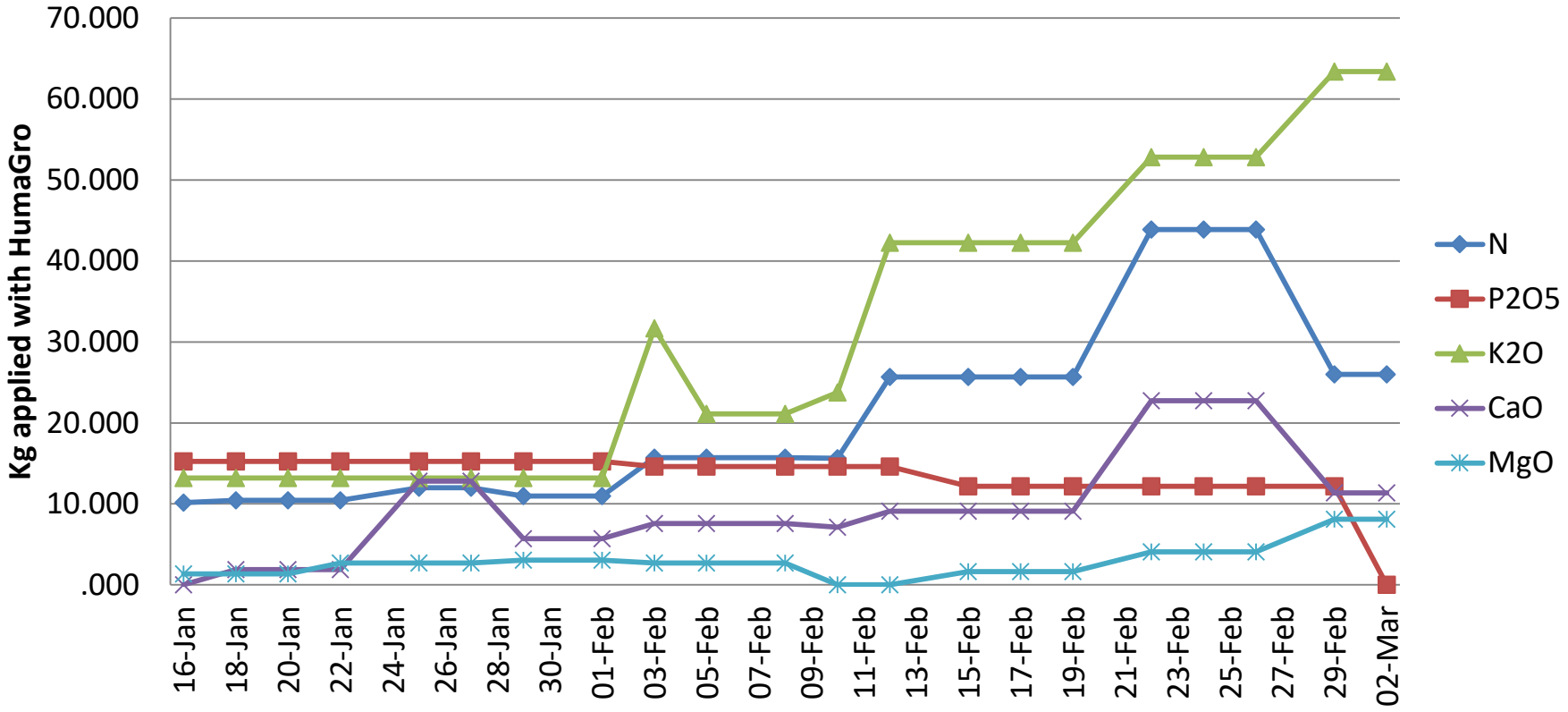
SALT SUBSTITUTION

Program applied (adjusted)

AREA 3.25 Ha

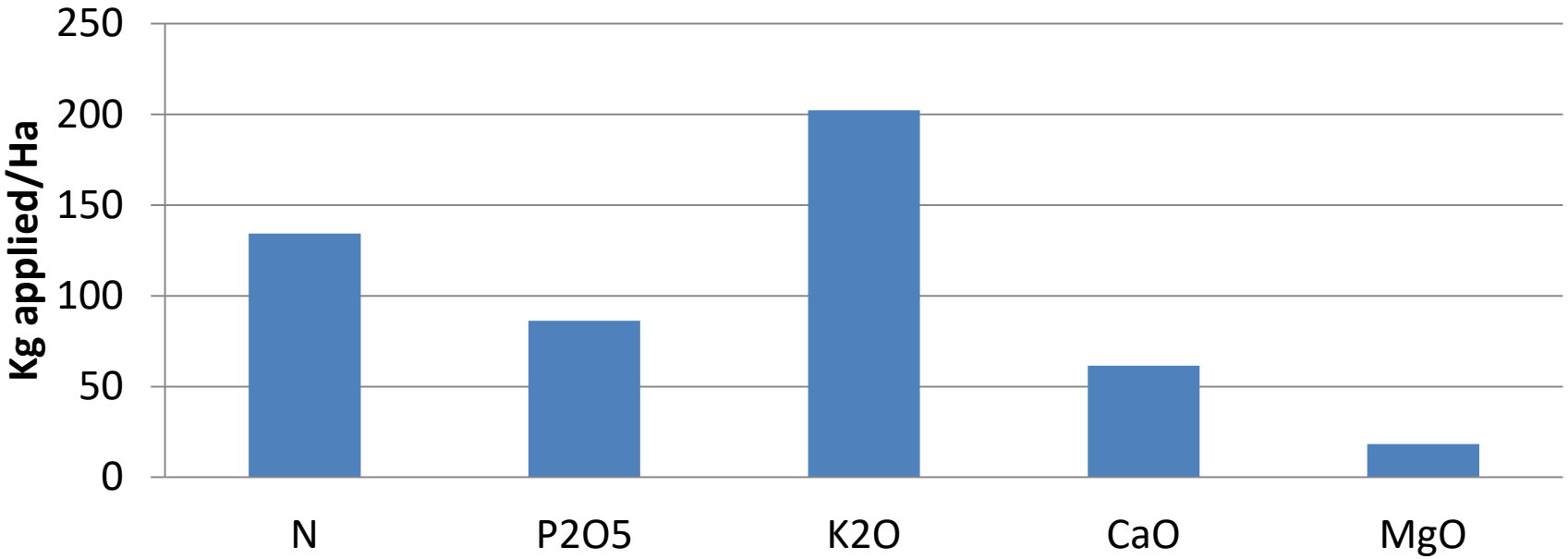
PHENOLOGICAL STAGE			PLANT DEVELOPMENT								BLOSSOMING						FRUIT SET					FILLING AND RIPENING					TOTAL
		TDD	2	4	6	8	11	13	15	18	20	22	25	27		29	32	34	36		39	41	43	46	48	50	LITERS
		Date	16-Jan	18-Jan	20-Jan	22-Jan	25-Jan	27-Jan	29-Jan	01-Feb	03-Feb	05-Feb	08-Feb	10-Feb		12-Feb	15-Feb	17-Feb	19-Feb		22-Feb	24-Feb	26-Feb	29-Feb	#####	#####	
FERTIRRIGATION/DOSE (L)/HECTARE	A	PHOSMAX	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	1.95	1.95	1.95	1.95	0.00	1.95	1.63	1.63	1.63		1.63	1.63	1.63	1.63	0.00	0.00	37.38
	A	CALCIUM	0.00	0.54	0.54	0.54	3.66	3.66	1.63	1.63	2.17	2.17	2.17	2.03	0.00	2.60	2.60	2.60	2.60		6.50	6.50	6.50	3.25	3.25	0.00	57.12
	A	MAX PAK	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.22	0.22	0.22	0.33	0.00	0.65	0.65	0.65	0.65		0.81	0.81	0.81	1.14	0.00	0.00	8.78
	A	BREAKOUT	0.00	1.08	1.08	1.08	0.00	0.00	0.00	0.00	1.08	1.08	1.08	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	6.50
	A	ACTIVOL	0.33	0.00	0.00	0.33	0.00	0.00	0.33	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.33	0.00	0.00		0.33	0.00	0.00	0.00	0.00	0.00	1.95
	A	FULVI PRO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00
	B	SUPER NITRO	4.06	4.06	4.06	4.06	4.06	4.06	4.06	4.06	5.85	5.85	5.85	5.85	0.00	9.75	9.75	9.75	9.75		16.25	16.25	16.25	9.75	9.75	0.00	163.15
	B	44-MAG	0.54	0.54	0.54	1.08	1.08	1.08	1.22	1.22	1.08	1.08	1.08	0.00	0.00	0.00	0.65	0.65	0.65		1.63	1.63	1.63	3.25	3.25	0.00	23.89
	B	ZAP	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.63	0.00	0.00	0.00	1.63	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	4.88
	B	SOILMAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00
	C	SILIMAX	0.00	0.00	0.08	0.08	0.08	0.08	0.08	0.08	0.10	0.10	0.10	0.10	0.00	0.10	0.16	0.16	0.16		0.16	0.33	0.00	0.00	0.00	0.00	1.95
	C	SUPER K	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	4.88	3.25	3.25	3.66	0.00	6.50	6.50	6.50	6.50		8.13	8.13	8.13	9.75	9.75	0.00	101.16

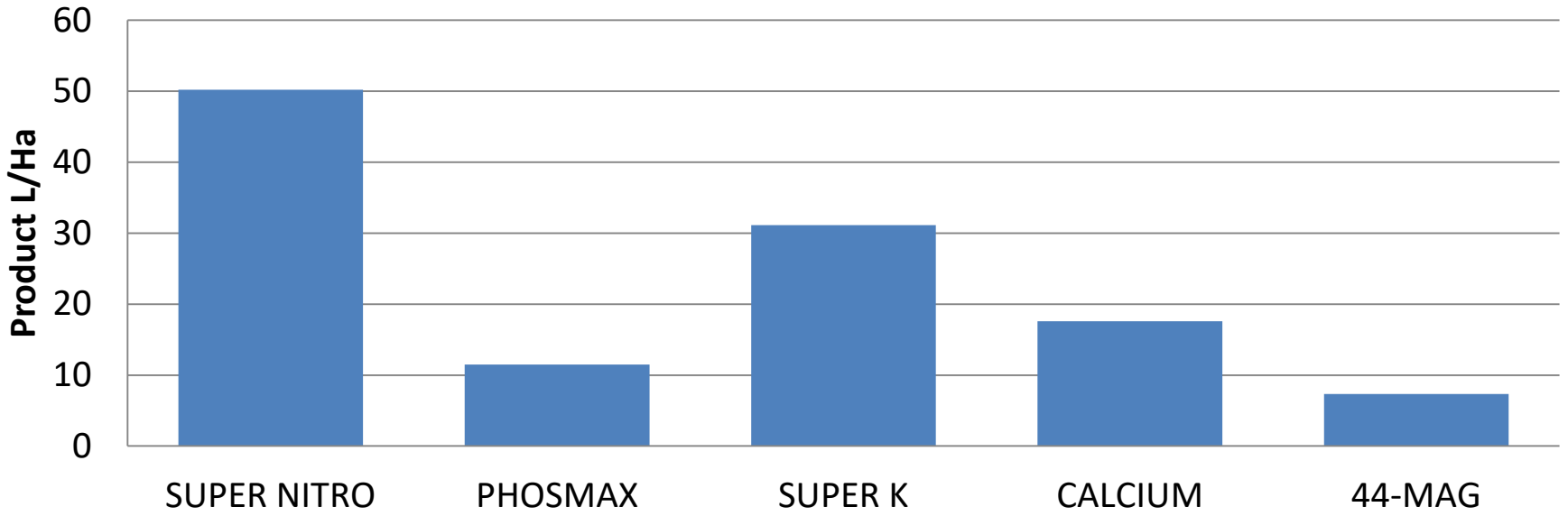
Distribution of product applied to lot 99



PLANT DEVELOPMENT								BLOSSOMING						FRUIT SET					FILLING AND RIPENING				
2	4	6	8	11	13	15	18	20	22	25	27		29	32	34	36		39	41	43	46	48	50
16-Jan	18-Jan	20-Jan	22-Jan	25-Jan	27-Jan	29-Jan	01-Feb	03-Feb	05-Feb	08-Feb	10-Feb		12-Feb	15-Feb	17-Feb	19-Feb		22-Feb	24-Feb	26-Feb	29-Feb	02-March	04-March

Total nutrients applied/Ha

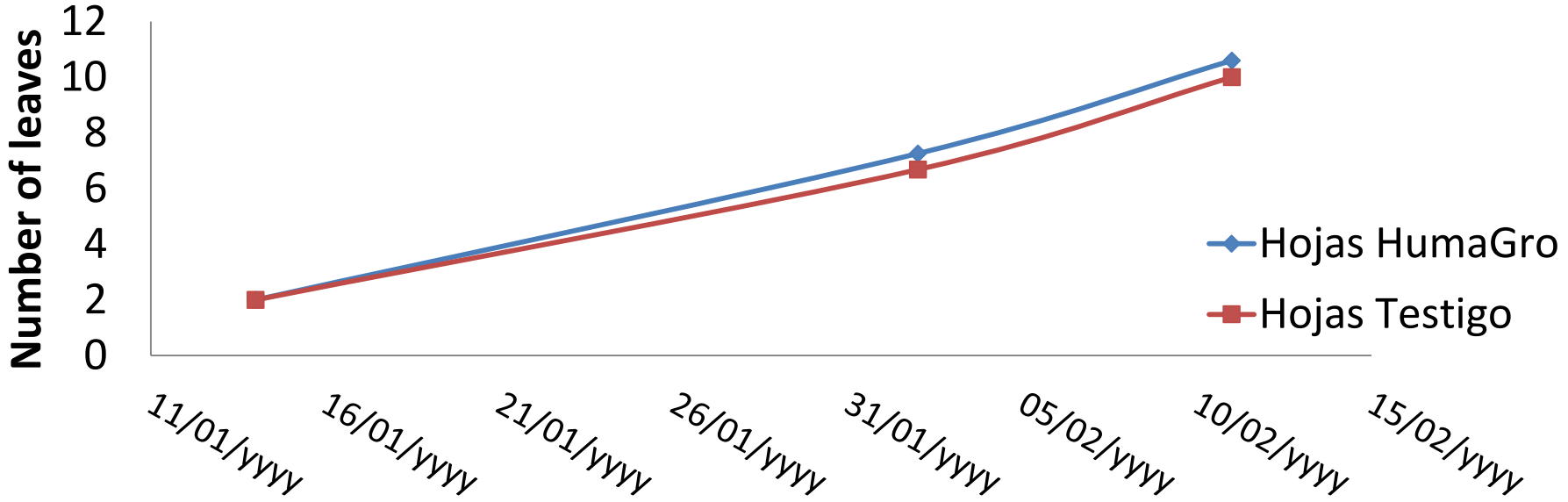


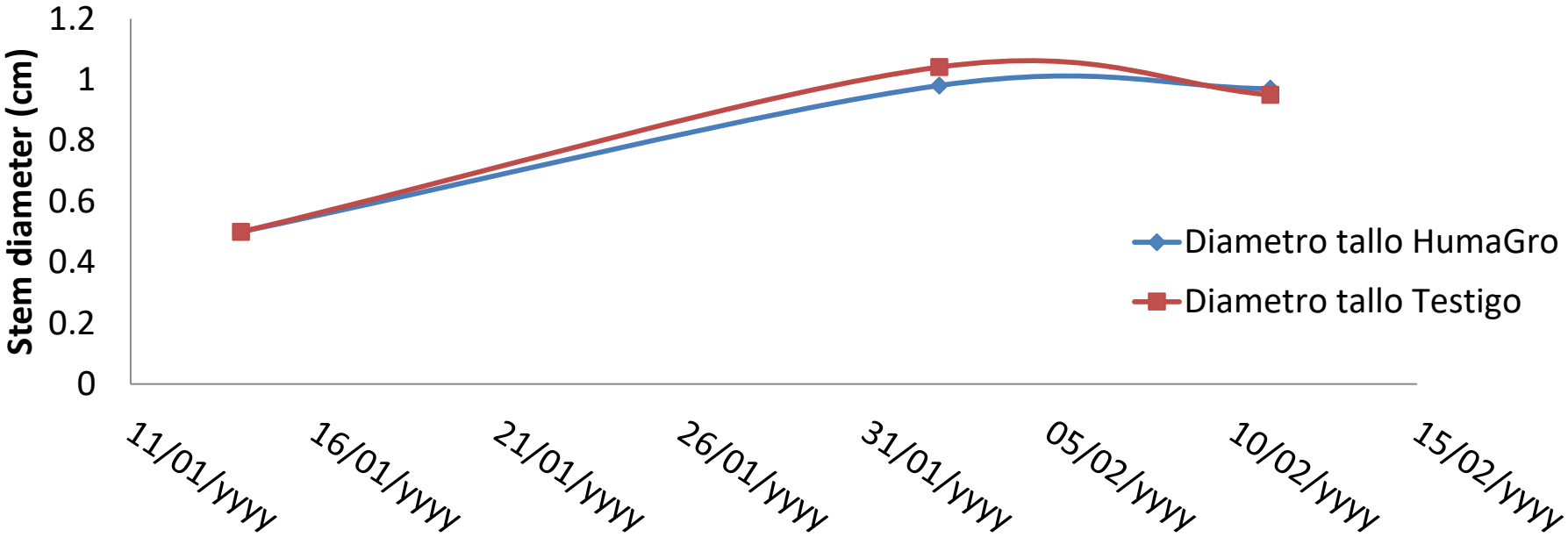


Results

PLANT DEVELOPMENT								BLOSSOMING						FRUIT SET					FILLING AND RIPENING				
2	4	6	8	11	13	15	18	20	22	25	27		29	32	34	36		39	41	43	46	48	50
16-Jan	18-Jan	20-Jan	22-Jan	25-Jan	27-Jan	29-Jan	01-Feb	03-Feb	05-Feb	08-Feb	10-Feb		12-Feb	15-Feb	17-Feb	19-Feb		22-Feb	24-Feb	26-Feb	29-Feb	02-March	04-March

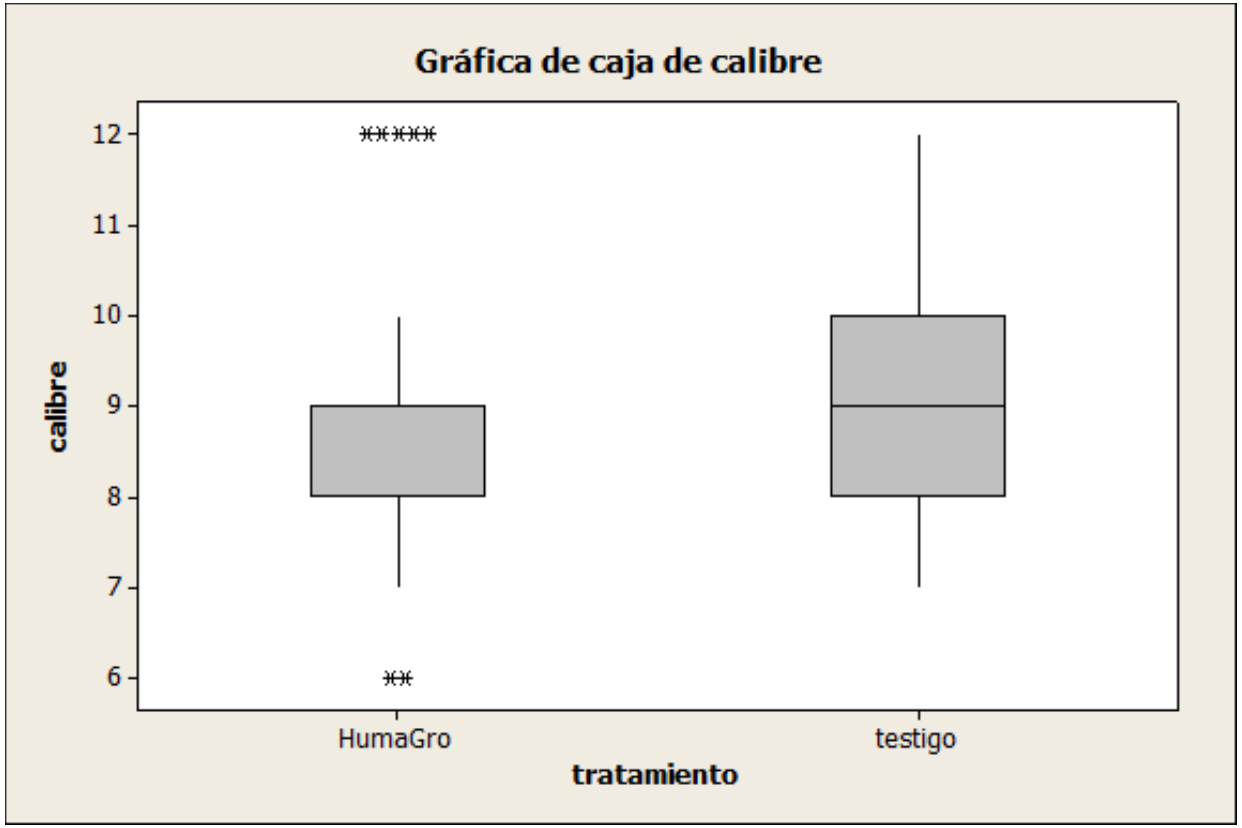
Plant variables



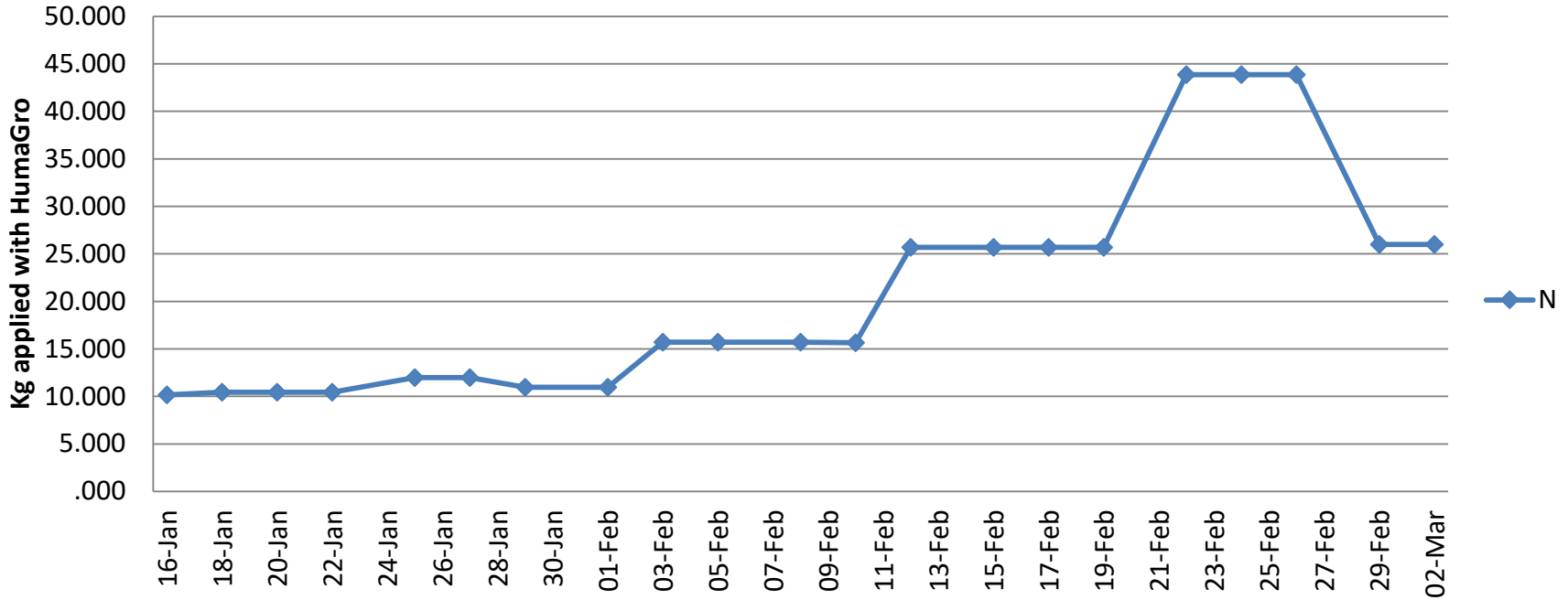


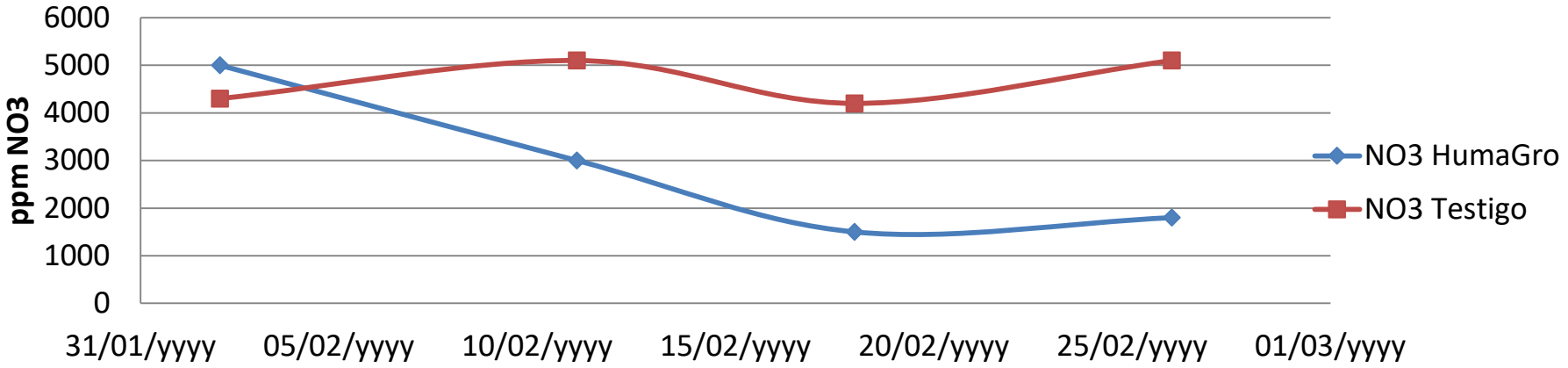
Descriptive statistics and scatter plot of the variable: Yellow melon sizes. 2-26-16 (43 TDD) (4 10-plant plots)

Treatment	# of fruits/plot	Average size	Standard deviation	Min.	Mean	Max.
Control	10	8.952	1.447	7.0	9.0	12.0
HG	0,9	8.703	1.596	6.0	8.0	12.0

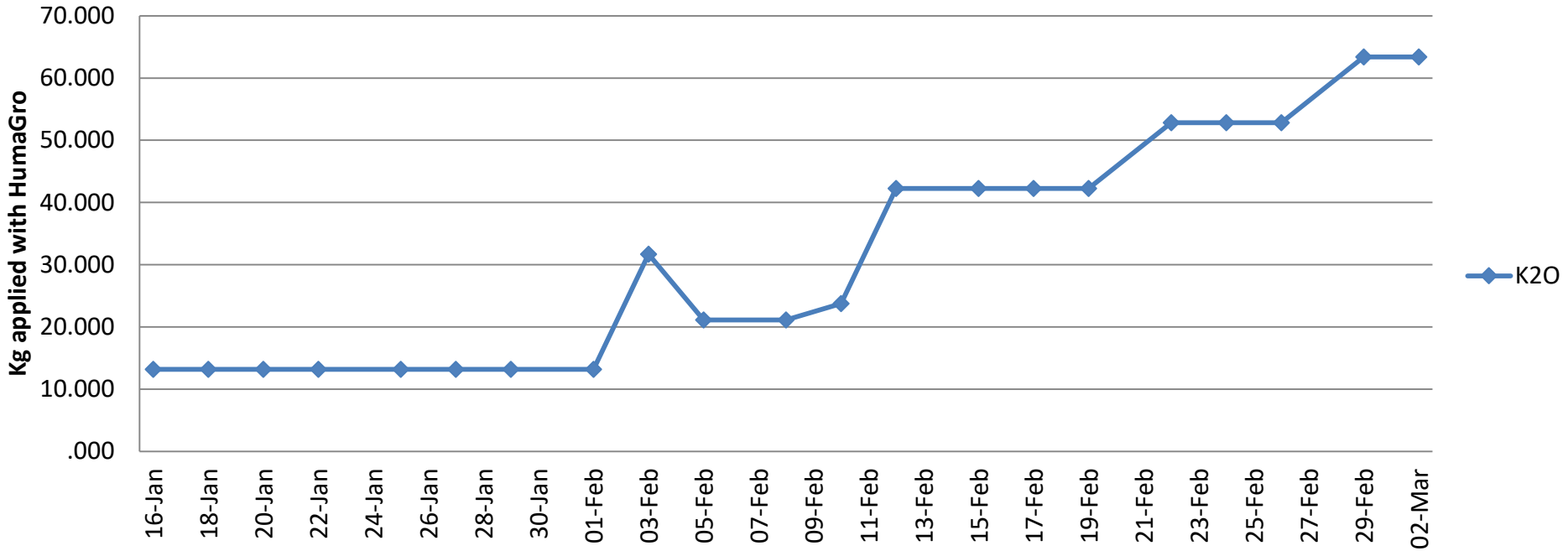


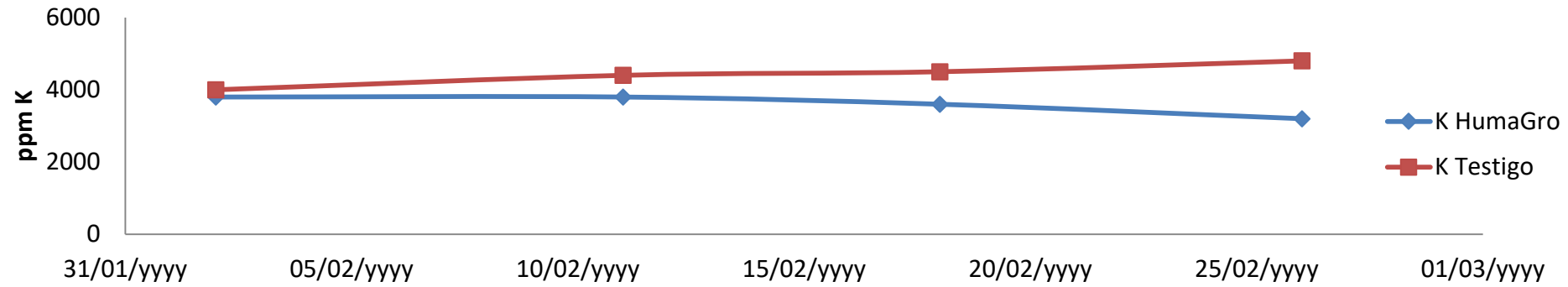
When the test was performed, there were more fruits in the control treatment, but they were less uniform, which is reflected in the chart. The mean for this treatment is 9, i.e., the prevalent size is 9. Treatment with HG results in a mean of 8, with minimum sizes of 6 and greater size concentration.



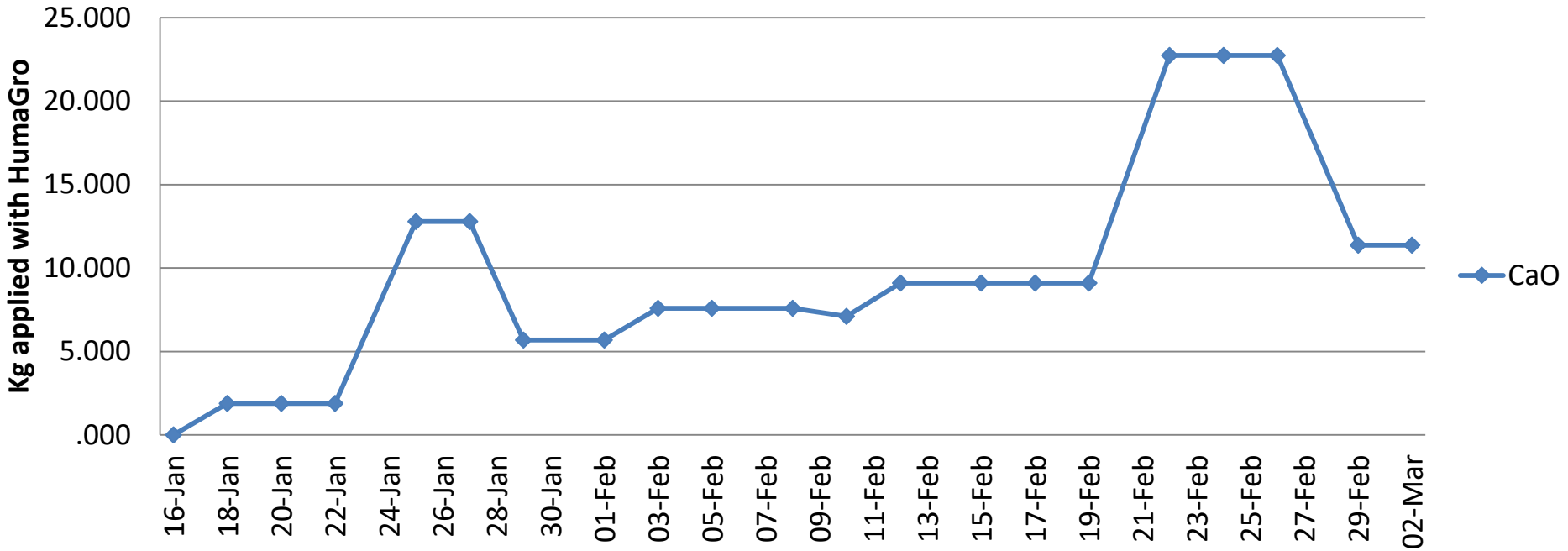


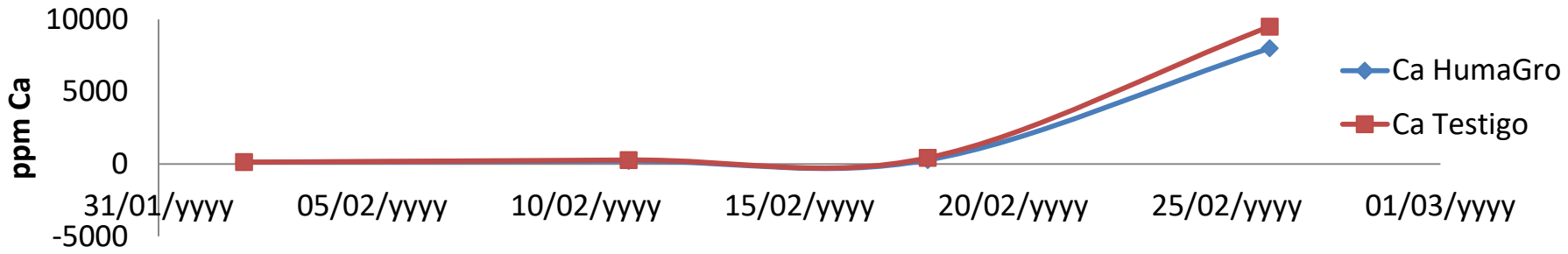
PLANT DEVELOPMENT								BLOSSOMING						FRUIT SET					FILLING AND RIPENING				
2	4	6	8	11	13	15	18	20	22	25	27		29	32	34	36		39	41	43	46	48	50
16-Jan	18-Jan	20-Jan	22-Jan	25-Jan	27-Jan	29-Jan	01-Feb	03-Feb	05-Feb	08-Feb	10-Feb		12-Feb	15-Feb	17-Feb	19-Feb		22-Feb	24-Feb	26-Feb	29-Feb	02-March	04-March





PLANT DEVELOPMENT								BLOSSOMING						FRUIT SET					FILLING AND RIPENING				
2	4	6	8	11	13	15	18	20	22	25	27		29	32	34	36		39	41	43	46	48	50
16-Jan	18-Jan	20-Jan	22-Jan	25-Jan	27-Jan	29-Jan	01-Feb	03-Feb	05-Feb	08-Feb	10-Feb		12-Feb	15-Feb	17-Feb	19-Feb		22-Feb	24-Feb	26-Feb	29-Feb	02-March	04-March





PLANT DEVELOPMENT								BLOSSOMING						FRUIT SET					FILLING AND RIPENING				
2	4	6	8	11	13	15	18	20	22	25	27		29	32	34	36		39	41	43	46	48	50
16-Jan	18-Jan	20-Jan	22-Jan	25-Jan	27-Jan	29-Jan	01-Feb	03-Feb	05-Feb	08-Feb	10-Feb		12-Feb	15-Feb	17-Feb	19-Feb		22-Feb	24-Feb	26-Feb	29-Feb	02-March	04-March

PLANT DEVELOPMENT								BLOSSOMING						FRUIT SET					FILLING AND RIPENING				
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Average results of the variables assessed in Costeña lot 99. Yellow melon. Date: 3-16-2016 (60 TDD) (4 10-plant plots)

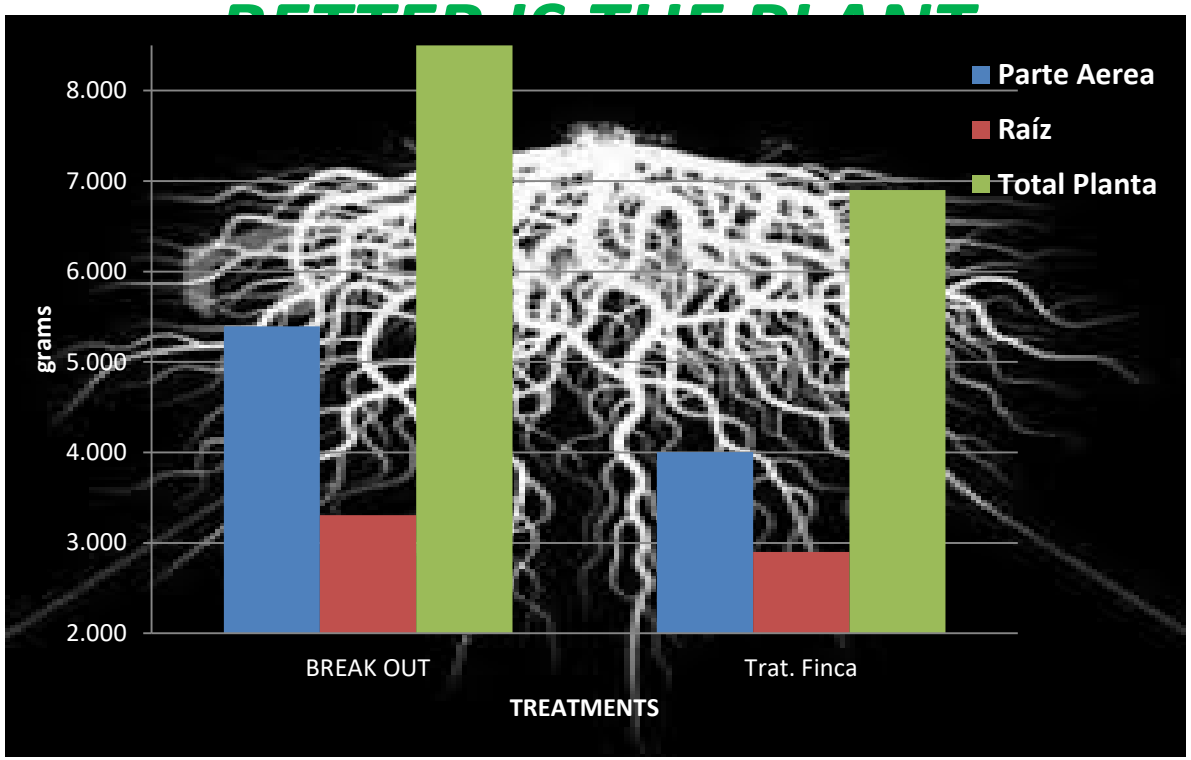
HUMA GRO®

BREAKOUT®

HUMA GRO BREAKOUT ® (4-14-2)

HUMA GRO BREAKOUT ®, es un complejo nutricional con Tecnología Micro Carbono, que está diseñado para estimular la producción natural de hormonas, auxinas y citoquininas dentro de la planta. Además HUMA GRO BREAKOUT ®, mejora el inicio del brote, la calidad de flor, amarre y cuajado de los frutos a través de la activación de los aminoácidos, las vitaminas y el transporte de fósforo hacia la raíz y brotes de la planta. Cuando se aplica al suelo HUMA GRO BREAKOUT ®, mejora y estimula el crecimiento masivo de las raíces fibrosas (absorbentes) de forma natural y eficaz.

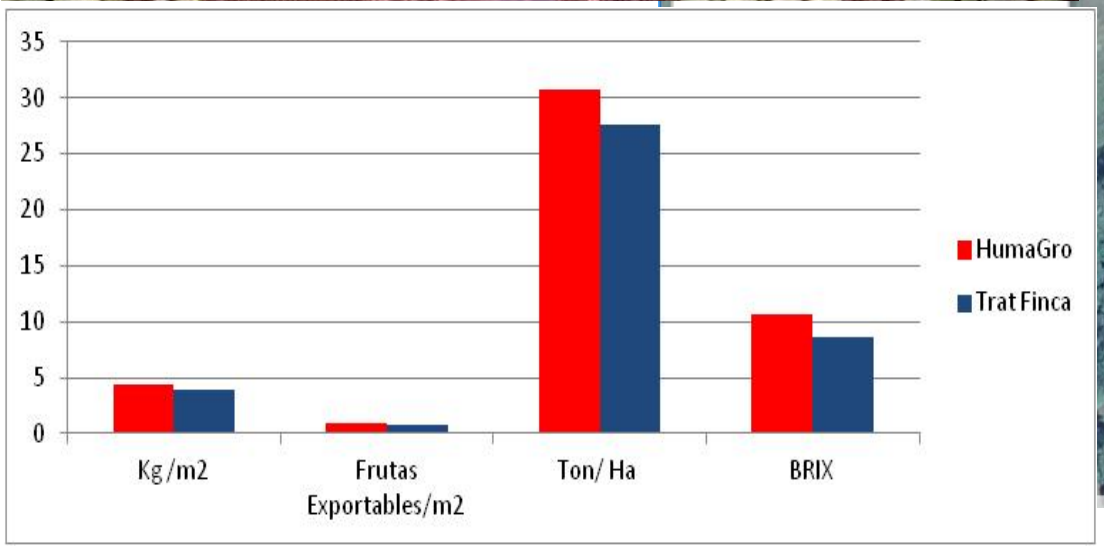
THE BETTER IS THE ROOT... THE



The results in the chart show the fresh weight of the whole plant, including its surface part and roots. A value of n=10 was used for the assessment.

Applications were made in melon plants. Guanacaste, 2015
BREAK OUT: 2cc/L Finca treatment: Monopotassium phosphate 160g/L

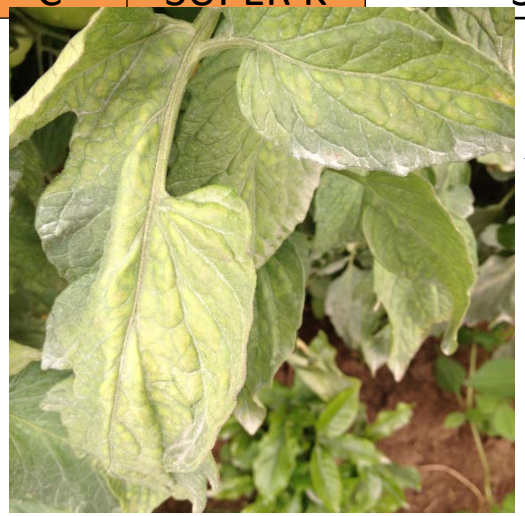
NUMBER OF FRUITS SET (> 10 cm of diameter) IN VALVES 1, 2, 3, 4. CHANCHERA LOT



Solutions A, B and C in tomato

STAGE 1 Growth

TANK	Product	Total (L or Kg) 5,000 plants	SM	**Dose (L)/application 5,000 plants**
A	PHOSMAX	2.0		
A	CALCIUM	3.0		
A	ACTIVOL	1.0	10 L	**1**
B	SUPER NITRO	2.5		
B	44-MAG	2.0	10 L	**1**
C	VITOL	1.0		
C	SUPER K	3.5	10 L	**1**



High doses of Super K?

Efficiency of SuperNitro?

PINEAPPLE FERTILIZATION

Alternative to replace KCl and Calcium nitrate

- High electrical conductivity results in damaged fruits
- High chlorine contribution results in phytotoxicity




2 litres of Phosmax/hectare were applied to pineapples

APPLICATION HUMA GRO FRUIT PACKAGE






HUMA GRO

CONTROL PRODUCT

Activol trial to control Empoasca spp in Papaya, application of Activol+Silimax

Methodology

Se realizó un ensayo de laboratorio en condiciones controladas donde se sometieron a evaluación los siguientes productos:

1. Urea granulada.
2. Nitro Xtend
3. Urea granulada + Xtend B-con

Los tres productos tienen una composición base del 46% de N, principalmente en forma de urea.

Se diseñó un ensayo con 4 tratamientos en macetas donde se colocó un suelo representativo de la zona al cual se le añadió la misma dosis de cada uno de los productos comerciales. El cuarto tratamiento se dejó para el testigo, donde no se aplicó ningún producto.

Las macetas tienen un volumen de 4 L y se les aplicó una dosis de 4 g de cada producto en superficie.

El contenido de las fracciones nitrogenadas y su liberación durante el tiempo se evaluó mediante sondas de succión a diferentes tiempos respecto del momento de aplicación del producto. Los tiempos fueron: 0, 3, 6, 10, 15, 20, 30 y 45 días desde la aplicación.

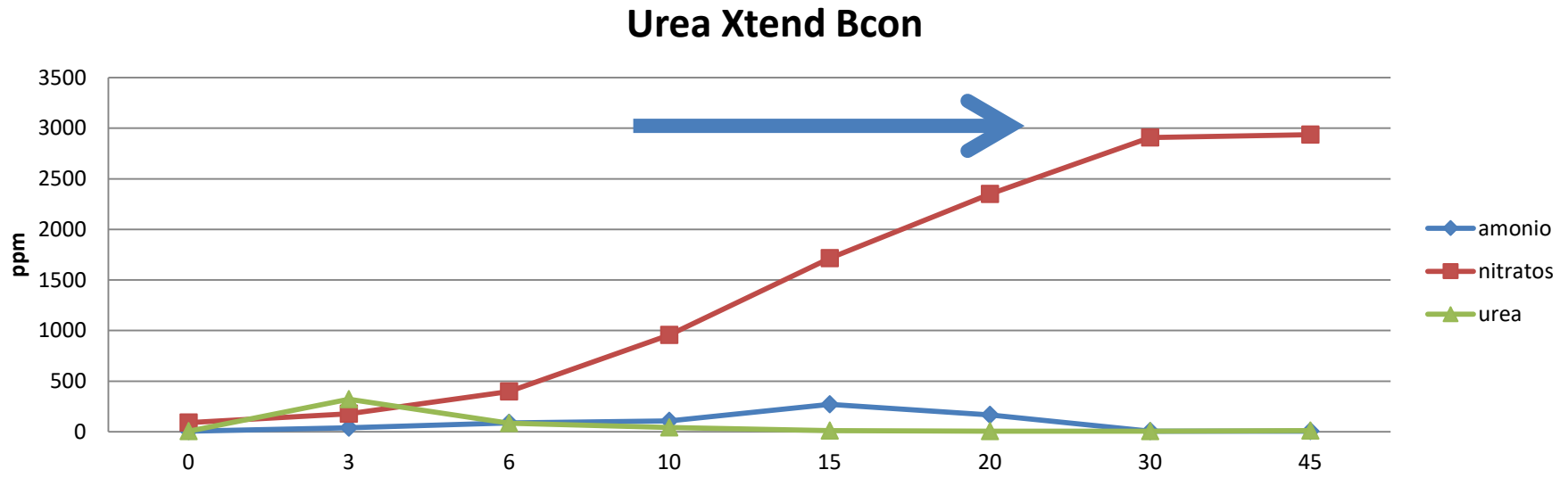
Cada tratamiento se realizó por duplicado para tener más solidez en los datos. El cuadro de muestreos quedaría esquematizado de esta manera:

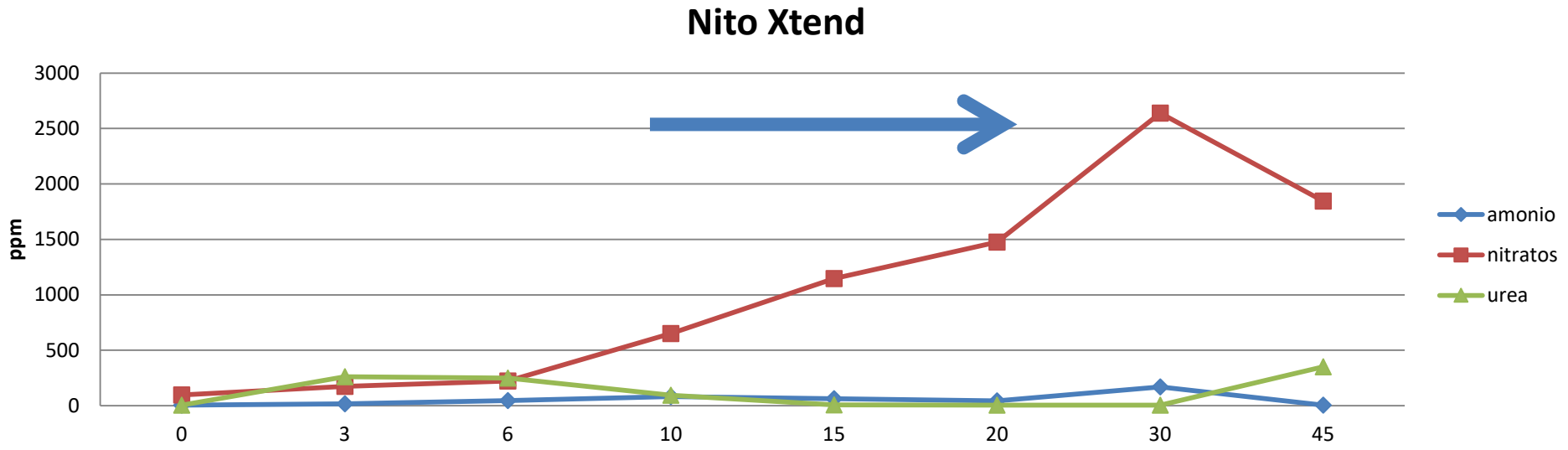
ENSAYO DE EVALUACIÓN DE LA LIBERACIÓN DE NITRÓGENO DE DIFERENTES FORMULAS COMERCIALES

Treatments

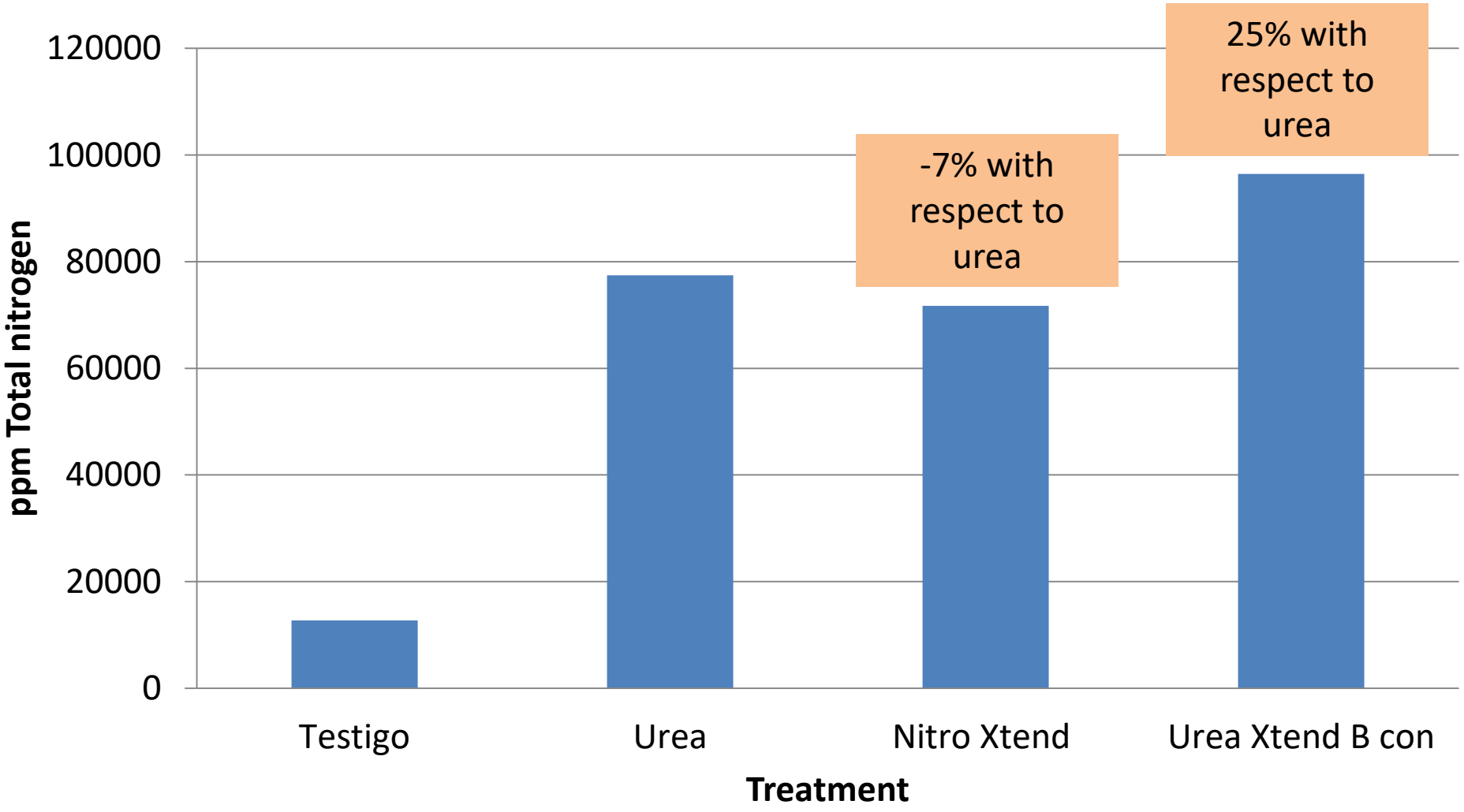
Cuadro de muestre
Tratamientos
Testigo 1
Testigo 2
Urea 1
Urea 2
Nitro Xtend 1
Nitro Xtend 2
Urea Xtend B-con 1
Urea Xtend B-con 2

Contribution of nitrogen sources with Urea Xtend Bcon and Nitro Xtend





Total nitrogen contributions



Conclusions

- Nitrogen contributions with Urea Xtend Bcon are nearly 25% higher than with other sources such as Urea and Nitro Xtend.

- Nitrate contribution are more readily available when treated with Urea Xtend Bcon than when treated with Nitro Xtend, making these elements more readily available for plants.