

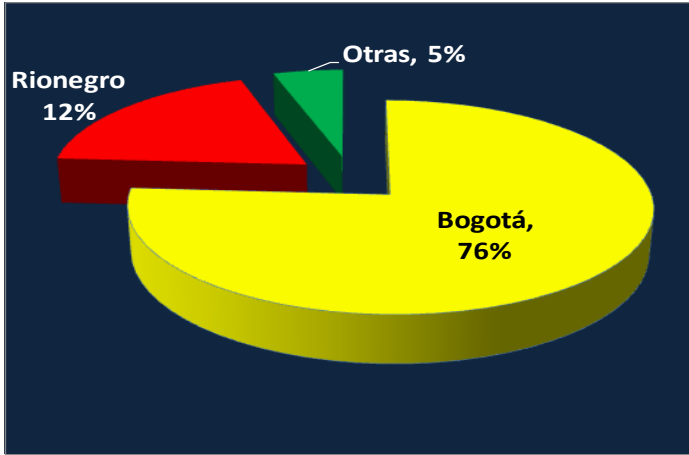


**EVALUATION OF BIOINPUTS
MIKORHIZE, NEMABAC, BIOHAR, NONEM AND PROMOBAC
IN CONTROLLING NEMATODES
IN THE VALLEY FARM - THE FLOWERS CAPIRO**

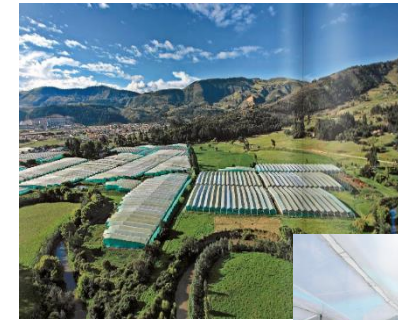
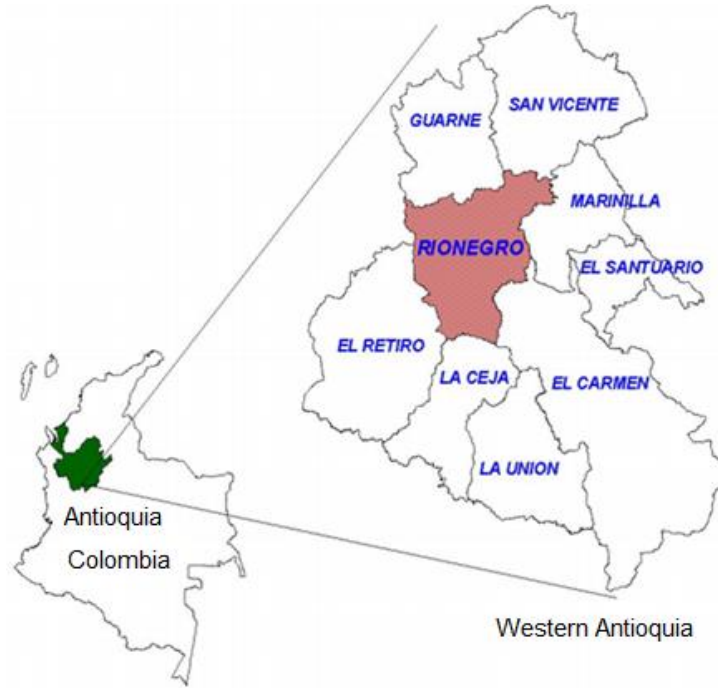


IMPORTANCE OF IN COLOMBIA FLORICULTURE

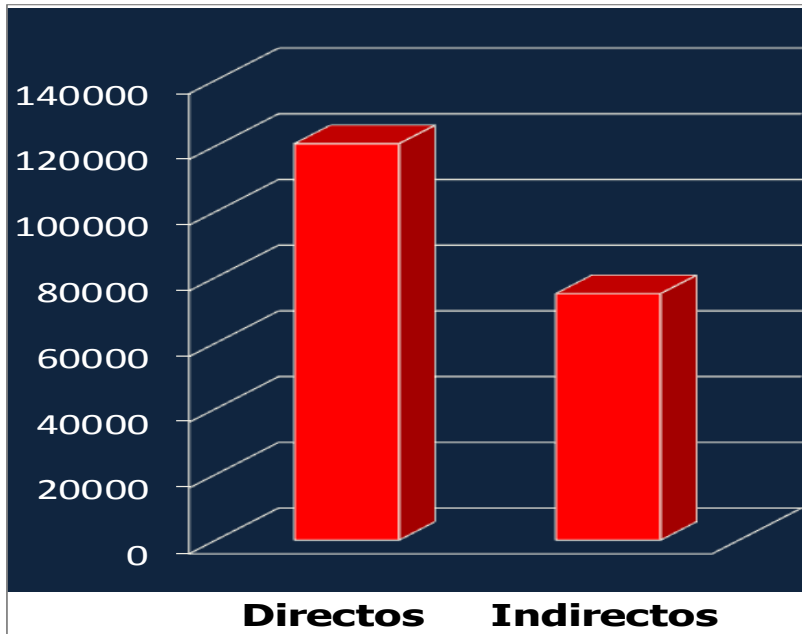
Acreage 7500HA



Chrysanthemum cultivation in Antioquia



JOBS GENERATED



The presence of nematodes as *Meloidogyne*, *Pratylenchus*, fungi such as *Fusarium*, *Rhizoctonia*, *Pythium*, *Phoma*, etc. and soil depletion

Disinfection with steam agrochemicals or alter the balance biological on the floor. In addition, steam disinfection affects soil structure

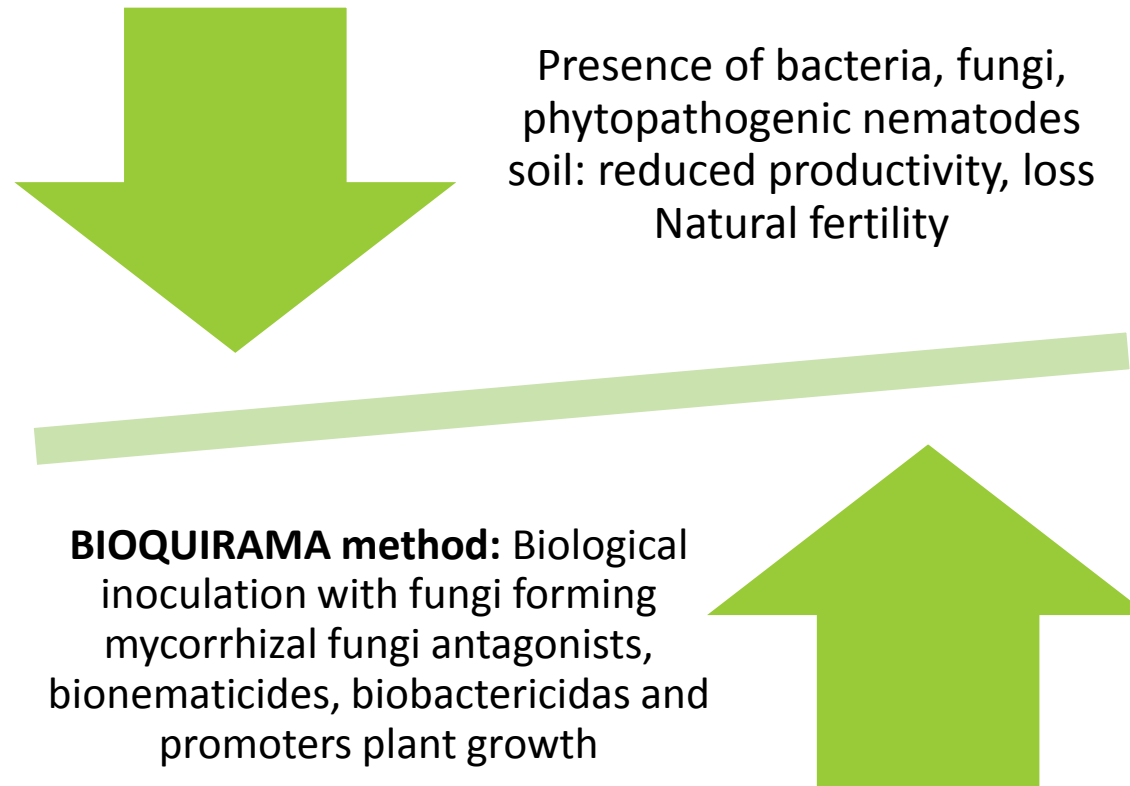
Chemical pesticides and vapor not eradicate all the and pathogens invade faster than the beneficial. back shortly

Disinfection with chemical pesticides is under pressure international and disinfection with steam is becoming increasingly more expensive.

Chemical pesticides are harmful to the environment and Human health

ORGANIC SOIL DISINFECTION METHOD – BIOQUIRAMA |

WITHOUT CHEMICALS OR WITHOUT STEAM



Work done in Flores Capiro

Flores Capiro is one of the region's consolidated production companies and Chrysanthemums this reason constantly looking for new alternatives that contribute to improving their productivity, lower risks to human health and the environment. One of the problems identified in this estate and afflicts good proportion to the Chrysanthemum is the Nematodes attack, being such a pest that affects mainly the root, inducing damage whole plant by obstruction in the passage of nutrients from the root to the leaf via satellite, impacting poor growth and productivity.



For handling this phytosanitary problem on the farm, the implementation of proposed treatment based on biological products such as:

- MIKORHIZE
- NEMABAC
- BIOHAR
- nonem
- PROMOBAC

The above are products whose active ingredient are bacteria and fungi, which have been mainly used as biological controls for soil pathogens, nematodes, sypmhyllans and also as builders and soil conditioners.



OBJECTIVES

General purpose

Evaluate treatment efficacy BIOQUIRAMA on monitoring nematodes mainly in plants chrysanthemum under cover.

Specific objectives

Identify the behavior nematode population under conditions treatments Bioquirama, Witness and Caldera

Evaluate the productivity and quality Final product.

SITE OF APPLICATION

For this test three beds considering they were of the same variety (especially Anastasia) were chosen, and in its history to present high incidence of nematodes; repetitions were made in time for a total of three treatments and three replications.

APPLICATION FORM

The application of MICORHIZE was performed with the Preplant (3kg / bed), then in the first week once planted a first "drench" 120 L with NEMABAC + BIOHAR was performed and in week 3 the second "drench" of executed 120 L with PROMOBAC + nonem.

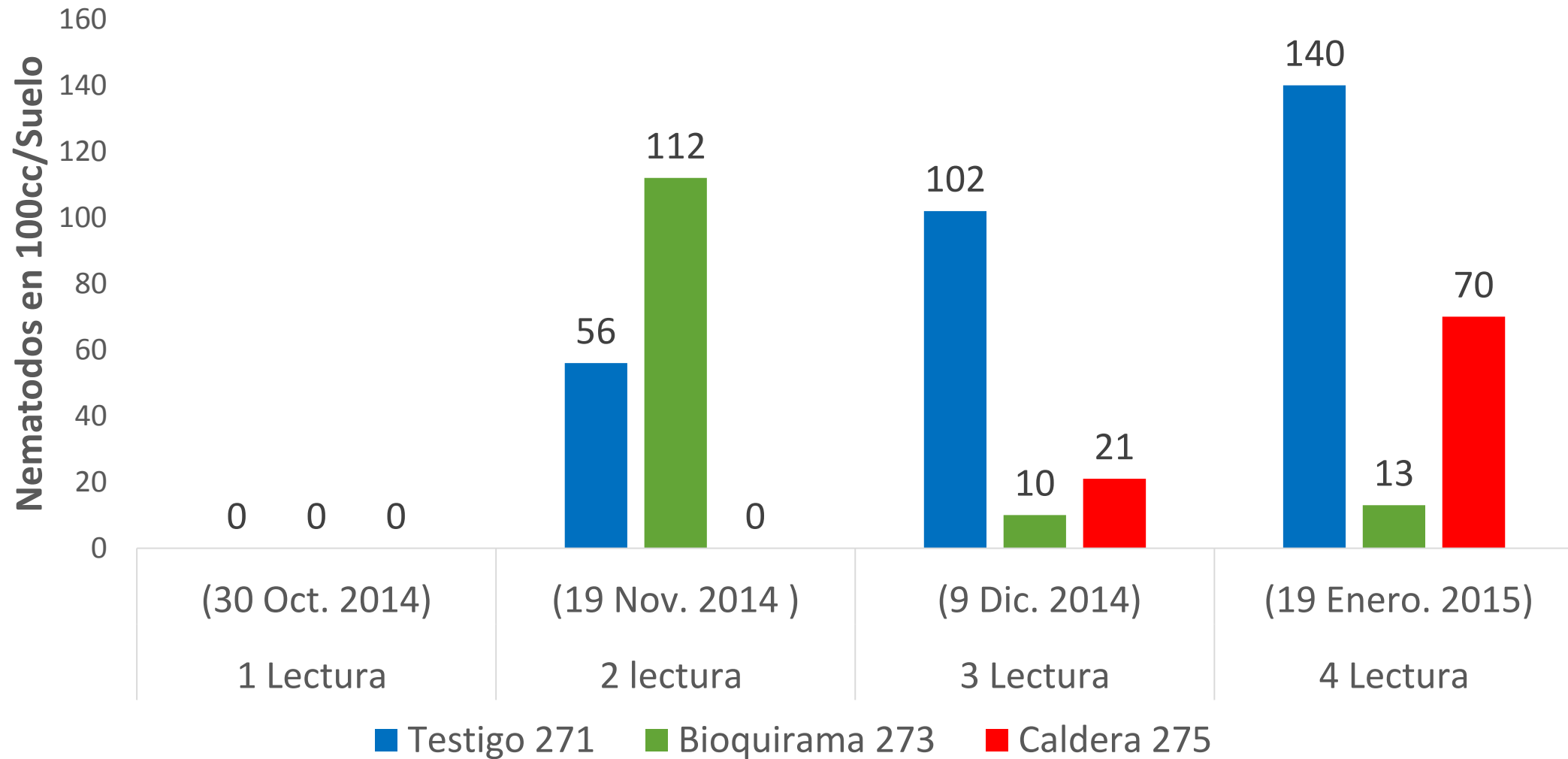
VARIABLE TO ASSESS

Population dynamics of nematodes in time and productivity of plants Chrysanthemum.

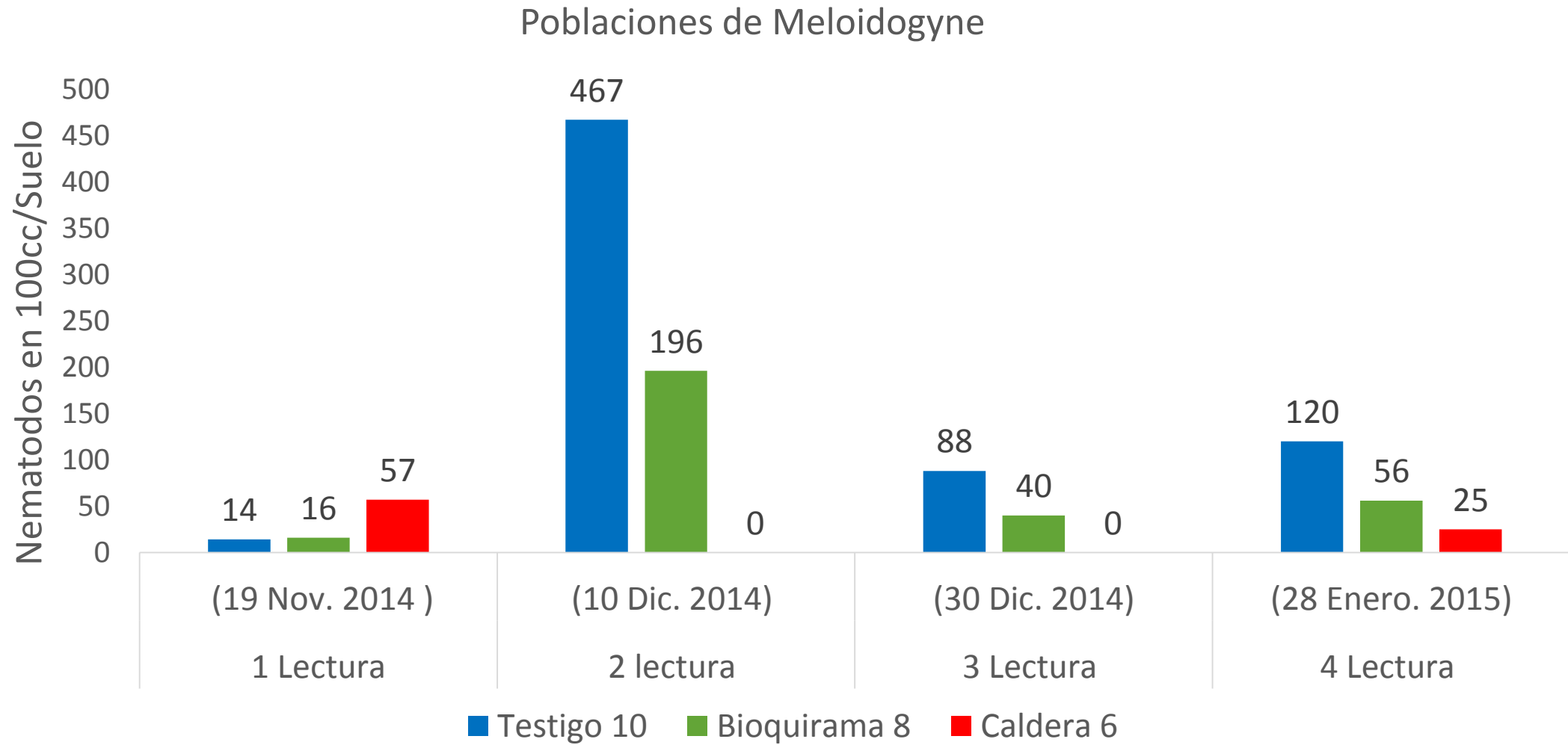


Gráfica comportamiento nematodos para la Primera Repetición

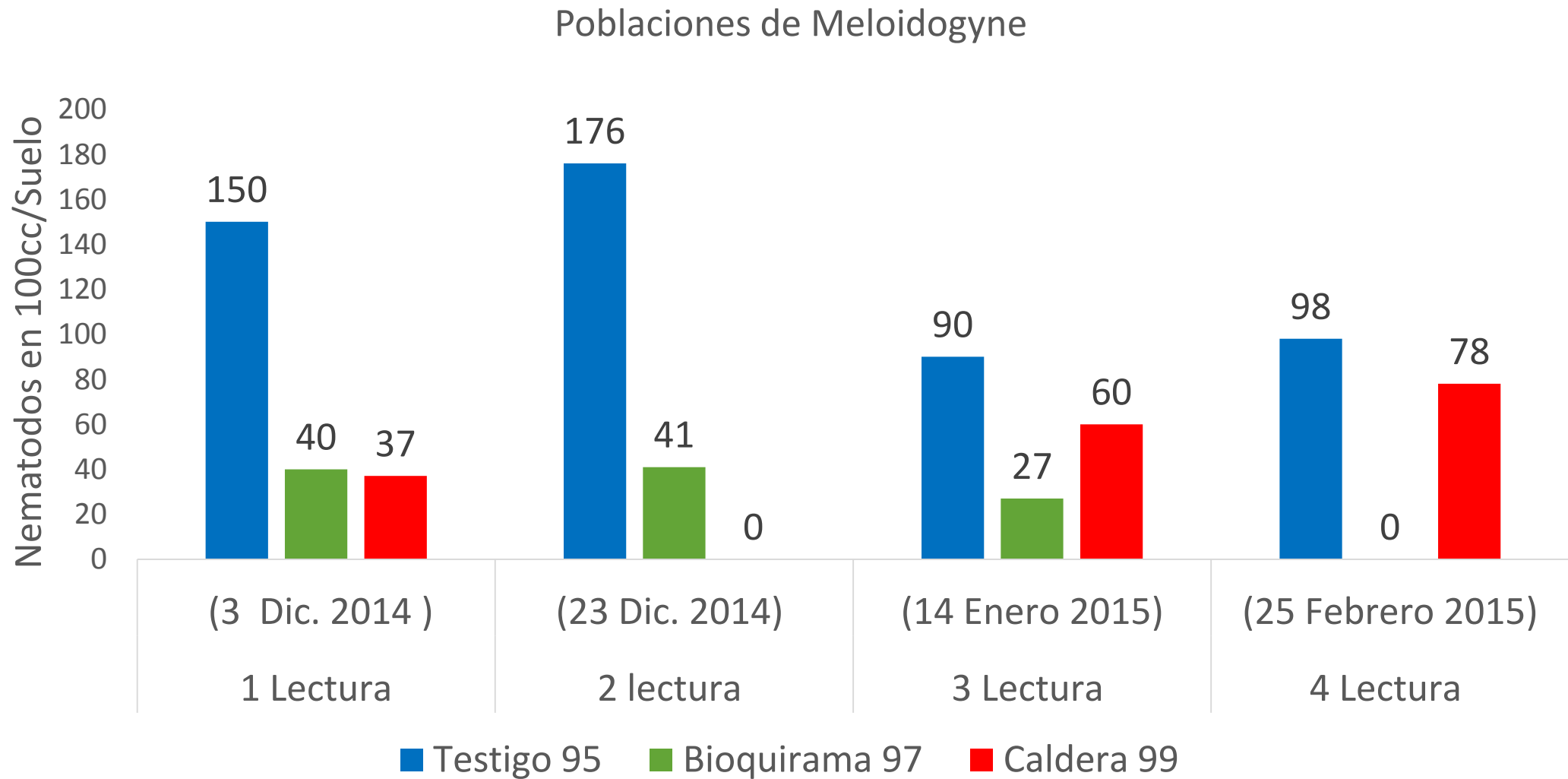
Poblaciones de Meloidogyne



Gráfica comportamiento nematodos para la Segunda Repetición

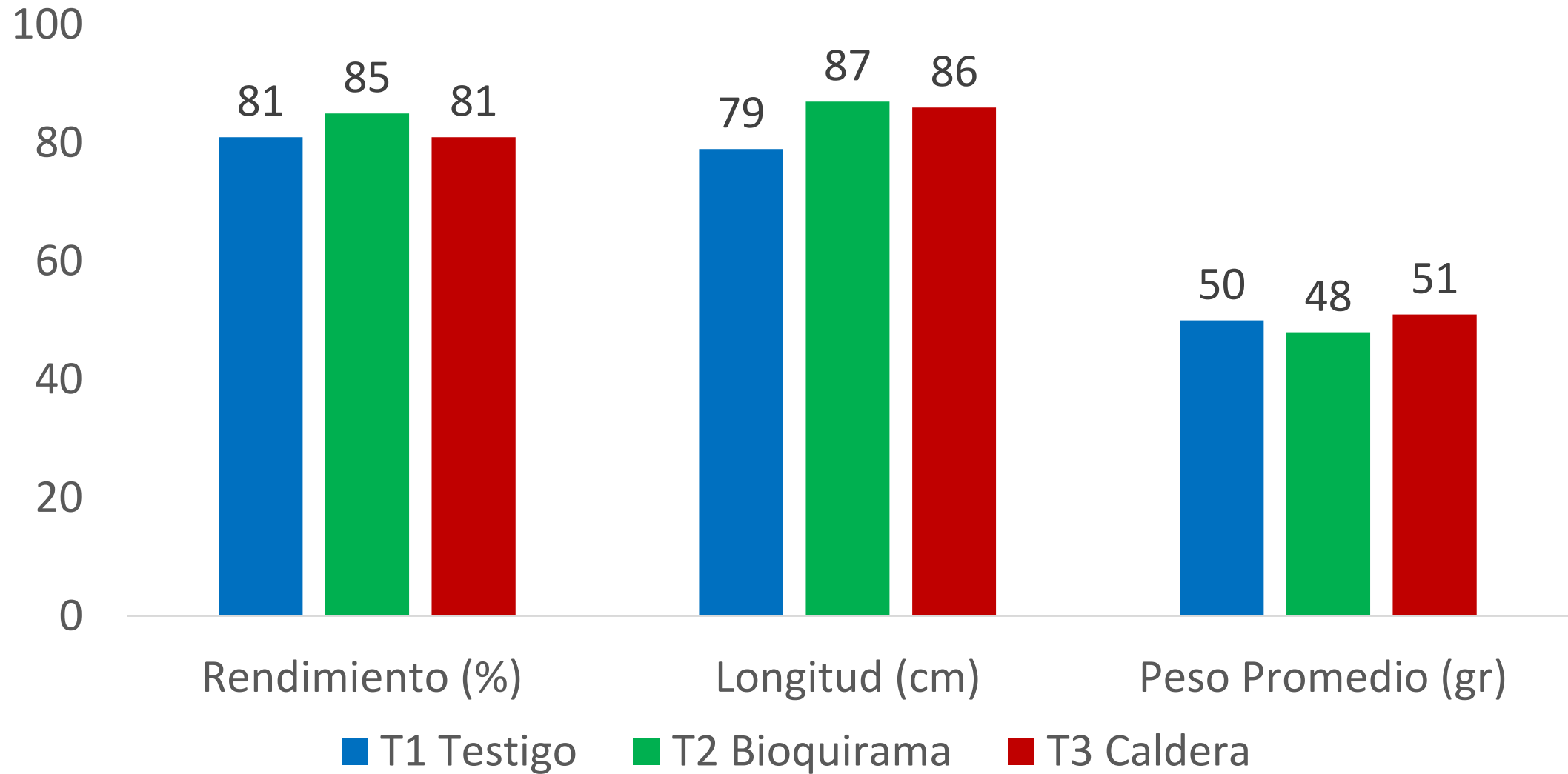


Gráfica comportamiento nematodos para la Tercera Repetición



Gráfica Comportamiento de la Productividad en los 3 diferentes bloque

Promedio Bloques



RESULTS

The results are favorable and the need manifests work on ecological soil management.

The consecutive use of the boiler eliminates microorganisms existing on the ground.

Bacteria and fungi entomopatógenos used in this assay reduced populations of *Meloidogyne* sp.

A combination of chemical and biological fertilization allows to demonstrate the positive effect on plant resistance to pathogens and pests different that attack.

Proposal

Observación:

Observation: This is a treatment biological in which microorganisms They begin to colonize ground, in this sense its greatest benefits both from the point of crop view as

Date Application	Product	Dose	Value / Bed
Presiembra	Mikorhize	3Kg/Bed	\$ 1 US
5 days after the sowing	Mix Organic: <i>Bacillus subtilis</i> (Cepa Nematodes) <i>Bacillus thuringiensis var. kurstaki</i> (Cepa Nematodes) <i>Pochonia chlamydosporia</i> (Cepa Nematodes) <i>Purpureocillium lilacinum</i> (Cepa Nematodes)	Bed of 45m ²	\$ 3 Us
10 days after the sowing	Mix Organic: <i>Bacillus subtilis</i> <i>Bacillus pumillus</i> <i>Trichoderma harzianum</i> <i>Trichoderma asperelleum</i> <i>Azotobacter vinelandii</i> <i>Azotobacter chroococcum</i>	120cc/Bed of 45m ²	\$3 Us
Total value bed:			\$ 7 Us