

Evaluation of Amstel Agro fertilizer on crops



RICE TEST - 2023

OBJECTIVE

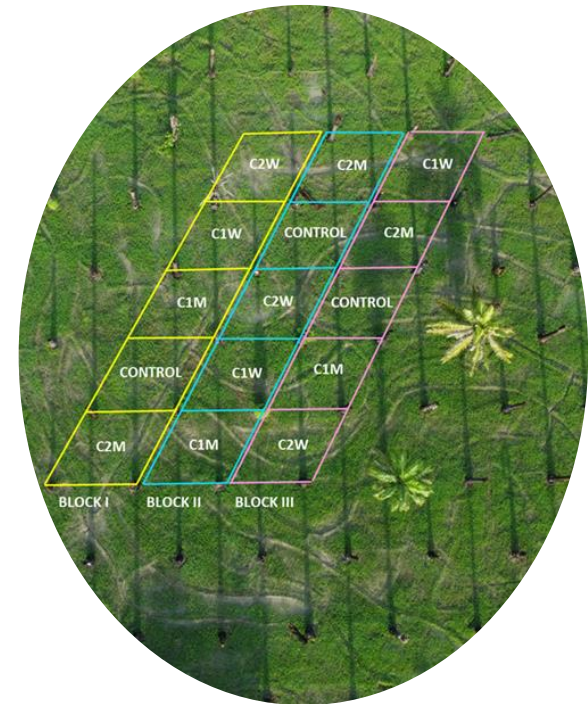
To evaluate the effect of foliar application of Amstel Agro's SF-Y silicon fertilizer on the development and yield of rice (*Oryza sativa* L.) in Aracataca, Colombia.

GENERAL INFORMATION

Location	Magdalena, Colombia
Test area	Cauca, Aracataca
Start Date	10/01/2023
End Date	01/11/2024

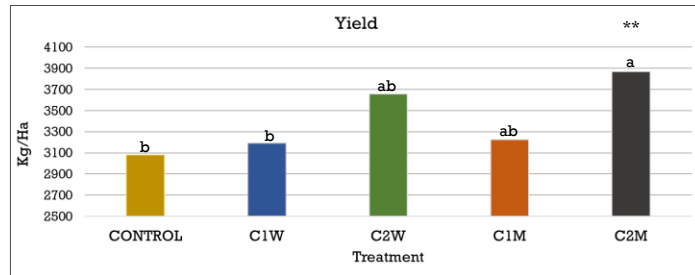
TEST DESCRIPTION

Variety	Fedearroz F-70
Density	180 Kg/Ha
Trial design	Randomized blocks

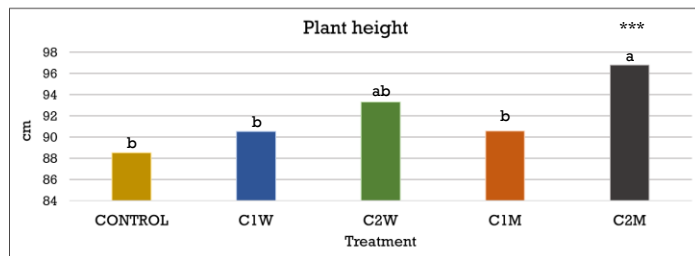
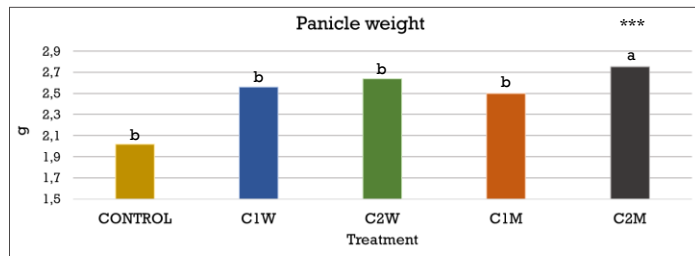
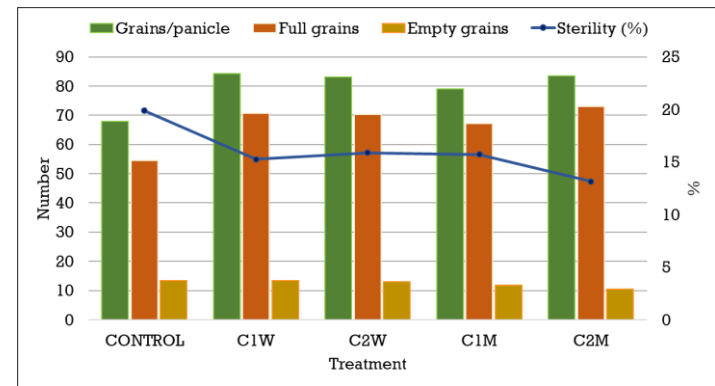
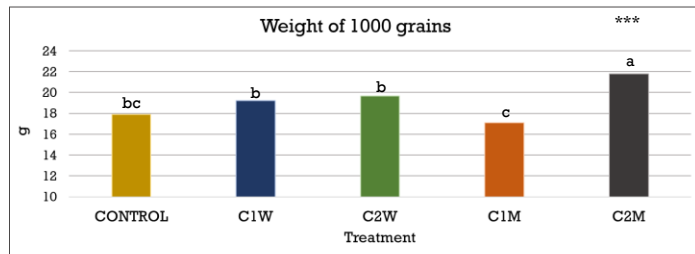


TREATMENT	DESCRIPTION
CONTROL	No foliar fertilizer application
C1W	Concentration 1% SF-Y, weekly application
C2W	Concentration 2% SF-Y, weekly application
C1M	Concentration 1% SF-Y, monthly application
C2M	Concentration 2% SF-Y, monthly application

RICE TEST – 2023. Results

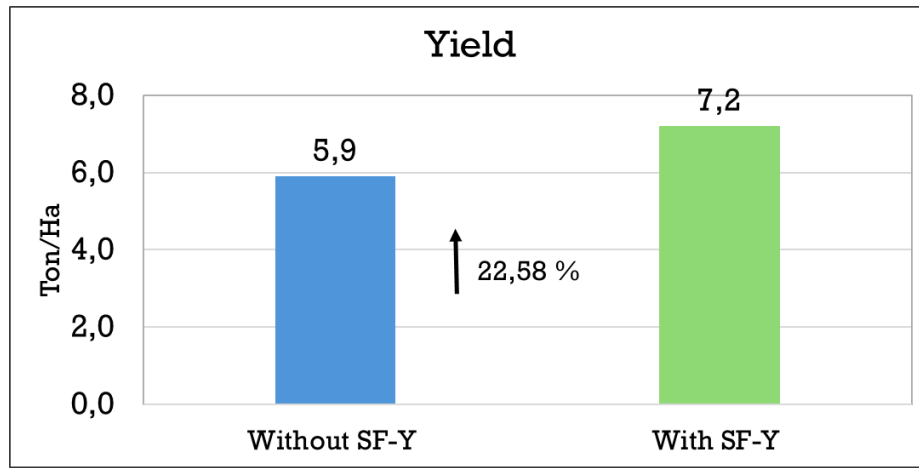


TREATMENT	C2M	CONTROL	% C2M vs. CONTROL
Yiel	3865	3080,78	22,58
Weight of 1000 grain	21,78	17,89	19,61
Panicle weight	19,07	18,33	3,96
Plant height	96,8	88,53	8,92

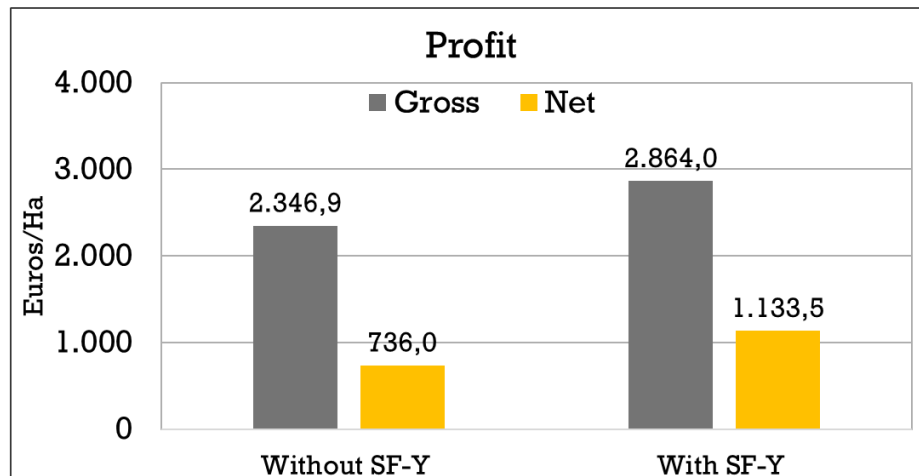


- **785 kg/ha** difference between C2M and Control
- The C2M yields are **22.58%** higher than the Control
- The **highest values** for grains/panicle and full grains were found in the **C2M** treatment.
- All treatments using silicon fertilizer were superior to the control.

RICE TEST – 2023. Economic analysis, north coast of Colombia



Increase in rice yield obtained was **22.58%**, equivalent to **1.3 t/ha** in the best SF-Y treatment compared to the control.



The net **benefit obtained** with the use of SF-Y is **1,133.5 €/Ha**, which is **54%** (**397.5 €/Ha**) more than when this product is not applied to the crop.



**AMSTEL
AGRO**

SILAGE CORN TEST – 2022

OBJECTIVE

To evaluate the effect of foliar application of Amstel Agro's SF-Y silicon fertilizer on the development and yield of silage corn (*Zea mays*.) in Aracataca, Magdalena.

GENERAL INFORMATION

Location	Magdalena, Colombia
Test area	Cauca, Aracataca
Start Date	10/01/2023
End Date	01/11/2024

TEST DESCRIPTION

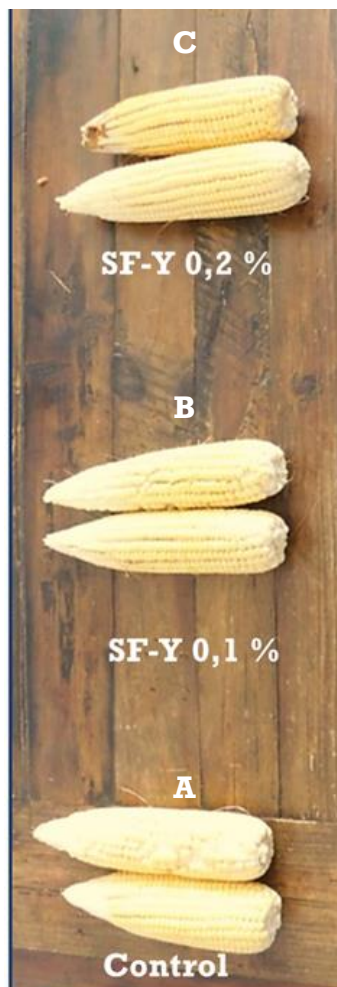
Material	Plot 1: Hybrid corn, 16 dag Plot 2: Transgenic corn, 21 dag Plot 3: Transgenic corn 29 dag
Experimental area	9.800 m ²
Application frequency	Weekly



TREATMENT	CONCENTRATION SF-Y (%)
A	Control, No SF-Y
B	0,1
C	0,2



SILAGE CORN TEST – 2022. Results



Lot	Treatment	Plant height (cm)	Cob length (cm)	Cob circumference (cm)	Weight of cob with leaves (g)	Weight of cob without leaves (g)
1	A	295,5	28,5	17,5	266,0	181,0
	B	300,0	30,8	18,3	315,5	188,0
	C	321,0	32,0	19,8	376,0	218,0
2	A	294,5	25,0	16,3	200,5	135,0
	B	283,5	15,5	17,3	215,5	143,0
	C	284,5	28,0	18,5	281,5	192,0
3	A	196,0	25,5	23,6	192,5	108,5
	B	300,0	26,0	26,3	202,5	122,5
	C	312,5	28,0	27,3	310,0	192,5



- Plants treated with **SF-Y fertilizer** showed higher vegetative development and better yielding characteristics than those which were not treated.
- In general, **the best results** were observed in plants treated with **SF-Y 0.2%**.
- Under the conditions of the production unit, the use of **SF-Y fertilizer increased maize yields by up to 67 %**.



BANANA TEST – 2022-2023.

OBJECTIVE

To evaluate the effect of foliar application of two Amstel Agro fertilizers on the development and productivity of banana crops in Aracataca, Magdalena

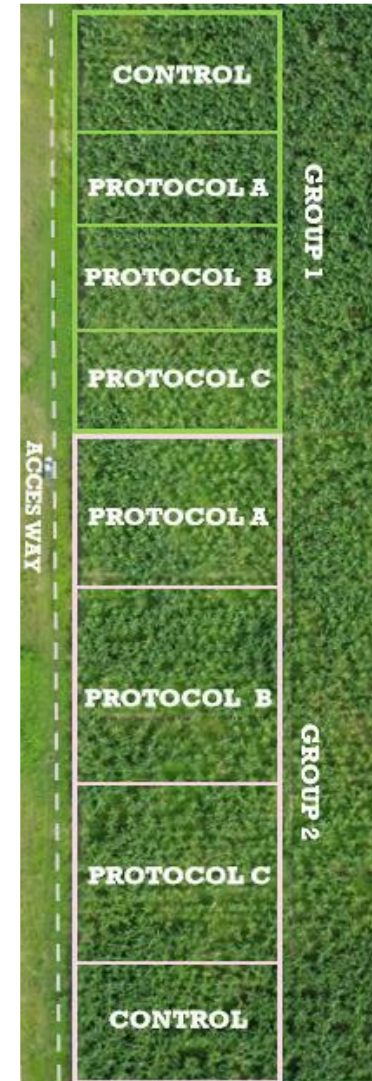
GENERAL INFORMATION

Location	Magdalena, Colombia
Test area	Aracataca
Start Date	2022/08
End Date	2023/08

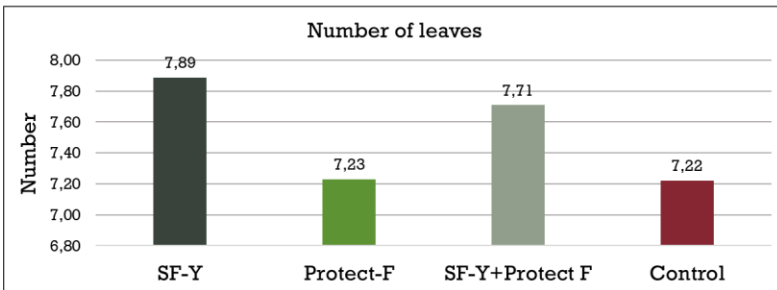
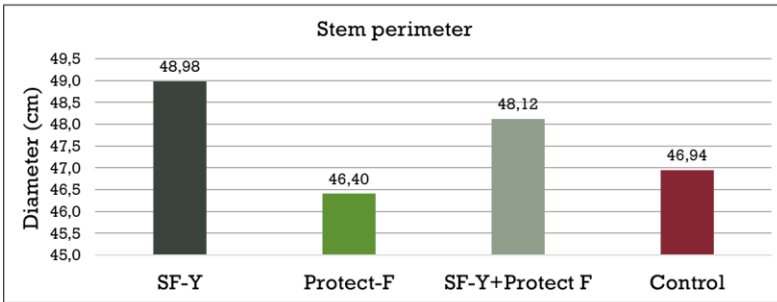
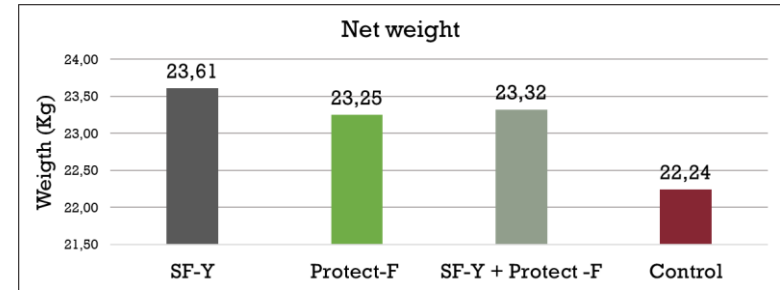
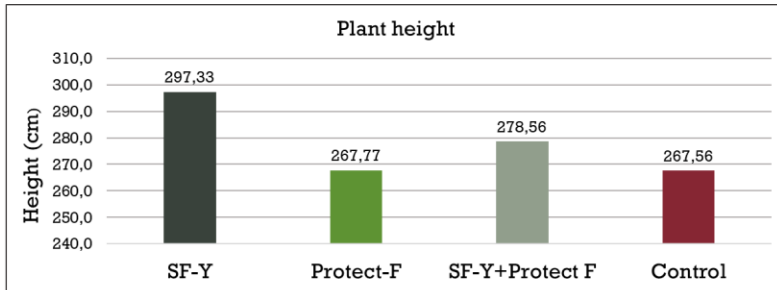
TEST DESCRIPTION

Variety	Gran William
Density	1640 pl/Ha
Application frequency	Weekly

TREATMET
Control, without Si fertilization.
SF-Y 0,2%
Protect-F 0,2%;
SF-Y 0,1% + Protect-F 0,2%

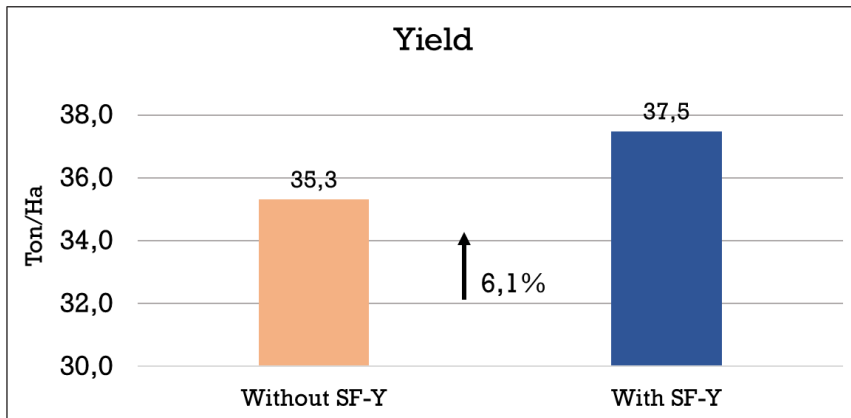


BANANA TEST – 2022-2023. Results

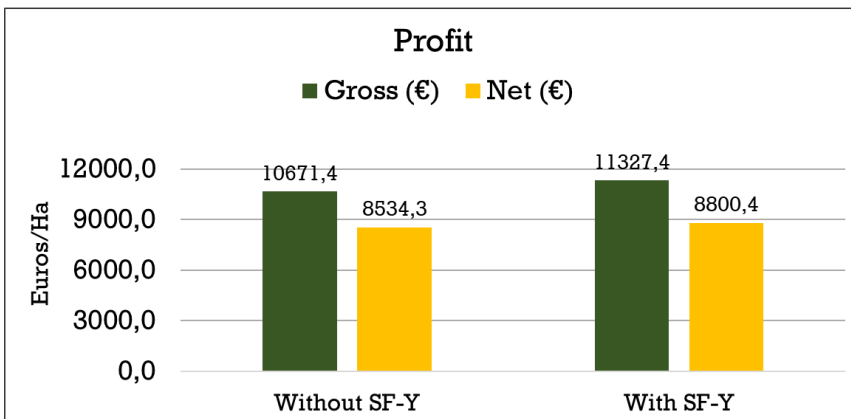


- Plants treated with SF-Y and the combination SF-Y + Protect-F were taller and with more robust pseudostem.
- **SF-Y at 0.2%** net weight gain was approximately 6.1% (1.37 kg/bunch) compared to the control.

BANANA TEST – 2022-2023. Economic analysis north coast of Colombia



6.1% increase in the best SF-Y treatment compared to the control, equivalent to 2.2 Ton/Ha/cycle of fruit.



The net profit obtained with the use of SF-Y is 8800 €/Ha, which is equivalent to **3,1% (266,2 €/Ha)** more than when this product is not applied to the crop.

This economic exercise has been carried out considering the least favourable scenario for the producer (lower price per box of bananas, higher price per litre of SF-Y)



POTATO TEST – 2022.

OBJECTIVE

To test the efficacy of micro nutrient liquid fertilizer SF-Y in varying numbers of applications on potato yield.

GENERAL INFORMATION

Location Edgmond, Newport,
 Shropshire

Test area Flatnook, Harper Adams
 University

Start Date 29/06/2022

End Date 27/10/2022

TEST DESCRIPTION

Variety Maris Piper

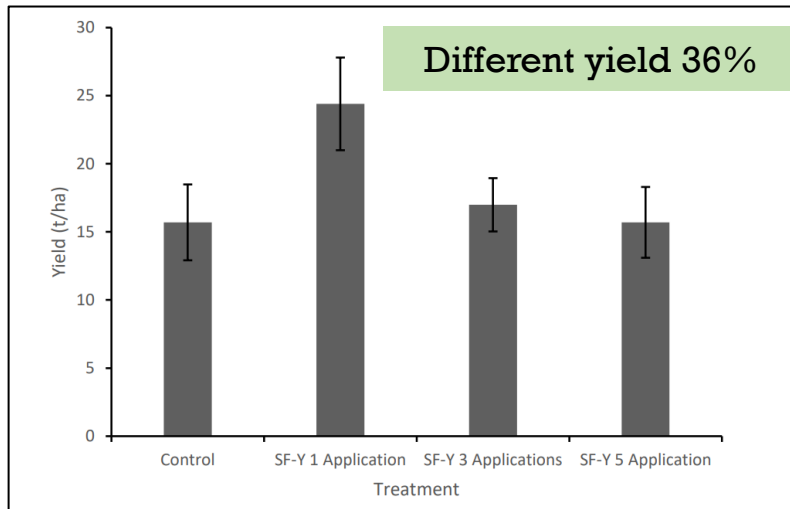
Trial design Randomized blocks

Concentration SF-Y 0,2%

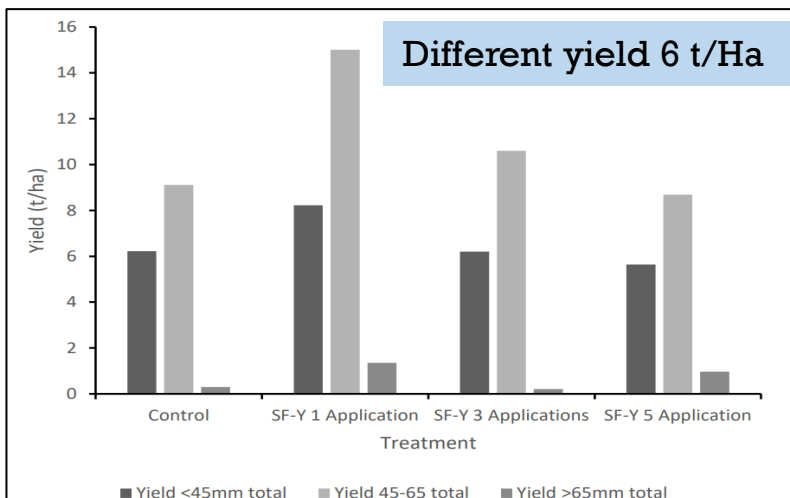


TREATMENT	APPLICATION	DESCRIPTION
1	Untreated	Tuber initiation
2	3 applications	Tuber initiation, and every 4 weeks, for two months.
3	5 applications	Tuber initiation and every 4 weeks for 4 months
4	10 applications	Every fortnigh
5	N/A	Unused treatments of ORGA C

POTATO TEST – 2022. Results



- Differences in yield of about **36%** were recorded between 1 application of SF-Y and the control and 1 application and 5 applications of SF-Y.



- The highest yields were found within the 45-65 mm commercial category, which is the most marketable, with the treatment with 1 application of SF-Y standing out. Difference of about **6 t/Ha** in relation to the control.

CONCLUSIONS

- In general, the application of the different treatments showed **positive effects on the development and productivity** parameters evaluated.
- The **stimulating effect of silicon** on growth and the participation of this beneficial element in the internal mechanisms of the plant that **increase its resistance to the different types of stress** to which it is subjected during the different stages of development are proven.
- The **beneficial effect of silicon** was manifested in **increased storage capacity and distribution of carbohydrates** in the plant for growth and production, as well as in self-protection against pest and disease attack and unfavourable climatic conditions.
- The application of **SF-Y fertilizer**, as a source of endogenous silicon, generally **improves the physiological and morphological conditions** of the crop, increasing its productive potential.

