CAL-AGRI®

EVALUATING

Immutines

IN A COMMERCIAL GREENHOUSE CROP

Immutines TRIAL Climbing Beans
October 2007- February 2008

Stage of Application of Immutines on 10 November 2007

Date of Sowing: 25 October

Immutines

Commercial Evaluation of Immutines

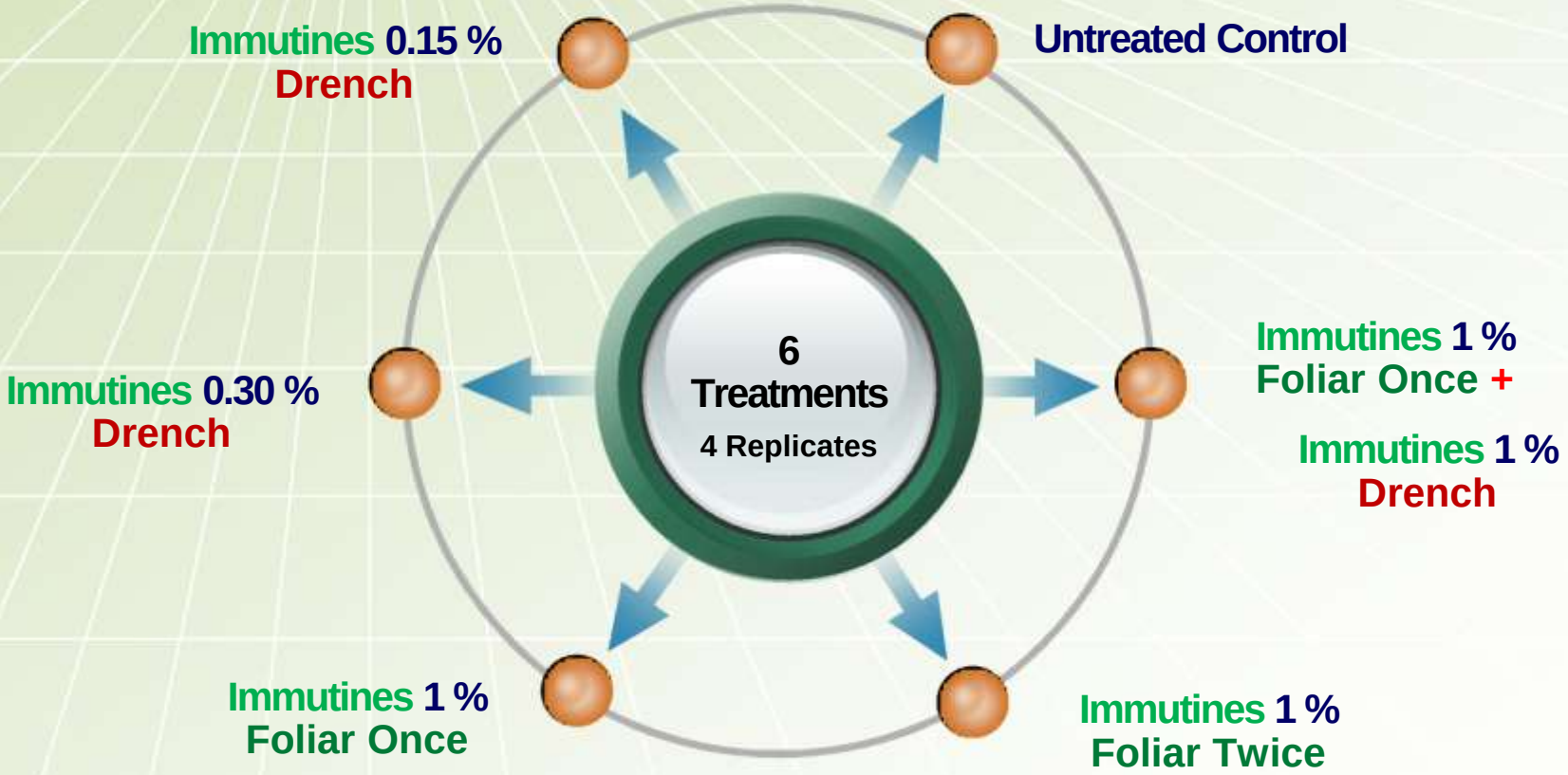
- Greenhouse Farmer: Chraibi
- Greenhouse Farm: Tin Mansour-CMV 809
- Crop: Climbing Flat Beans CV. Stefania
- Date of sowing: 25 October 2007
- Date of first application of Immutines: 10 November 2007.

Commercial Evaluation of Immutines
Experimental Design

+ 6 Treatments evaluated
  - T1: Immutines applied (10 November 2007) as a drench (250 cc/plant) at the concentration of 0.15%
  - T2: Immutines applied (10 November 2007) as a drench (250 cc/plant) at the concentration of 0.30 %
  - T3: Immutines applied once (10 November 2007) as a Foliar at the concentration of 1%
  - T4: Immutines applied twice (10 November 2007 and 1 December 2007) as folira at the concentration of 1 %
  - T5: Untreated Control
  - T6: Immutines applied (10 November 2007) as a drench (250 cc/plant) at the concentration of 1% and as Foliar at the concentration of 1% on 1 December 2007.

+ One Treatment = 4 Rows of 50 m long
+ 1 Row of 50 m long = 125 plants

Treatments Evaluated



Application of Immutines

Application of Immutines

Stage of Plant Growth Preparation of the Immutines Mix

Application of Immutines

Application of Immutines

Drench
250 cc/plant

Drench
250 cc/plant

Application of Immutines

Drench
250 cc/plant

Stage of application

Application of Immutines

Evaluating Impact of Immutines on Plant Growth

6 December 2007

Left Row: Immutines 1% Drench+1% Foliar
Right Row: Immutines 0.15% Drench

Cal Agri Visit the Trial with CAS and Farmer

Immutines TRIAL Climbing Beans
12 January 2008

Immutines 0.15% Applied as Drench **Immutines 1% Applied as Drench+Foliar**

Immutines TRIAL
Yield Evaluation February 2008

Immutines TRIAL Climbing Beans
29 February 2008

Immutines applied at 1% Drench+ 1% Foliar
Early Production and Early Senescence

Immutines applied at 1% 1% Foliar
Production continue at same date

Immutines TRIAL Climbing Beans
29 February 2008

Immutines Improve Root and Stem
Vigour Immutines promotes Root System

Immutines TRIAL Climbing Beans
29 Feruary 2008
Plant Root Evaluation

Vigorous stem
Vigorous Root system

Left: Immutines 1% Drench+1% Foliar
Right: Immutines 1% Floiar

Immutines EVALUATION AT COMMERCIAL GREENHOUSE

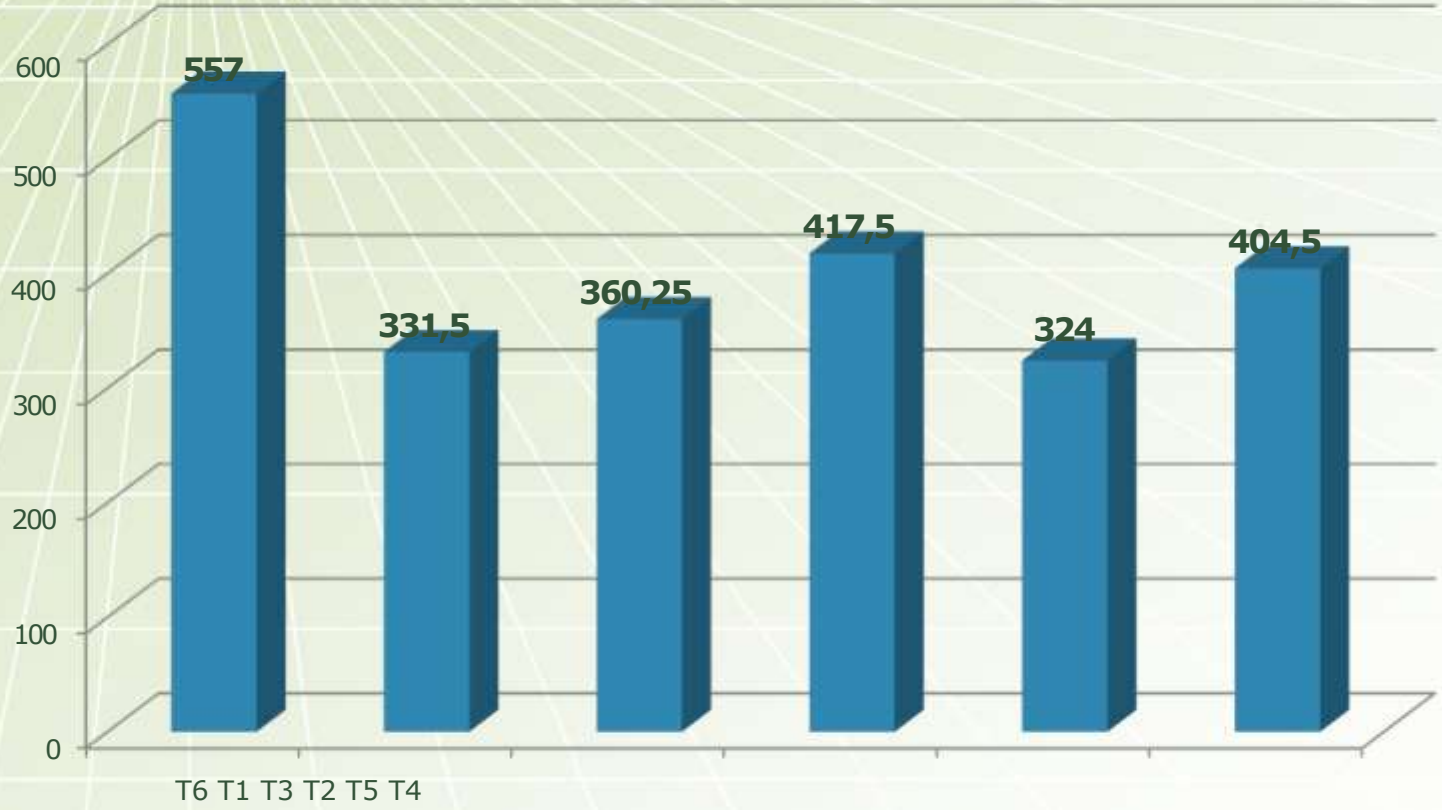
Harvest in kg of Beans (500 plants/treatment) during the period 9 January to 3 February 2008

	Harvest of Flat Beans in Kg per Treatment (500 plants)					
Date of Harvest	**T6**	**T1**	**T3**	**T2**	**T5**	**T4**
09/01/2008	37,5	18	18	29	18	28
11/01/2008	54	31,5	22,5	28,5	18	28
14/01/2008	38	30,5	28	30	18	28
16/01/2008	37	13,5	31,5	31	18	28
18/01/2008	72	32,5	28,5	32,5	18	22,5
20/01/2008	39	13,5	20,25	32,5	18	27
22/01/2008	35	22,5	31,5	36	27	36
25/01/2008	63	36	40,5	54	45	36
27/01/2008	54	28,5	36	36	31,5	36
30/01/2008	54	36	36	36	31,5	40,5
01/02/2008	42	37,5	31,5	31,5	36	45
03/02/2008	31,5	31,5	36	40,5	45	49,5
Total Harvest	557	331,5	360,25	417,5	324	404,5

Treatments					
T6	T1	T3	T2	T5	T4
Immutines	Immutines	Immutines	Immutines	Negative Control	Immutines
Drench 1% + Foliar 1%	Drench 0,15%	1% Foliar (Once)	Drench 0,30%	Untreated	1% Foliar (Twice)

Immutines EVALUATION AT COMMERCIAL GREENHOUSE

Harvest in kg of Beans (500 plants/treatment) during the period 9 January to 3 February 2008



Treatments					
T6	T1	T3	T2	T5	T4
Immutines	Immutines	Immutines	Immutines	Negative Control	Immutines
Drench 1% + Foliar 1%	Drench 0,15%	1% Foliar (Once)	Drench 0,30%	Untreated	1% Foliar (Twice)

Immutines IMPACT ON BEANS

A

The best performance in terms of yield and plant growth is obtained when Immutines is used as Drench (1%) and as Foliar in the following three weeKs

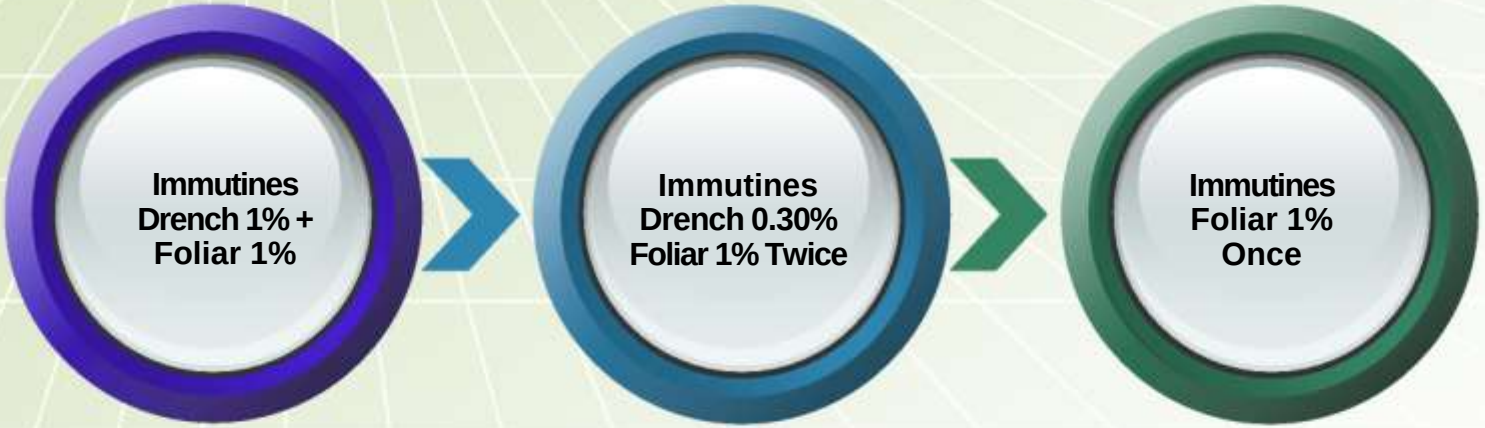
B

The second best performance in terms of yield is achieved with Immutines as Drench 0.30% and two foliar applications of Immutines at 1%

C

The application of Immutines as drench at the concentration of 0.15% did not improve yield as compared to the negative control

Immutines IMPACT ON BEANS



Immutines 0.15% not Different from Negative Control

Immutines IMPACT ON BEANS

Immutines EVALUATION AT COMMERCIAL GREENHOUSE

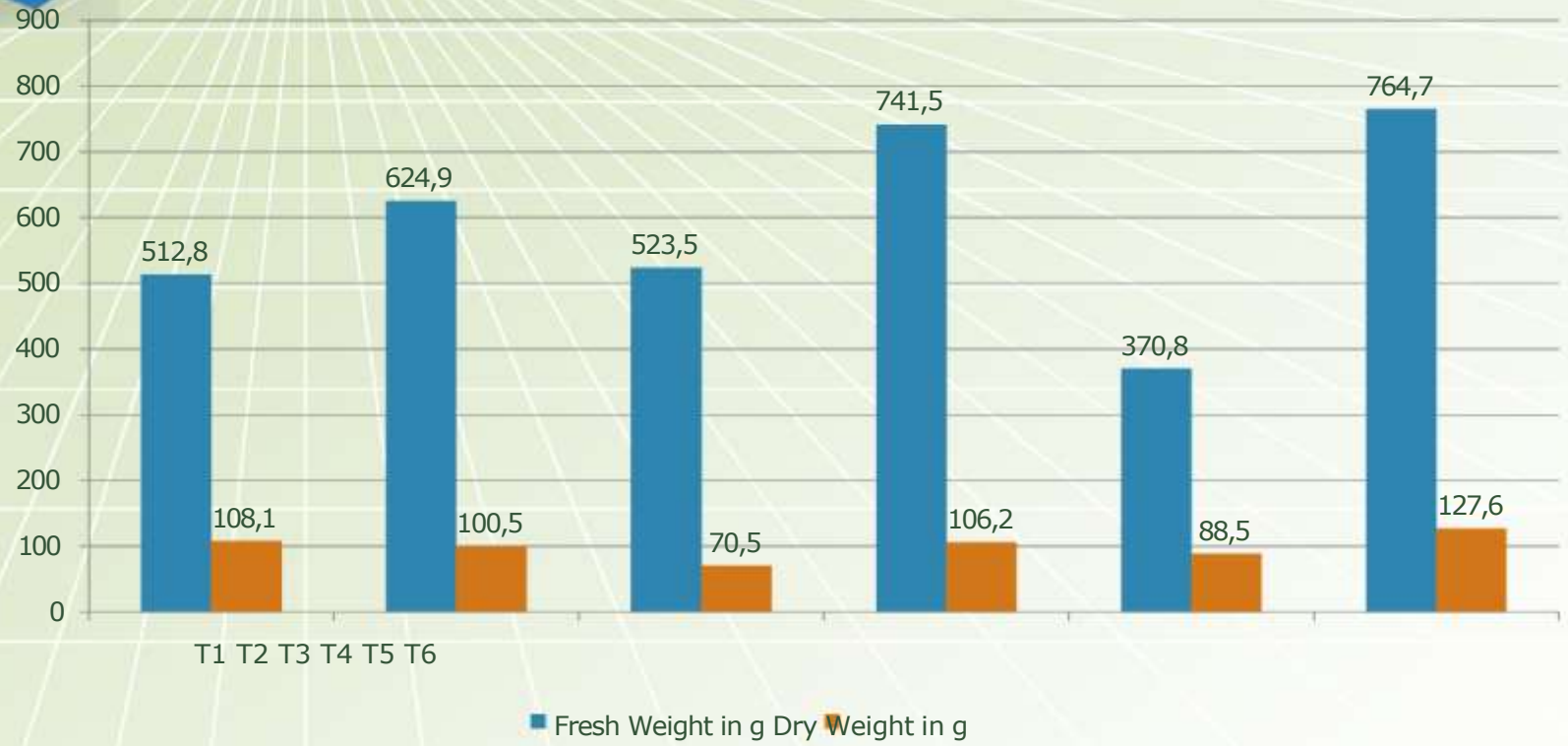
Harvest in kg of Beans (500 plants/treatment) during the period 9 January to 3 February 2008

Note the early superior harvest when Immutines is applied as Drench and Foliar (T6)

Treatments					
T6	T1	T3	T2	T5	T4
Immutines	Immutines	Immutines	Immutines	Negative Control	Immutines
Drench 1% + Foliar 1%	Drench 0,15%	1% Foliar (Once)	Drench 0,30%	Untreated	1% Foliar (Twice)

Immutines EVALUATION AT COMMERCIAL GREENHOUSE

Weight in g of plant Roots (5 plants/treatment) on 13 March 2008



Note the highest root weight when Immutines is applied as Drench and Foliar (T6)

Treatments					
T6	T1	T3	T2	T5	T4
Immutines	Immutines	Immutines	Immutines	Negative Control	Immutines
Drench 1% + Foliar 1%	Drench 0,15%	1% Foliar (Once)	Drench 0,30%	Untreated	1% Foliar (Twice)

Immutines IMPACT

Improve Plant Growth, Leaf Size And Root Volume and Weight

Accelerate Early Production

Improve Yield

Positive Impact of Immutines on AGRIVERSE on Beans

Perfect Product for Short Crop Cycle Crops

Suggestions for Use of Immutines in Greenhouse Crops