

Application of Beacon Liquid Fertilizer on Banana

Effectively promote the vigorous growth of banana root

Trial Purpose:

To explore the growth promoting effect of Beacon liquid fertilizer on banana root.

Trial Materials:

Banana seedlings, Beacon liquid fertilizer, NutriGrow liquid fertilizer, INS liquid fertilizer, Seek liquid fertilizer.

Trial Methods:

Dip roots through a certain concentration of different liquid fertilizers, observe root growth, to determine the effect of different liquid fertilizers on root growth. This trial is in pot manner.

Trial Design:

This trial designed 6 treatments, as follows:

- 1) treatment 1: control
- 2) treatment 2: NutriGrow liquid fertilizer
- 3) treatment 3: Beacon liquid fertilizer
- 4) treatment 4: INS liquid fertilizer
- 5) treatment 5: Beacon+INS liquid fertilizer
- 6) treatment 6: Beacon+INS+Seek liquid fertilizer

These treatments were carried out through 3 groups: banana-dipping group: plant after dipping roots with 1:500 dilution; banana root-drenching group: drench roots with 1:500 dilution after dipping roots and 5 days



planting;banana root-cutting group:dip roots with 1:500 dilution and plant after cutting roots.

Trial Observation:

Observe once every five days,record the number and length of new roots.

Observe randomly selected individuals and abandon as experimental waste after observation.

Trial Object 11.6	Trial Item	1		2		3		Average	Average
		number of new roots	length of new roots(cm)	number of new roots	length of new roots(cm)	number of new roots	length of new roots(cm)	number of new roots	length of new roots(cm)
Banana (dip roots 5mins)	control	1	6.2	0		1	6.5	0.67	4.23
	treatment 2	2	9.5	1	7.5	3	9.6	2.00	8.87
	Beacon	2	3.8	4	18.5	4	10.8	3.33	11.03
	treatment 4	4	7.2	1	15.8	0		1.67	7.67
	treatment 5	2	14.5	5	12	2	7.8	3.00	11.43
	treatment 6	2	8	2	9.6	3	7.7	2.33	8.43

Fig 1.number and length of new roots after different treatments on Nov.6th,2011

Trial Object 11.11	Trial Item	1		2		3		Average	Average
		number of new roots	length of new roots(cm)	number of new roots	length of new roots(cm)	number of new roots	length of new roots(cm)	number of new roots	length of new roots(cm)
Banana (dip roots 5mins)	control	2	8.7	6	16.8	5	20.2	4.33	15.23
	treatment 2	2	12.9	5	15.8	4	9.6	3.67	12.77
	Beacon	5	13.7	3	16.7	3	18.9	3.67	16.43
	treatment 4	3	11.6	3	14.3	1	5.7	2.33	10.53
	treatment 5	2	18.9	4	7.4	2	8.8	2.67	11.70
	treatment 6	four consecutive no new roots,a fifth 15.4							

Fig 2.number and length of new roots after different treatments on Nov.11th,2011



Trial Object 11.17	Trial Item	1		2		3		Average	Average
		number of new roots	length of new roots(cm)	number of new roots	length of new roots(cm)	number of new roots	length of new roots(cm)	number of new roots	length of new roots(cm)
Banana (dip roots 5mins)	control	7	14.2	3	23	5	21	5.00	19.40
	treatment 2	3	21.5	7	22.1	8	12.1	6.00	18.57
	Beacon	5	13.5	6	21.5	8	24.1	6.33	19.70
	treatment 4	6	22.4	10	28.8	7	46.9	7.67	32.70
	treatment 5	6	17.3	12	23.5	9	17.3	9.00	19.37
	treatment 6	4	7.2	7	30.2	5	9	5.33	15.47

Fig 3.number and length of new roots after different treatments on Nov.17th,2011

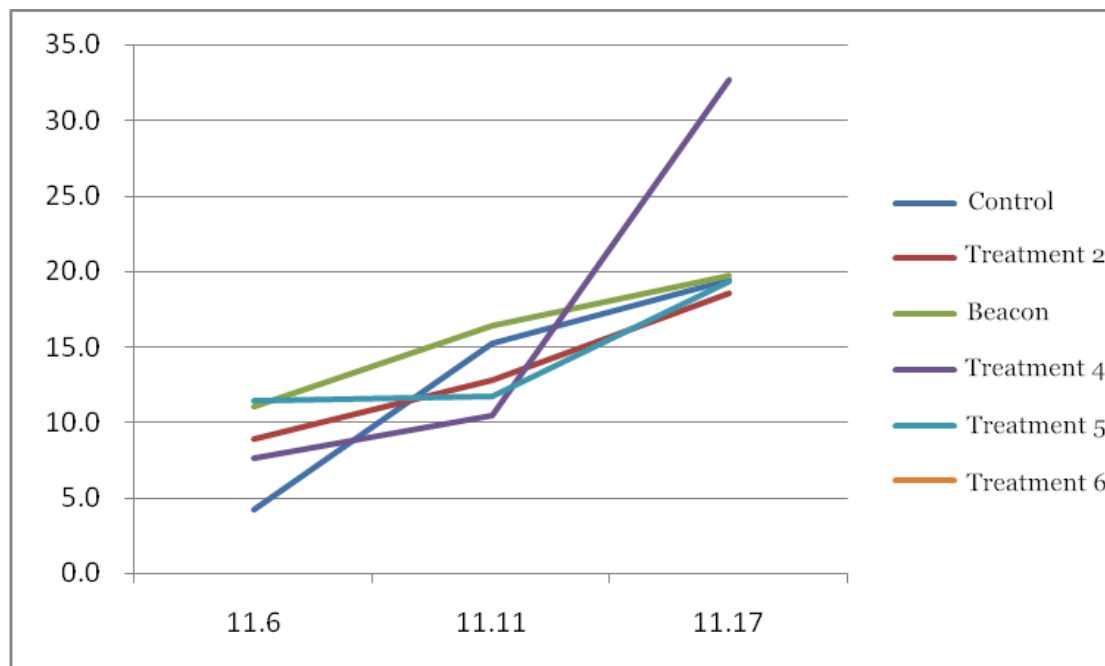


Chart 1. analysis on the length of new roots after different treatments

As it can be seen from Chart 1 that Beacon and treatment 5 were best to the growth of banana root length after 5 days planting;the root length was longest under Beacon and control treatment after 10 days planting;the root length was longest under treatment 4 after 15 days planting.

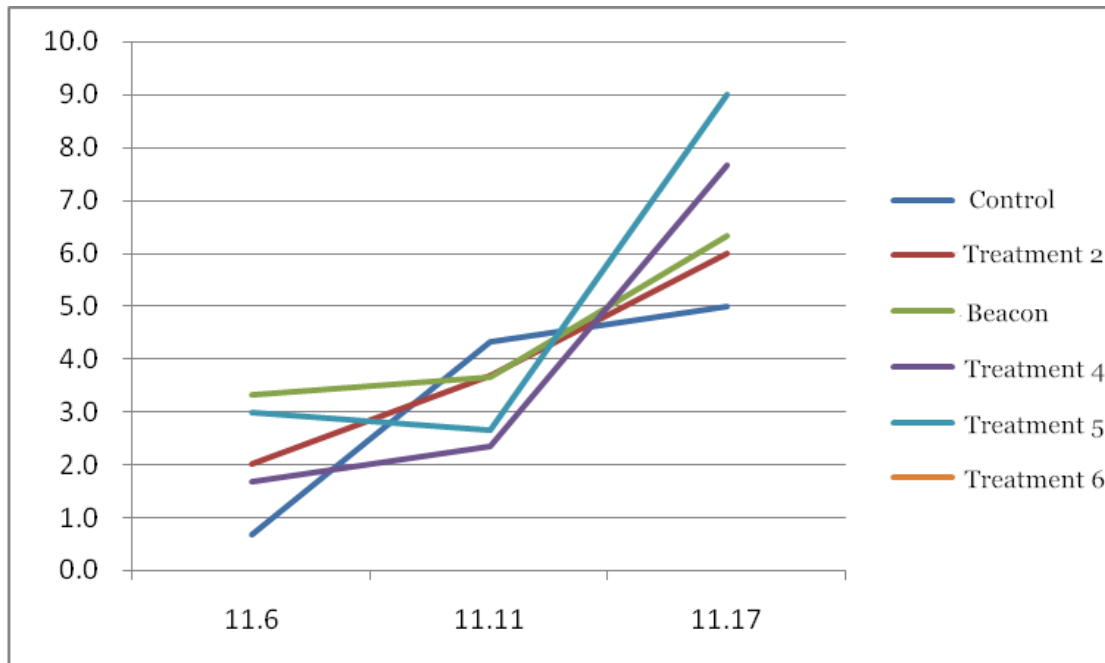


Chart 2. analysis on the number of new roots after different treatments

As it can be seen from Chart 2 that Beacon and treatment 5 were best to the growth of the number of new roots after 5 days planting;the number of new roots were most under Beacon and control treatment after 10 days planting;the number of new roots were most under treatment 4 after 15 days planting.

Trial Item	Individual Cost(RMB)		
	banana-dipping	banana-drenching	banana-cutting
treatment 2	0.06	0.11	0.06
Beacon	0.06	0.11	0.06
treatment 4	0.56	1.13	0.56
treatment 5	0.29	0.58	0.29
treatment 6	0.21	0.42	0.21

Chart 3. individual cost of different treatments

In view of cost-performance ratio basing on Chart 1,2,3,Beacon is the best

choice.



Pic 1. pot trial process



Pic.2 comparison of root growth between different treatments after 15 days planting under banana-dipping

After comparative analysis, Beacon had unique advantages in promoting the banana root growth. As a major organ to absorb nutrients and water, like the stomach in the body, root plays a decisive role in crop growth.



Pic 3. comparison of root growth between Beacon and other liquid treatments