



AZOMITE®'s Effect on Peaches

Peach Farmer's Association, Yangshan, Wuxi, China

Introduction

The use of low toxicity and environmental-friendly ingredients for agriculture purpose is an international trend. China should not be an exception lest its citizen and produce are falling behind in this regard from the developed countries in the world. AZOMITE® is a multi-mineral fertilizer that has been certified as “organic” in the United States. An experiment was conducted in 2003 to test such a product to see if it has practical application in China. The crop selected was the Peach from YangShan District of WuXi City, Jiangsu Province, China. Peach from this area is well known in the nearby provinces and supply major markets such as Shanghai, Nanjing, and HangZhou. There are over 100,000 Mu (6600 hec.) of peach farms in the area, with an annual production of over 100,000 tons of peach between May and August. The objective of the test included the effect of AZOMITE® on peach trees under stress; either due to old age or due to depleted nutrients in the soil.

2 Material and Methods

2.1 AZOMITE® (AZOMITE Minerals, USA) was provided from Shanghai Lytone Biochemicals, Ltd. And its main ingredients included 67 different elements, as stated from the original supplier. Potassium sulfate was purchased from commercial sources.



2.2 Experiment Design: A total of 12 lots were selected at random to divide into 3 different groups. Each group will have 3 lots

as replicates with 0.5 Mu (333 M²) each lot. The three groups are:

A. 3KG AZOMITE® spread around the root crown of each Peach Tree. Approximately 150KG were used for each Mu.(Ave. 50 trees/Mu). Additionally, 5KG organic fertilizers were used per tree;

B. 3KG of a commercial chemical fertilizer was used instead of AZOMITE®. 5KG organic fertilizer was also used;

C. Only 5KG organic fertilizer was used for each tree

2.3 Location: All of the lots were located in Yangshan Village, Yangshan Township.

2.4 Plants: All of the Peach trees were locally grown since late 1970s. There was some seedling improvement effort. However, the farmers seemed to rely solely on the government extension station's help in strain improvement.

2.5 Land: The fertilizer strength of the soil in question were of average, with a rather flat layout. There was no significant differences in soil condition between the groups

2.6 Season: The fertilizers were all applied on Nov. 15, 2003 according to plan, and covered lightly with soil. There was no significant weather condition that could have impacted the results of the trial. The management practice of the farms were also identical.

3. Results:

3.1 Total yield among the plots using different fertilizers:

Treatment Group	Ave. Production per lot (KG)	Ave. Production per Mu (KG)	Improvement over control ($\pm\%$)	Note
A	510	1020	27.5%	Average taken from all of the trees in the same group
B	485	970	21.25%	
C	400	800		

It seems that AZOMITE® was able to improve yield of peach at a higher rate than the other treatments, and significantly better than the control group.

3.2 Effect of AZOMITE® on Brix level in the Peach; Value taken from 10 peaches harvest at random from each group.

Treatment group	A	B	C
1	14.50	14.60	13.10
2	16.00	15.55	14.50
3	16.55	12.20	12.80
4	14.50	13.50	13.80
5	15.25	14.80	14.85
6	16.50	15.10	12.30
7	16.60	14.25	12.50
8	15.60	11.35	12.50
9	15.45	14.50	13.25
10	15.30	15.70	14.40
Average Brix	15.625	14.155	13.40
Improvement over control ($\pm\%$)	16.6%	5.6%	—

Note Peach of each group was taken from the same lot

The Brix level of AZOMITE® group was significantly higher than those of the others, and the pulp of the peach seems to be smoother and with stronger flavor.



Observation by the farmers as well as investigators also noticed that the AZOMITE® group tends to blossom earlier than the other groups by 3~4 day. The leaves are of a dark green color as compared to the lighter green color of the other groups. The pest pressure seems lighter and there were more buds with successful ripening than the other groups.

4. Summary:

4.1 AZOMITE® seems to be able to support earlier budding, increased the chlorophyll content of leaves, thus improving the photosynthetic efficiency of plants. There are reports that AZOMITE® may also help the absorption of other nutrients by plant when applied together. This experiment seems to confirm such an observation.

4.2 Application of AZOMITE® at 150KG per Mu (2,250kg/hect) was able to help improve overall yield of peaches by more than 25% under the conditions tested in this experiment.

Appendix:

Effect of peach tree saplings in Yangshan by AZOMITE® (2~3 yrs old) Index taken at different periods of the experiment.

2004/4/20

Treatment	Length (cm)	Tree		New branch on Side	Side	Side	
AZOMITE®	Circumference	Crown	Height	the main stem	Branch 1	Branch 2	Branch 3
	245	2400	2750	520	220	160	170
				710	170	110	90
				350	150	90	80
CK	215	2300	2150	320	90	40	10
				350	110	40	8
				410	70	30	16

2004/5/21

Treatment	Length (cm)	Tree		New branch on Side	Side	Side	
AZOMITE®	Circumference	Crown	Height	the main stem	Branch 1	Branch 2	Branch 3
	250	2500	2900	990	700	700	800
				1100	400	400	370
				950	420	350	300
CK	220	2330	2200	700	220	300	190
				740	260	230	160
				900	170	190	300

2004/11/3

Treatment	Length(cm)	Tree		New branch on	Side branch
	Circumference	Crown	Height	the main stem	1
AZOMITE®	310	3300	3100	1600	1000
CK	270	2900	1300	1250	700

It is obvious that AZOMITE® was able to stimulate growth of peach tree saplings significantly.