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Short Communication
Morphology of Cucumber Plants as Influenced by Pranic Agriculture

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Abstract
Pranic agriculture is an ancient science and art of healing that helps in enhancement of plant growth. The aim of the present study was to understand the morphological qualities (plant length, stem diameter and fruit yield) of pranic treated cucumber. This study has given an insight into the changes in the morphology characteristics of the pranic cucumber as compared to the non-treated cucumber, referred to as control group. Increase in length of cucumber plants by 97% was noticed in pranic cucumber plants when compared to control. Also, pranic cucumber stem was 31.7% more diameter than control group. When group-wise yield was verified, pranic cucumber yielded 20.8% significantly more than control group. Further studies are warranted to evaluate the difference in nutritional composition of pranic and control cucumber fruits.

INTRODUCTION

Pranic healing is a traditional science and art of treatment using subtle energy of prana. Prana is universal, even though for most people imperceptible. Every object including man, plants and trees are surrounded by an energy field called bioplasmic body[1]. Scientists with the help of Kirlian's photography have rediscovered the bioplasmic body[2]. This energy body keeps the animals and plants healthy and alive. Sun, air and soil are the major sources of prana. Plants and trees absorb prana from the sun, air, water and ground[1].

Pranic agriculture works on holistic concept of environment-friendly farming systems. It consist of the entire invisible subtle energy which is an essential and significant part of nature system. The purely energetic side of pranic agriculture can be applied by anybody with some familiarity of pranic energies. According to master Sui[1], pranic treatment can be applied to plants to enhance faster growth. Few reports about application of pranic agriculture on plants have been published. Pranic treatment significantly enhanced seed germination of green gram, when compared to control[3]. Wheat and pea seedling germination also improved significantly when qi energy was projected[4]. Antioxidant activity and polyphenol content of pranic treated cucumber were found to be higher than control[5].

Cucumber (*Cucumis sativus* L.) belongs to the Cucurbitaceae family. It is a major vegetable crop used in raw form as salads worldwide. It is a creeper which roots in the ground and climbs with the help of thin, spiraling tendrils. The fruit is cylindrical, elongated with tapering ends. Cucumber is rich in minerals and vitamins in addition it is delicious, tasty with good medicinal value[5]. The present study compares the impact of pranic agriculture on the physical quality of cucumber by determining plant length, stem diameter and fruit yield against control group.

MATERIALS AND METHODS

Materials: Hybrid cucumber seeds malini from seminis, monsanto were procured from the market. The cucumber seeds, land and seedlings were given pranic treatment for 5 min totalling to 50 min for the whole study, while the remaining seeds, land and seedling which did not receive any pranic treatment were referred to as control. Cultivation of cucumber was subjected to conventional agriculture practice. The experimental design adopted in this study consisted of two similar experimental plots. Half acre of agricultural land for pranic and control groups was allotted. Each group has 20 rows, 60 plants in each row, totalling to 1200 plants in each group. The study was conducted at Jayapura, H.D. Kote Road, Mysore District, India. Overall plant length, stem diameter and total fruit yield were assessed during the study.

The plant length was measured using scale, stem diameter was measured using vernier calipers and total fruit yield was measured using weighing scale. The data collected have been analyzed using contingency coefficient analysis and the results obtained have been tabulated and interpreted using Microsoft Excel and SPSS software.

RESULTS AND DISCUSSION

Effect of pranic treatment on plant length: As far as the length of plant was considered (Table 1), repeated measure ANOVA revealed a significant difference from visit 1-7 (F = 56.355; p<0.001). Further, when group-wise length was verified, pranic treated group obtained a length of 28.77 inches compared to control group which had a length of only 14.60 inches. It was clear that plants which received pranic treatment had 97% more plant length than control group.

Effect of pranic treatment on stem diameter: Repeated measure ANOVA discovered a significant difference from visit 1-7, where (F = 11.888; p<0.001), pranic treated plant had a diameter of 7.45 mm and control group had 5.65 mm at visit 7 (Table 2). It was clear that plants which were given pranic treatment had significantly more diameter (31.72%) than control group.

Effect of pranic treatment on overall fruit yield: As far as the yield is considered (Table 3), repeated measure ANOVA revealed a significant difference from visit 08-13 (F = 14.874; p<0.001). Further, when total yield was verified, pranic treated group obtained a yield of 63.84 kg compared to control group which yielded only 52.85 kg. It is clear that plants which received pranic treatment yielded significantly more with an increase of 20.77% as compared to control group. The reason behind such improvements in cucumber morphology is probably due to the fact that pranic treatment can alter the molecular structure of treated cells, affect nucleotide polymerization, gene expression and enzyme activity. It should also be noted that application of energy would help in increased rate of cellular growth and division. It also increases ATPase activity during seed germination of the dividing cells. These results in more energy supply to the cells during cell division, growth and differentiation probably resulting in enhanced growth of pranic treated cucumber[4].

Table 1: Mean values of cucumber plant length of pranic and control groups

Plant length (inches)		No. of visits						
		1	2	3	4	5	6	7
Groups								
Pranic	Mean	7.794	14.094	19.206	21.819	24.375	25.988	28.775
	SD	3.385	6.409	6.952	7.158	7.929	7.799	7.593
Control	Mean	3.588	6.256	9.263	10.350	11.938	13.256	14.606
	SD	2.049	3.681	5.452	6.079	6.304	6.723	6.926
Total	Mean	5.691	10.175	14.234	16.084	18.156	19.622	21.691
	SD	3.499	6.529	7.981	8.772	9.484	9.669	10.149
Significance		$F = 56.355; p < 0.001$						

Table 2: Mean values of cucumber stem diameter of pranic and control groups

Plant diameter (inches)		No. of visits						
		1	2	3	4	5	6	7
Groups								
Pranic	Mean	5.750	6.094	6.956	6.744	7.056	7.131	7.450
	SD	1.517	1.336	1.246	0.998	0.892	0.855	0.690
Control	Mean	3.063	4.988	4.988	5.281	5.469	5.531	5.656
	SD	1.579	1.625	1.625	1.867	1.965	1.870	1.877
Total	Mean	4.407	5.541	5.972	6.013	6.263	6.331	6.553
	SD	2.049	1.585	1.750	1.665	1.718	1.658	1.673
Significance		$F = 11.888; p < 0.001$						

Table 3: Mean values of overall yield of cucumber plant in pranic and control groups

Yield (kg)/row		No. of visits					
		8	9	10	11	12	13
Groups							
Pranic	Mean	9.680	20.910	16.545	11.365	4.665	0.670
	SD	2.533	4.388	3.543	2.265	0.978	1.082
Control	Mean	4.235	17.130	15.477	14.130	1.885	0.000
	SD	2.693	3.161	3.037	2.666	2.185	0.000
Total	Mean	6.958	19.020	16.011	12.747	3.275	0.335
	SD	3.776	4.232	3.302	2.815	2.185	0.828
Significance		$F = 14.874; p < 0.001$					

CONCLUSION

Pranic agriculture played a significant role in enhancing morphology of cucumber plant. Pranic cucumber had an increase in plant length, stem diameter and fruit yield than control group. Further studies are in progress to determine the chemical constituents of both cucumber groups.

ACKNOWLEDGMENTS

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