

EFFECT OF VEDIC CHANTING ON PLANT GROWTH PARAMETERS (Vigna Radiata)

Mohan. S¹, Prof. Dr. Geetha Viswanathan²

¹Vivekananda Degree College, Bangalore.

²Retired professor from St. Joseph College, Bangalore.

ABSTRACT: Music therapy is one of the best and most popular therapy in the modern years, it had a positive, friendly influence on our physical and physiological conditions. The vibrations and frequencies produced from the music which can able to be felt by plants and respond according to that. They grow at some specific frequencies and at some other certain frequencies their growth is stunted. It is noticeable that the plant which are exposed to Vedic mantra chanting has a tremendous effect on growth, leaf size and inter-node and buds. In the following article, the effect of the mantra was studied on the plant growth parameters on the selected plants of Vigna radiata and it was found that from seed germination to the growth of the plant, the growth parameters were enhanced as compared to control set. Two sets were selected – one treated with Vedic mantra and second set untreated i.e. control. Amongst the two sets, mantra treated plants shown better growth parameters like germinated number of seeds, height of plant, number of leaves, root length, chlorophyll content, which is more for the mantra treated plants and found were less for the control set.

Keywords: Mantra therapy, growth of plant, seed germination.

1. Introduction

Still we rely upon plants and trees for our nourishment and necessities, and yet for the sake of globalization and privatization we are chopping down trees and putting concrete on the land one side, on the another side because of contamination and other hurtful impacts in the environment, the development, profitability and nature of the plants and trees diminishing essentially. So as to expand generally speaking development of the plant without affecting nature numerous researches have been made and presumed that music treatment is the best. [1]. Each and every activity in the universe produces a vibration as a wave (sabda) which are in subconscious level, before attaining their physical structure in space and time. Any living organism, including some animals in this world are equipped to discern such vibrations. Since our universe consists of different mechanical waves of all told frequency ranges – beyond the grasp of our audio sensors and even on the far side the boundaries of our imagination. The frequency range is different for different species. These super normal powers were stronger as compared to the power of modern instruments like Medical science, television, radio, radar and Agriculture Sciences, etc. [2]. Music is a sound and it is a longitudinal waves of some frequency and creates mechanical pressure due to compression and rarefaction [03]. Every living things in the nature have its own sensory organs which are very sensitive to the vibrations and responds to stimuli [4], these sensory organs are characterized by different morphological and physical structure, and these structure are responsible for sensation [5]. Plant is also living multicellular organism even responds to mechanical stimuli irrespective of the source of vibration. The membranes of plants are having mechano-sensitive channels which sense the vibration and respond according to it. Hence plants responds to the vibration and change in the metabolism [6]. Studies on humans shows that they their physiological process have been affected by music, in the same manner the physical and biological process have been affected [7]. The vibration are picked up by plants through plasmalemma like the vibration of ear drum in the humans due to music and hence these vibration increases the efficiency of plant growth [8]. The vibrations of sound energy carry and transfer energy from source towards the object, the atoms or the waves carrying energy in the form of vibrations helps in transportation of water and minerals [9]. The frequency range and wavelength plays a vital role in development, higher frequency having shorter wavelength and high energy increases the overall growth of plant and at frequency even greater than the threshold and noise stunt the growth of plants [10].

The vibrations produced by the sound wave disturb the surrounding environment. Some proof that helps the hypothesis that sound goes about as an impetus, actuating the creation of plant hormones considered auxins that can animate plant development. Plant development is a result of a biological process that takes place within the cell. The core, chloroplast, vacuoles and ribosome assume an imperative job in cell division. Sonic Bloom Techniques - Developed by Dan Carlson discovered that the tune of recurrence goes between 3K to 5K Hz helps in quick opening of the stomata of plants. This causes the plant to assimilate more supplements adequately. Protein and Molecular Music-which was created by Joel Sternheimer

states that a recognizable change in the plants when we're exposed to these songs and furthermore increments in the generation of comparing protein. These proteins quicken the development of the of the plant. As a result, there are greater yields, plants having higher nutrient levels and their shelf life is more. Mantra Therapy can greatly influence the growth of plants. Studies on the effect of music on plant growth began as early as 1968 with Dorothy Retallack. She compared the results of various styles of music on plant development. Calming and cadenced music affects physical and physiological states of living life forms plants, creatures, particularly human plays his woodwind with melodies, all are drawn towards the mantras like a magnetic attraction. The secret of these power's and their potential is concealed in many religious writing, especially Indian religious mantras. We have bestowed the experimental setup to check the result of Vedic mantras on growth of plants [1-9].

Many scientific papers had raised that there is a remarkable change in the growth parameters of plants which is exposed to music therapy and only a few paper have been published on mantra therapy.

Ujjwal V. Ramekar and Dr. Ajay A. Gurjar [2] strongly states that plant exposed to Vedic chants shows better performance in root elongation, inter node elongation etc. and clearly shows that plant exposed to Indian classical music promotes better growth compared to control set. Deepthi Sharma et al [4] reports that plant exposed to music shows more metabolic activities, increase in the quality. So that, we can use this method in solving starvation in future. Tapan Kumar Mohanta and team members [5] concludes that sound wave vibration acts like a plant growth stimulator and have high potential in the application of Biotechnology field and some more research has to be done in the view to increases the response. Patel Ankur et al [8] concludes, intensity and wavelength of the waves effects the plant growth through protoplasm and Margaret E. et al [10] presumes that development of the plant presented to noise is low contrasted with the plant presented to pure tune of music, and there exists a co-relation between the frequency and leaf size resulting in the enhancement of the transpiration. It was noticed in the present study that the plant which is exposed to religious mantras has a tremendous result of growth, leaf size and inter-node. This experiment shows that the plants exposed to mantras (Vedic chanting) having frequency 1KHz to 5KHz , change the performance of the functions of a plant, result in greater growth.

[1-9].

2. Experimental Methods.

Materials:

Sprouted seeds of *Vigna radiata*.

Grooved soil.

Two pots of equal size.

Water.

Selected place.

Recorded Chanting of Vishnu shahasra namam.

3. Methodology:

- First two same sized pots (A & B) were taken in which Green gram seeds were to be grown, healthy seeds were selected, soaked overnight for sprouting.
- Equal number of well sprouted seeds (10) were taken and sown in each pot at the upper layer of the soil.
- Equal amount of water (100 ml) was poured in each pot and placed under normal environmental conditions (e.g. light and temperature).
- First pot (A) was exposed to mantra for 1 hour (4:30 am - 5:30 am) each day by keeping it in a different room.
- The normal conditions for a second pot (B) was maintained and not given any mantra considering it as control.

- After exposing pot (A) to mantra for an hour, it is again placed along with the control pot under the normal conditions.
- The experiment was continued out of plants to perform their functions, result in greater Growth. For 25 days and the following observations were made.

3. Results:

Following table shows growth -data of Vigna radiata saplings for 25 days of growth period and results are summarised in Table -1.

Table 1: Results of effect of mantra on the growth -data of Vigna radiata saplings for 25

Pot	Condition given	Number of seeds germinated out of 10	Average height of plant	Number of leaves	Color of leaves
A	Mantra treated	07 seeds	16.0 cm	2-7	Dark green
B	Controlled	05 seeds	12.1 cm	2-5	Light green

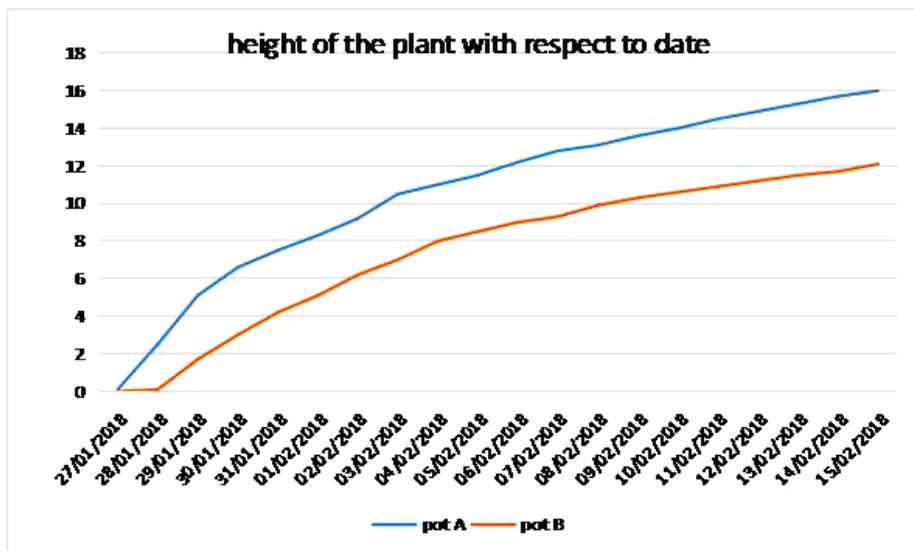


Figure 1: Graph shows the difference between the controlled plant and plant exposed to music.



Figure 2: Pot A and Pot B

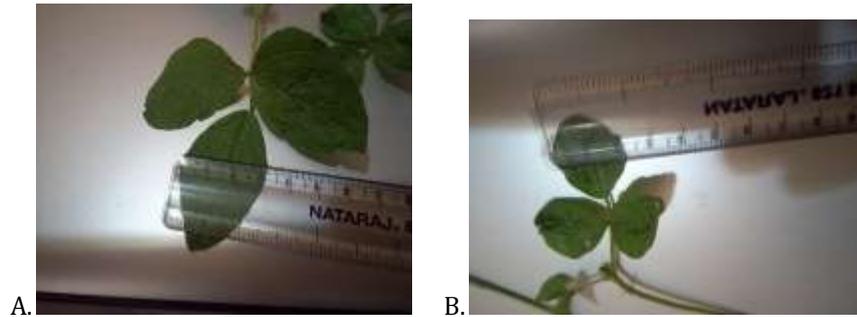


Figure 3: A) Leaf size of the plant exposed to Vedic mantra (B) Leaf size of controlled plant



Figure 4: Height difference between the plant exposed to Vedic mantra and the controlled plant A and B

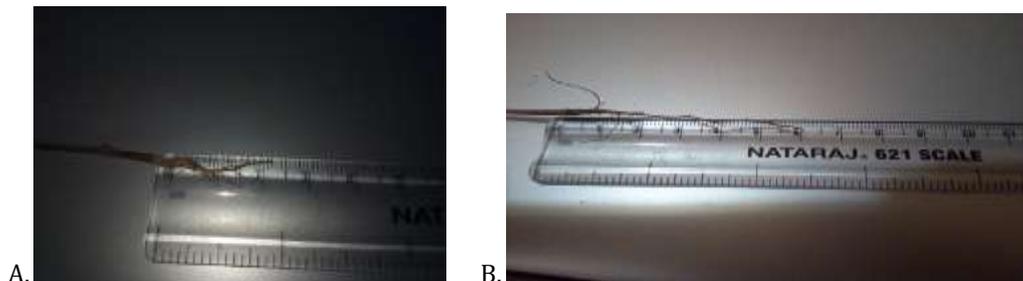


Figure 5: A) Root length of controlled plant, B) Root length of Plant exposed to Vedic mantra.

4. Discussion:

Over all observations of the present investigations as follows;

It is observed that, more number of seeds are germinated in mantra treated

- ✧ The height of the plant was much increased as compared to the control.
- ✧ The variation in leaf morphology within the music treated plant differs for the most part than the untreated plant.
- ✧ The number of leaves were found to be more in mantra treated than control.
- ✧ Leaf color was also found to be best for mantra treated plants.

The above data indicates that overall plant growth was better in plants exposed to mantra as compared to the control set. Creath and Schwartz (2004) have likewise detailed that there is a perceptible impacts of music on the germination of seeds, contrasted with untreated (control) plants. Essentially, there are a few written works reports that there is an upgrade of physical and organic states of the plants because of exposed to sound and music (Yi et al., 2003; Coglan, 1994). Hence, we can presumed that plants reacts to the music at reverberation and they have better impact when exposed to music.

The music is actually influencing the plant growth through metabolic activities like increase in concentration of sugar, phenols and starch [4], the amplitude of the music varies with time where as the noise is invariant[7], the change in amplitude causes change in pressure that makes the air molecules to move forth and back and create brushing action on the leaf and removes the film of moisture and helps in transpiration and results in overall development [10].

5. CONCLUSIONS.

There are some specific effects of resonance of sound of different frequencies have also been discussed earlier. From the above results, it was observed that plant growth in treating plants was better than control plants, especially showing increased level of various metabolic activities. External vibrations from any source's like music, chanting, some sort of sound in nature, or any other physical disturbance which is capable to change the internal factors and at resonant Frequencies the sound can either stimulate or hamper growth. Higher research have to be conducted in order to increase the biochemical assay.

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