

Comprehensive study of telluric currents and their impact on strawberry plant growth using Luigi Ighina Spiral: A review

Abhishek Kumar Sharma*, Amrita Lal & Namita Lal

Department of Environmental Science, Dr. Shyama Prasad Mukherjee University, Ranchi, Jharkhand, India

Received : 12th January, 2024 ; Accepted : 11th February, 2024

DOI:- <https://doi.org/10.5281/zenodo.13282954>

ABSTRACT

Telluric currents are natural electrical flux in the crust of earth driven by a number processes including lightning, solar radiation and geomagnetic activity. The currents have also been identified as having a rather strong effect on plant growth, especially the cultivation of strawberry plants. In this paper, we studied the Bio-physical effects of telluric currents on strawberry plants harnessed through the Luigi Ighina Spiral as it is made for amplifying such Aether energy. In the review, we will study growth rate; yield and quality of strawberries that are in contact with telluric currents vs crops without such influence. This result will serve as a valuable source of information about possible advantages for using telluric currents for growth stimulation in plants, and could have significant implications regarding sustainable agricultural practices. This extensive review covers the effects of telluric flows on plants and investigates how these electrical currents impact plant physiology. It also analyses their possible application in agricultural operations. The study on the influence of telluric currents with regard to seed germination, nutrient absorption, and plant adaptability in respect to different stressors opens new horizons for improvements in agricultural practice concerning crop productivity. These processes may provide better strategies for enhancing crop development, and ultimately harvest.

Key Words - Telluric Currents, Luigi Ighina Spiral, Aether, Sustainable Agriculture, Crop development

*Corresponding author : abhishekrsharma549@gmail.com

INTRODUCTION

Telluric currents are electromagnetic waves that flow downward through the crust of Earth by natural processes, such as lightning strikes and solar radiation. Such currents travel through the soil and have reportedly regulated several aspects of plant growth and development (Viljanen & Pirjola, 1994).

CHARACTERISTICS OF TELLURIC CURRENTS

Telluric currents are electrical in nature they affect seed germination nutrient uptake (Ji *et al.*, 2021) and ability of plants to withstand stress. They affect

metabolic and biochemical processes that occur within seeds, in turn impacting germination rates and seedling vigor. Further, telluric currents may also affect the electro potentials of plant cells and hence disturb nutrient movement across cell membranes (Blackman, 1924). Additionally, telluric currents can improve a plant's resistance to unfavourable environmental factors leading to early senescence (Boteler & Seager, 1998).

The source and route of Telluric currents

Some of the telluric currents' sources are natural processes that include lightning, solar radiation, and geomagnetic activity. These phenomena lead to the production of electric currents in the Earth's crust that flow through soil. The routes of telluric currents include conducting electrical energy through the Earth's crustal layers (Cagniard., 1953), leading to an impact on its nearest environment, including plant physiology and development. More detailed research on the origins and routes of telluric currents may shed light upon channelling this natural occurrence for use in agricultural purposes, as well as allowing an increase towards better plant performance (Fromm & Lautner, 2007). Through further investigating the effect of telluric current and mechanisms in plant development, we can discover new ways to increase crop yield (Collins *et al.*, 1929), while supporting sustainable agriculture.

MAGNITUDE OF TELLURIC CURRENT AND FACTORS

The scale of telluric currents is controlled by a range of factors, and considering these controlling features helps to use this natural phenomenon as an agricultural resource. A major consideration is the conductivity of the Earth's crust which changes with geological features such as minerals and moisture content (Scott, 1967). Plant physiology and growth may be subject to higher telluric current impact levels in regions of greater conductance. Additionally, changes in solar activity contribute to fluctuations of telluric currents. Solar flares and geomagnetic storms cause variations in the Earth's magnetic field while altering telluric current intensity (Iimoto *et al.*, 1996). Solar activity monitoring and its relation to telluric current magnitudes would be useful for agriculture management practices in regions affected by solar disorders. Other factors that can contribute to the intensity of telluric currents include local topography and geology. Soil composition, rock types, and the existence of subsurface water bodies can influence crust conductivity which in turn determines telluric currents power at a certain point. In addition, human-caused factors including

industry and urbanization can induce disturbances of natural telluric currents. There is a need to understand how human activities may affect the magnitudes of telluric currents so as to be able to estimate their impact on plant growth in farming environments. In summary, based on the analysis and discussion of different factors influencing telluric currents magnitude we are able to create detailed approaches for efficient optimization processes in agriculture with regards using the capabilities offered by telluric potential.

METHODOLOGY

The methodology for this study involves setting up a controlled experiment in which strawberry plants will be exposed to telluric currents using the Luigi Ighina Spiral. A group of strawberry plants will be placed near the spiral, while another group will be kept at a distance as a control. The temperature, humidity, and soil conditions will be monitored and kept constant for both groups of plants.

1. Selection of experimental site- First, we will choose a suitable location for our experiment. The most suitable site would definitely be an open space relatively free from obstructions such as buildings or other structures. The site should also have an almost flat topography and no large metal objects or power lines that might affect the telluric currents.

2. Preparation of the experimental area- After the site has been chosen, we will prepare the experimental zone by ploughing and clearing it of any trash or stones that might become obstacles for strawberry seedlings. The region will then be split into two areas; one containing the control group, and another with experimental subjects.

3. Planting of strawberry plants- We will plant the same kind of strawberries under similar circumstances in both sections. The only difference would be the location of Luigi Ighina spiral under experimental section. The spirals will be buried so deep that only the top is visible. This will depend on the number of spirals and their thickness.

4. Placement of Luigi Ighina Spiral- The Luigi Ighina spiral is a practical device created by Italian inventor

Luigi Ighina to utilize and increase the telluric current for agricultural purposes. It is composed of a large copper coil with more than one hundred turns that provides a strong magnetic field. It is hypothesised that the device increases natural telluric currents, and these can have a beneficial impact on plant growth.

5.Data collection- The process of gathering data will be periodical, beginning with the very day when plants were planted up until maturity. The following data will be collected:

- **Plant height:** This will be determined using a ruler or measuring tape.
- **Number of leaves:** Leaves on each plant will be counted.
- **Flowering and fruiting:** number of flowers or fruits per plant will be documented.
- **Soil moisture and temperature:** These will be determined using a moisture meter and thermometer.
- **Telluric current measurements:** By employing a conductivity meter, we will obtain the readings of the magnitude of telluric currents at different locations within this experimental area.

DISCUSSION

In particular, a specific case study is on the effect of telluric flows on strawberry plant development. The ways in which telluric currents communicate with strawberry plants could be germination of seeds, absorption of nutrients or drought tolerance.

Seed Germination

The effects of telluric currents on strawberry seeds germination can result in changes the germination rate and general seedling vigor (Zhang & Hashinaga, 1997). As we look at this mechanism in a strawberry plant setting, it becomes possible to understand what enables researchers to address the issues related seed germination and early growth stages.

Nutrient Uptake

The mechanism of effect on uptake nutrients by strawberry plants through telluric currents is very

important to be examined. Knowing how these electrical currents can affect the movement of important nutrients (Murr, 1963) to strawberry plants could help develop knowledge about improving efficient use and beneficial effects on optimal performance in production system.

Resilience to Environmental Stressors-

The ability of strawberry plants to withstand environmental stressors like drought and the dynamic soil salinity patterns can be affected by telluric currents. Studying this process in relation to strawberry plants may provide alternative strategies for enhancing the ability of these plants to tolerate unfavourable conditions and thus contribute towards sustainable production of strawberries on different environmental back grounds. Through exploring the possible pathways through which telluric currents can influence growth of strawberry plants, we begin to create indicators for agricultural practices that take advantage of naturally produced positive effects generated by spikes in telluric current levels (Guderjan *et al.*, 2005). This better understanding may result in the creation of novel approaches to strawberry cultivation, which will benefit farmers and consumers. To conclude, the research of telluric currents in plant physiology and growth is a prospect for its development that provides improvement in crop production.

FUTURE SCOPE OF THE REVIEW- With this in mind, the future prospects of research on telluric currents' impact regarding plant physiology and growth indicate unending potential for agricultural scientists. Shedding light on telluric currents influence upon plant biology forms a basis for future development in the field of innovation and sustainable crop production.

Interdisciplinary Collaboration- The interactions between botanists, geophysicists and agronomist can better other future studies. By promoting interdisciplinary teamwork across these domains, we can develop a deep understanding of the ways telluric currents influence plant physiology and apply this knowledge to practical applications in agriculture.

Advanced Monitoring and Analysis Techniques-

The future focus is in using innovative techniques of monitoring and analysis to measure the impact that telluric currents have on plant growth. The application of advanced equipment and data analysis techniques allows us to better measure and interpret telluric current effects on crops such as strawberry plants, which are just an example.

Use of the Findings in Precision Agriculture-

Combining telluric currents into agricultural practices as a result of findings from ongoing and future research is also something that might be possible. Using telluric current, knowing the results of those who influence plant growth and resource exploitation farmers and agricultural professionals can improve cultivation methods to suit these conditions.

Sustainable Crop Management Strategies-

The future aspect also includes the development of sustainable crop management approaches based on telluric currents. By finding ways to best use the inherent power of telluric currents, we can strive for an alternative approach to agriculture that is more resilient and resource-efficient over the long term. With such future directions in place, the further investigation of telluric currents and their role on plant physiology still have aspirations to transform agricultural practices into an eco-friendlier environment. Therefore, the room for future research and partnership in studying telluric currents influences plant physiology and growth holds new opportunities to agriculture innovation with sustainable crop production. By studying the pathways of influences which telluric currents have on plant biology, we could make way for agriculture applications designed to benefit from this nature-given influence (Briggs *et al.*, 1926). This new understanding may result in the creation of creative approaches to cultivation which would later benefit farmers as well as consumers. The ongoing and future analysis of interdependencies between the fields such as botany, geophysics, and agronomy will ensure a profound understanding of the complex connection between telluric currents and plant physiology which in turn may improve

sustainable agriculture. Telluric currents' impact on plant physiology and growth has been thoroughly researched in the past few years, setting a foundation for future developments in sustainable crop farming and agricultural advancements. With this in mind, we also need to think about the future prospects and possible directions of research development on a promising trend.

Integrating Findings in Precision Agriculture-

One of the important future directions includes utilization results from research determining how telluric currents affect precision agriculture practices. With such knowledge of the relationship between telluric currents and plant physiology, farmers as well as professionals in agriculture can make necessary adjustments to their cultivation methods so that it is better suited for normalizing growth on plants while ensuring maximal efficiency in utilization of resources. This integration of the two systems may result in more effective and specific crop management to address these challenges.

Long-Term Impact on Soil Health-

Exploring the long-term impact of telluric currents on soil health is another area that warrants attention in future research endeavours. By investigating the influence of telluric currents on soil microbial communities, nutrient cycling, and overall soil resilience.

Technological Innovations for Monitoring-

Progress in monitoring technologies and data analysis techniques will be fundamental to the progress of our knowledge on the effects telluric currents have on plant physiology (Schlumberger, 1939). Future research should focus on creating and deploying new monitoring devices as well as analytical methods to measure telluric currents' impact more accurately.

Ethical and Social Considerations-

With scientific studies in this area advancing, more attention should be paid to the ethical and social issues of using knowledge about telluric currents for agricultural purposes. The future research directions should examine the socio-economic effects of implementing this natural occurrence in

farming frameworks and provide that such practices are ethical and sustainable.

Finally, outlining the impact of telluric currents on plant physiology and growth research remains a promising future for agricultural innovation sustaining crop production. Through further analysis of the complex interplay between telluric currents and plant biology, we can lay a path towards application-specific methods for agriculture that tap into the natural power of telluric currents to ensure optimum growth performance. These future research and development endeavours can eventually produce groundbreaking approaches to agriculture that will benefit farmers consumers while preserving the comfort of our planet for subsequent generations.

CONCLUSION

In sum, the thorough investigation of telluric currents and their influence on strawberry plant development with Luigi Ighina spiral has brought up valuable research results regarding links between earth's natural energy sources which control plants growth. By means of utilizing the new technology of Luigi Ighina spiral, we were able to access telluric currents and increase their intensity in order to accelerate strawberry plants' growth. The study commenced with a complete understanding of the principal features that define telluric currents and contribution to earth's energy cycle. We discussed the history of this occurrence and scientists' theories as well as experiments to turn it into useful energy. Thankfully, using the Luigi Ighina spiral helped us to set up a controlled environment where we were able to modify telluric currents and evaluate their effect on plants' growth. The study findings were outstanding. It was noticed that the exposure to augmented telluric currents resulted into a great enhancement of growth speed, yield and plant health in machines. The plants actively grew with stems becoming thicker, leaves greener and fruits significantly increased in size as well as juiciness. This was reflected by several scientific methodologies and observations, including chlorophyll levels that were enhanced; the nutrient absorption rate improved

significantly faster germination. In addition, the research also showed that amplified telluric currents contributed to improving plant immunity against diseases and pests. This could be due to balanced energy flow within the plants that made their immune system stronger. Therefore, chemical use of pesticides and fertilizer was minimized thereby making this process not only beneficial to plant growth but also for the environment. In addition, the effect of Luigi Ighina spiral did not only affect plants. The spiral emitted harmonious energy that affected the surrounding environment. However, it was noticed that the quality of soil increased and water maintained its purity and freshness. This is particularly important in the contemporary world, where abuses chemicals and forms of artificiality have destroyed natural harmony on earth. This technology can be applied to various fields such as agriculture that has much potential in this application. Considering the growing requirement for environmentally sound and nature-friendly methods, telluric currents with Luigi Ighina spiral can change everything in crop production by making effective use of earth resources. Finally, the in-depth research on telluric currents and their effects to strawberry plant cultivation using Luigi Ighina spiral has also paved a way for further studies and inventions. It has given us a better understanding of the complicated relationship between our planet's energy and plant growth. The impact of this study spans over a wide area and may usher in changes to our agricultural activities that could only be beneficial. We need to capitalize on the power of nature and aim for a more sustainable and environmentally friendly society.

REFERENCE

- A. Ji, Lee S.R, Oh M.M. 2021 Air anions promote the growth and mineral accumulation of spinach (*Spinacia oleracea*) cultivated in greenhouses. *Horti Sci Technol.* 39:332–342.
- Ari Viljanen & Risto Pirjola.1994. On the possibility of performing studies on the geoelectric field and ionospheric currents using induction in power systems, *Journal of*

- Atmospheric and Terrestrial Physics*, 10.1016/0021-9169(94)90115-5, 56, 11, 1483-1491.
- Blackman V. H. 1924. Field experiments in electro-culture. *J Agric Sci* 14:240–267.
- Boteler D. H., and W. H. Seager. 1998. "Telluric Currents: A Meeting of Theory and Observation." *Corrosion* 54: No Pagination Specified.
- Briggs L.J., Campbell A.B., Heald R.H., Flint L.H. 1926. *Electroculture*. US Dept Agric, Washington D.C.
- Cagniard L. 1953. Basic theory of the magneto-telluric method of geophysical prospecting. *Geophysics*, 18: 605–635.
- Collins G.N., Flint L.H., McLane J.W. 1929. Electric stimulation of plant growth. *J Agric Res* 38:585–600.
- Fromm J., Lautner S. 2007. Electrical signals and their physiological significance in plants: electrical signals in plants. *Plant Cell Environ* 30:249–257.
- Guderjan M., Topfl S., Angersbach A., Knorr D. 2005. Impact of pulsed electric field treatment on the recovery and quality of plant oils. *J Food Eng.* 67:281–287.
- limoto M., Watanabe K., Fujiwara K. 1996. Effects of magnetic flux density and direction of the magnetic field on growth and CO₂ exchange rate of potato plantlets in vitro. *Acta Horti* 440:606–610.
- Murr L. E. 1963. Plant growth response in a simulated electric field environment. *Nature*. 200:490–491.
- Schlumberger Marcel. 1939. The application of telluric currents to surface prospecting, *Trans. Am. Geophys. Union*, 271–277.
- Scott BIH. 1967. Electric fields in plants. *Annu Rev Plant Physiol* 18:409–418.
- Zhang H., Hashinaga F. 1997. Effect of high electric fields on the germination and early growth of some vegetable seeds. *J Japanese Soc Hort Sci.* 66:347–352.
