

# Bark of the plant performs neuro-activity, decision making and makes most physiological mutation of plant's growth.

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## ABSTRACT:

Like animals, plants also have the significant physiological activity like sensing, developing, repairing and propagation of livelihood. It was proved that plants have life, but here the endeavour is to prove and find out relative degrees of the livelihood sensitiveness in the plant. Those functions are governed by sensual neuro-work by the tissues of bark of the plant. It can be proved that the plants have feelings of climate change, flower blossom, tactionomic movement and all sorts of activities and reactions with the cells and tissues of their outer skin or the dermatogenic area of the plant; not inside the cambium cells of the tissues under covering of the bark. So, here, artificial immunization, structure conversion, inspiration of fruit bearing and new plant propagation by joining the stem to other species are the miracles taking place. It ensures the neuro-function of plants performed by the tissues of the bark meticulously like neuro-function act of animals.

**KEYWORDS:** Transplantation, grafting, scion, nodes.

## 1. INTRODUCTION:

Nowadays, with the blessings of modern medical science, we are developing artificial reproductive arrangement, transplantation of limbs or replacing the damaged part of the body by smooth replacement of some type of organ or other. That artificial joining can also be performed in plants; grafting method is one of the processes of plant propagation. Similarly, V-cut and air-layering are the processes of propagation where roots can be drawn out from the upper part of the mother plant. Applying other methods, we can force the plant to bear more fruits by controlling and stimulating the sensation of the timber part of the plant artificially and within a short span of time. Another method, by which we can develop a new plant from the same mother plant, is by replacing the branch part of another plant of different characteristic features to grow a new plant with different characters. The different processes and experiments prove the mutation of body characters by controlling and stimulating. With the help of stimulants, the new generation of plants can be grown having a different character as per our laboratory requirement. It is very much helpful for agriculture to produce fruits with different characters and in immunizing the plant from different kind of diseases.

The function of nervous system of a plant's body is formed in the tissues or cells in the bark of the plant. Several experiments and behavioural activities prove to us, the sensation and development of the plant activities of the tissues around the bark of the plant body. Now, if we consider the Xylem and Phloem tissues performing the flow of food ingredients to the processing area and returning back the processed starch to different parts of the entire plant. The additional work ensures the strength of the entire body's erectness and prevents it from damage. But the outer most walls' skin of the plant performs the other regenerative activities as stimulated by the atmosphere, as a requirement of existence, repair and reproductive arrangement for the future.

There are different movements of the plant which can prove the sensation of atmospheric sensitivity and immunization. Here, our work shows artificial propagation of plants by different methods, making artificial changes and stimulations. The skin or bark of the plant indicates the sign of success unexpectedly.

So, we have done several types of experiments on propagation and activity of the plantation in different seasons and different characteristics and early response out of expectation. We want to exercise the experiment details below under observation phenomena.

## 2. PLANT PROPAGATION:

### 2.1 Cutting Branch process:

The most common method is stem cutting, where a piece of branch of a plant is dipped in a solution of Salicylic acid or Fast rooting hormone or honey or other agents and then allowed to be put in a pot full of fertile mud. A few weeks later, we can observe a few new visible leaves. After a month or more, new roots are visible under the mud. It has been observed using a transparent pot that the gradual developments are visible on the skin of the branch. If we keep it under control moisture and less sunlight by covering the total arrangement with transparent cellophane cover, the total development can be observed.

On observation, it has been noticed that lower mud part develops roots and upper part develop the leaves from the nodes. So, it can be concluded that the skin of the branch, at the node area only develops roots. Similarly, new leaves come out from the skin of the branch on action of sunlight at the node area. So, it indicates the development of roots and leaves at the branch nodes only.

### 2.2 Placement of scion under the skin of the plant for propagation:

In horticulture, budding or grafting techniques are the most popular way to characterize heterogeneous plants that can be developed or a dying plant that can be re-emphasized or to force a plant to bloom early. A scion, a small part of a branch of the plant, is collected. It is re-shaped with the help of sharpener link, a pencil tip with having a node tip and is inserted in between the skin and cambium of another plant that is placed. By using grafting tape or other string it is tightened enough except the node point. Few weeks later, a visible branch is developed from the node of the scion and it is seen that it has flourished early than the normal plant with different characteristics.

This in turn, helps to develop the heterogeneous characteristics of the plant. Similarly, by removing the skin area from a side of two different plants and join them with tight binding, it is observed after a few weeks that the two branches are joined properly. The grafted plant will perform the dual character in a single plant. That process also proves the dermatogenic performance of joining of the two plants.

### 2.3 Air Layering process:

In plant propagation, Air layering process is another method to propagate plants. We chose a suitable branch of the mother tree and removed the skin from the branch so that the inner white part is visible. To germinate the root on the skin on the branch area, we covered it with moist coco-pit on the surrounding area with a tight rapping of cellophane paper.

It is to be ensured that no air comes in contact of the operation and that external water cannot enter. Therefore, no evaporation would be possible. Few weeks later, it was observed that a huge number of roots have been developed inside the package. With minute observation it was noticed all the roots have come out from the skin area of the branch near to the node. This phenomenon shows that the root cells have been developed from dermatogen of the plant, not from the white area. It indicates the development or modification of cells for growth, and cambium tissues are responsible for it. The cambium tissues stimulate the root cells that developed in dark area with moisture otherwise the branch will be dried up.

### 2.4 Chemical/Stimulant use for Commercial production of plant propagation:

There are different types of stimulants used for horticulture. The plant development hormone Auxin is mainly used to develop new leaves, branch, roots, etc. But due to artificial development of plant, Salicylic Acid is used as stimulant. Some other ingredients had also been used i.e., honey, cinnamon power, root hormone power, etc.

The major activity is to stimulate the dermatogen area to develop tissues and fast cell division and to make the new cells in the form according to the requirement. In dark and moist regions, the new cells make roots; in open sun light these newly developed cells can develop buds of the branch with chlorophyll contained cells. So, we can conclude that these are the activity of sensation of the plant, which is stimulated according to the requirement of the tissue mutations.

## 2.5 2G/3G cutting process for commercial production of fruits:

2G or 3G cutting process are mainly used in agriculture sector to increase the production of each plant in a geometric ratio:

1. The tendency of a full-grown plant to have blossoming flowers and later fruits.
2. To minimize the time and maximize the production, some sort of cutting process is applied in firm.

Creeper like plants i.e., cucumber, bitter gourd, tomato after development from the initial stage, the progressing top is cut off leaving some leaves. Few weeks later it is observed that some new buds come out from the nodes near leaves.

We force the plant to develop the side branches leaving the top bud to progress. Now, multiple branches come out from the remaining nodes. This process refers to 1G cutting. When branches would grow sufficiently long, again we cut the top buds in similar way. After which it is observed that the flower buds grow out. In most of the cases, the farmer follows the cutting process again to force the plant to bloom more within a short span of time. In 1G cutting, branches produce mostly male flowers. 2G and 3G cuttings are more productive when compared. The 3G cut branches produce more female flowers and more fruits are produced than the natural growth.

Here, our observation is to stimulate the plant bearing more fruit capability in shorter span of time. The branch nodes make the decision for their modification according to the present situation. All off the process is now a profitable technique mostly used in agriculture. Our notice over the forced mutation of plant developments were followed by some neuro-activity. The outputs of the activities were mostly found at the branch nodes where the needful body mutations were observed.

Now, above these were the different methods of propagation of plants from the mother plant by forcing the growth to immunize the fast-growing plants or more fruit bearing of different type of species within a short span of development. That is an output with a different angle. And simultaneously, the versatile behaviours of these plants were the mutation of the plants that were found from the skin of the mother plant in different environmental conditions which had been created artificially.

## 3. CASE STUDIES:

### 3.1 CASE 1: Air-Layering.

In air layering process, we can notice the branch area in between the consecutive nodes between the removed skins. Then, coco-pit package was placed over the removed skin area along with a node nearby. The concept is, the xylem and phloem will be intact to continue the supply of ingredients of photosynthesis and to supply processed starch to the plant. There are some noticeable areas is the place of the nodes. A few weeks later, it was visible that some root envelops have come out. The coco-pit covered portion was totally blocked from atmospheric air or water vaporization. (fig-1)

The small roots were seen coming out from the bark of the nodes. Generally, within a month or two a huge number of roots are supposed to be visible. In Hibiscus, guava, mango, and lemon these phenomena would be clearly visible. By cutting a branch, near the root area, there is a chance that it will develop into a full-grown tree. Here, it indicates that artificially, plant is adapts itself to cause the mutation. The skin of the plant performs the development, and most of the plant propagation is done by this way in plant nurseries.

### 3.2 CASE 2: V-Cut joining.

V-cut joining is one of the most popular grafting methods in practise. Here, a full-grown plant can change their characteristics by a special method called grafting. In case of a mango plant of height 2ft, the top portion is cut-off and a V-shaped scion of another tree is placed after removing all leaves, with tight binding. A cellophane paper is covered around the top modified portion in air-tight conditions. (fig-2)

A month later, new leaves were visible and transpiration beads inside the cellophane cover were observed. That indicates, due to sufficient moisture the new leaves are coming out.

The plant will be a new generation to produce early fruit with a dwarf structure. We observed at the joining part, that the skin was developed and was well-matched with the other scion branch and the cells developed inside the cambium at consideration rate.

### 3.3 CASE 3: 3G/2G cutting for early fruit bearing

This process is a new technique by which agriculture produces much benefit with high production of fruits. In agriculture vegetables like gourd, tomato, bitter melon, and cucumber are mostly creeper type plants. To get that optimum production within minimizing time the 3G/2G cutting process is done.(fig-5)

We have observed the phenomena after development of the plant up to 2-3 ft.

We cut the top most portions to force the plant to make branches from the nodes of the plant. A few weeks later, it can be seen that several branches are coming out. This is 1G type cutting to force the plant to generate branches from the nodes of the plant. Now, we can observe that male flowers are coming out from the 1G cutting branches. But no female flower had been seen. So, to force the plant to produce female flower 2G type or 3G type cutting is done again following the previous process in secondary branches of the plant. Leaving a few branches to allow the male flower production, we have cut the other secondary branch extensions at the top bud. It is a miracle, that the tertiary branches had produced huge female flowers.(fig-4)

These are the fruitful steps to the farmers getting optimum production of fruits from a single plant within a small span of time.

The point of observation is that the techniques that are used here are to force the plants to motivate the life cycle in early proceedings. Here the neuro-sensation can ensure the expected life cycle stimulation of the plant. It realizes that the output of the stimulation performs at the node point of plant.

It is observed that these methods are successful for any sorts of plant propagation and early fruit bearing habits. In comparing with neuro-system of animals or human the ganglion of neuron or medulla-oblongata of neuro-system performs the necessary stimulation as immediate requirements. In surgery also, during local anaesthesia or partial anaesthesia, we control the pains of the major surgery avoiding full-body anaesthesia.

The nervous system of the body is a partially non-functioning condition to perform the surgery avoiding the recovery risks. Similarly, by applying sedative drugs, the partial metabolism or cardiac control can be performed.

Here, we force the skin or bark of the plant technique or stimulants to perform our expected development and it is observed that all activities above are performed on dermatopathy cells or tissues, does not come in the field of activity of other tissues. Here, nodes of the branch are making decision according to needful.

It has been proved, that plant has life and response like animal, depending on stimulation applied. But our experiments and observation indicate the neuro-communication and neural activity performed by the tissues of outer most cells i.e., in bark of the plants. Other experiments like budding insertion, cutting-roots transplantation, and branch cutting transplantation successfully showed the results.

### 4. CONCLUSION:

After several experiments and observations with our honourable guides and co-workers we came to the conclusion that the outer most cells of the tree or plants have some senso-reactive activity and responds to the needful mutation to survive the earth. Although more experiments and research are needed to ensure and explore the hidden truth in limelight. With our limited laboratory facility and fund enthuces, it is our venture to highlight the hidden truth through trial and error.

Our observation and study will enlighten the field of plant tissue preparation and tissue culture in Agricultural sciences. It will be an enormous enhancement in the field of modern horticulture science and Plant propagation technology. Present cell culture in animal tissue will also focus the way of modern thinking in mutation of cells, cease the probability of disease or develop the immunity.

Similarly, boosting the stability of the existence of plants against climate changes in different locations of the Earth would be highly beneficial at record rate.

5. FIGURES:



figure 1

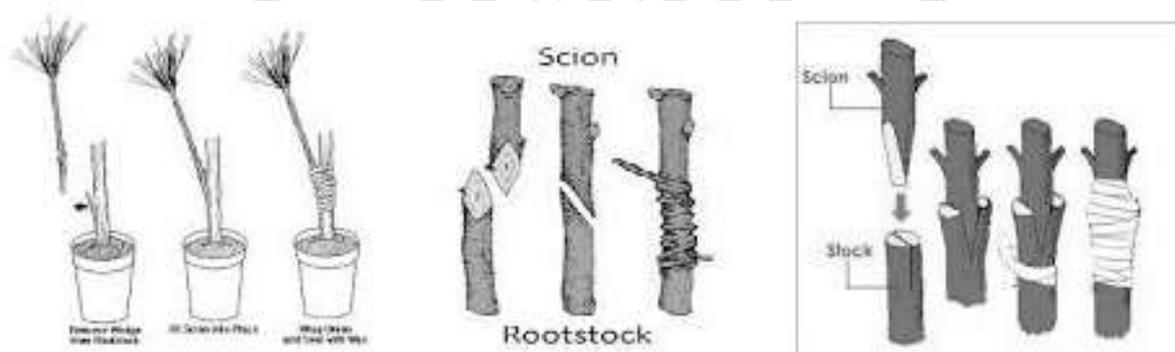


figure 2

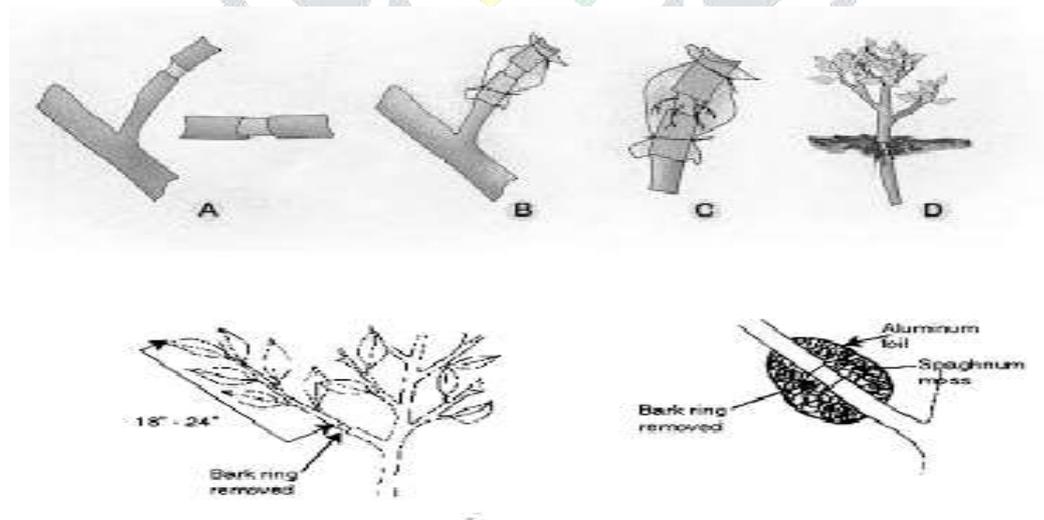


figure 3

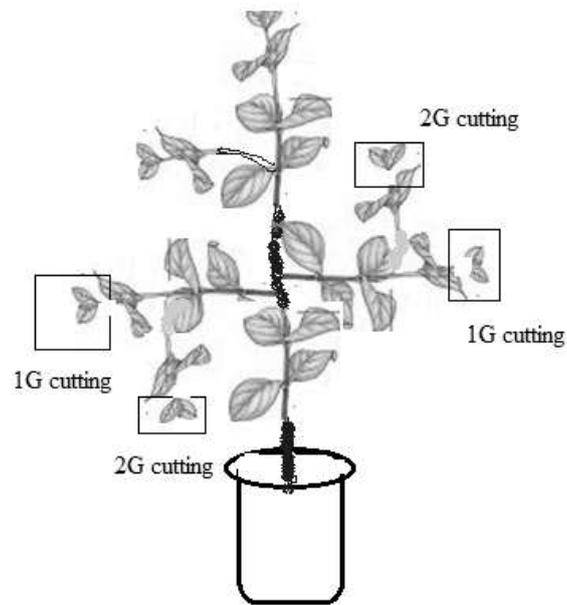


figure 4

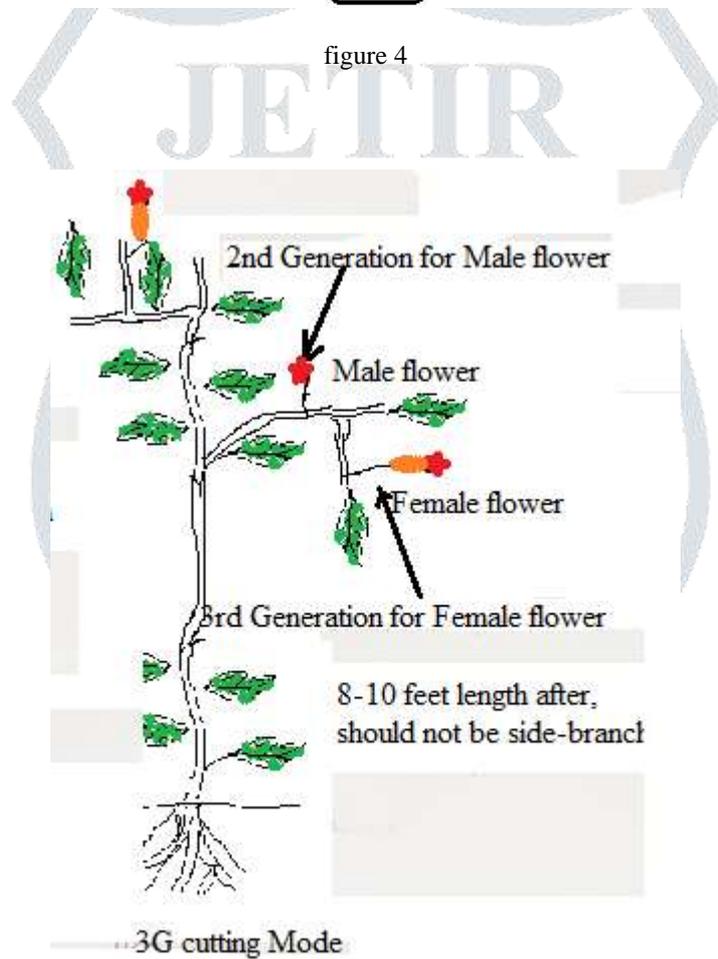


figure 5

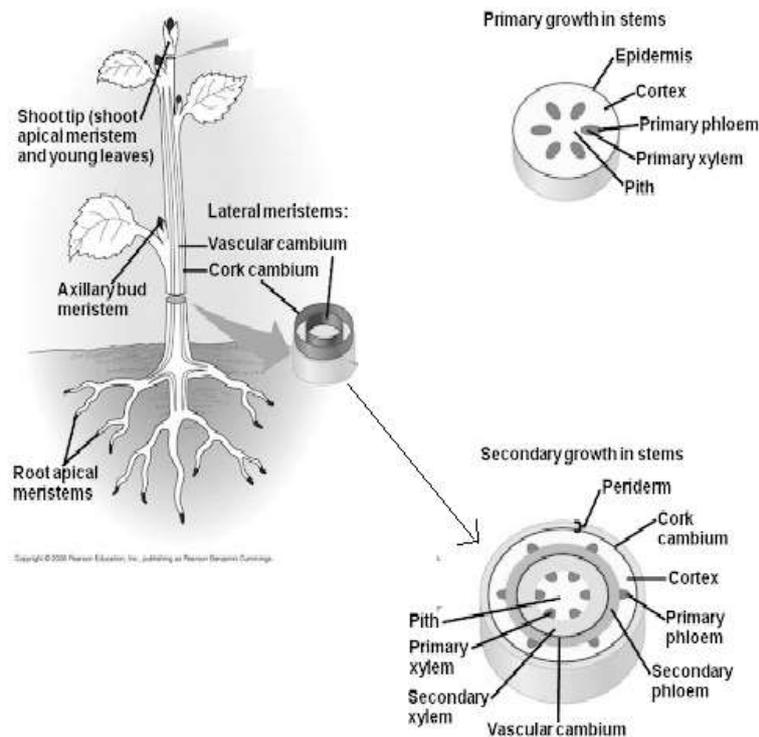


figure 6

## 6. ACKNOWLEDGEMENT:

The study of following journals and books we have implemented the techniques of plant propagation in different firms of nurseries. The result we have got that has been discussed through case studies. Our students of B-Tech in Bio-technology of University of Engineering & Management of Kolkata WB have jointly expanded their diligence and intelligence with full of perseverance of long time observation on result findings. We also, thanks to our university authorities and professors to encourage our endeavours to reach at the success. We hope it will be enlighten the study of plants behaviour, fast growing of agriculture, exchange of genetic character to avoid plant disease, beneficiaries of farmer related to cultivation. Although it needs more research and exercise about the plant cell behaviour changing the artificial climate, which can reflects a positive sign in exercise of animal organ or their mutation technology.

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