

Contribution of GDV bioelectrography to visualize the biological potential energy of tree buds used in gemmotherapy.

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ABSTRACT

The energy field of different tree buds of *Tilia tomentosa* were studied. The terminal bud, when activated, is more energetic than the axillary buds along the stem. Gemmotherapy, a branch of the phytotherapy, uses these embryonic energetic parts of plants in many medicinal indications.

1. INTRODUCTION

Gemmotherapy medicine is a branch of phytotherapy which uses extremely effective herbal remedies. These extracts are manufactured using mainly embryonic tissues of various trees and shrubs (stem cells), such as buds and young shoots. Other tissues used are the reproductive parts of the plants (e.g., seeds and catkins), newly-grown tissues (e.g., rootlets and the cortex of rootlets), and in some cases sap.

These parts of the plants have the following characteristics:

- Are primarily made of embryonic tissues ; they present an intense cellular multiplication and a rapid metabolism
- Enclose all the genetic information of the future plant and are totipotent

- Are rich in vitamins, oligo-elements, nucleic acids, enzymes, growth hormones and sap (intracellular “water”)

Buds are an exceptional part of the plant in space and time.

These tissues are always harvested from fresh plants, during their growing stage, mainly during the Spring. The Spring is the highest point of biological and energetic activity of plants in their annual cycle of growth and renewal. After being harvested, the fresh buds are macerated in a water-alcohol-glycerine solution. The ratio of buds to this solution is 1:20 in equivalent dry weight of the fresh buds.

This triple extraction (with water-alcohol-glycerine) dissolves all the active phytochemicals released during this process. These phytochemicals are, in some cases, only found in the buds at the time of maceration, and not in other parts of the plants. Furthermore, the energy field from these embryonic living organs at their highest vitality level.

Gemmotherapy is a revolutionary form of herbal medicine and is experiencing rapid growth in Europe :

1960s : Dr. Pol Henry, a Belgian doctor, started conducting comprehensive research on the therapeutic properties of buds

1970s : Dr Pol Henry published his research and clinical findings, calling this new therapy (in French) “Phytembryothérapie”

1980s : Dr Max Tetau, a French homeopath, and other European doctors further developed and elaborated the discipline. He also changed the name into

“Gemmotherapy” (from the Latin ‘gemmae’ meaning both the bud of a plant and a precious stone), considered as a veritable “Plant stem cell therapy”.

They conducted a series of clinical trials on humans and animals to establish the pharmacological effects of, initially, some thirty or so gemmotherapy remedies, and published several monographs detailing their findings.

Gemmotherapy became an accepted form of herbal medicine in France (entering the French Pharmacopeia)¹ in 1965, and now it is more widely used in Europe (e.g., Italy) and North America (USA and Canada).

Today: Scientists like Dr. Milkers, Dr. Monsieur, Dr. Leunis, Dr. Pittera, Dr. Sarek are expanding this therapy through scientific based clinical experiments.

Gemmotherapy is a form of Global Phytotherapy which :

- Contains all the medicinal properties of the mature tree.
Examples of holistic bud properties:
 - **Linden Tree bud** (*Tilia Tomentosa*) has sedative properties (as the flowers) and purifying and diuretic properties (as the sapwood)
 - **Hawthorn Bud** (*Crataegus oxyacantha*) has cardiac tonic properties (as the fruits) and anti-arrhythmic properties (as the flowers).
- Stimulates the reticulo-endothelial system
- Stimulates blood and lymph activities, delivers antioxidants in the system, oxygenates cells, balances electrolytes, and improves electrical potential.

1. *Pharmacopée Française*, 8th edition, Ministère de la Santé, Gouvernement Français, Paris 1965

- Acts on tissue and cell regeneration and works on all levels of cellular aging, except on the genetic code.
- Makes easier a detoxification action of the organism and stimulates emunctory functions (excretory system, digestive system, kidneys, respiratory system, skin)

Active substances in the buds are very effective, even with very small amounts of substance.

Given their total safety record, abundance of nutrients, and known positive effects on human health, gemmotherapy remedies are frequently prescribed in mixtures (complexes) or combinations.

Further, they are often used together with other herbal medicines, such as oligotherapy, aromatherapy, detoxification protocols and nutritherapy. They may even be combined with many prescription drug therapies, including chemotherapy.

2. MATERIAL AND METHOD

GDV camera

Camera parameters :

Range = 3

Exposure = 0,5

Noise = 30

Background level : 250

Coloration : Intensity.

GDV biograms are smoothed and inverted.

Grounding is made with the Materials Testing Kit.

Parameters of analysis are : absolute area, density, deviation, slant, excess, average brightness, spectrum width, form coefficient, two dimensional fractality, entropy, entropy on median level, fragments, brightness fragmentation and brightness area.

Botanical material: *Tilia tomentosa* buds and *Coryllus avellana* buds

20 different stems of the same tree are collected at the same time and analysed.

For each stem, the 4 first fresh buds (1 terminal bud and 3 axillary buds) are removed from the stem and cut longitudinally.

Half of each bud is directly deposited face down on the glass of the GDV camera.

5 frames are made for each terminal bud, the same operation is repeated for the three axillary buds in order to study the energy repartition of the different buds along the stem.

3. RESULTS AND DISCUSSION

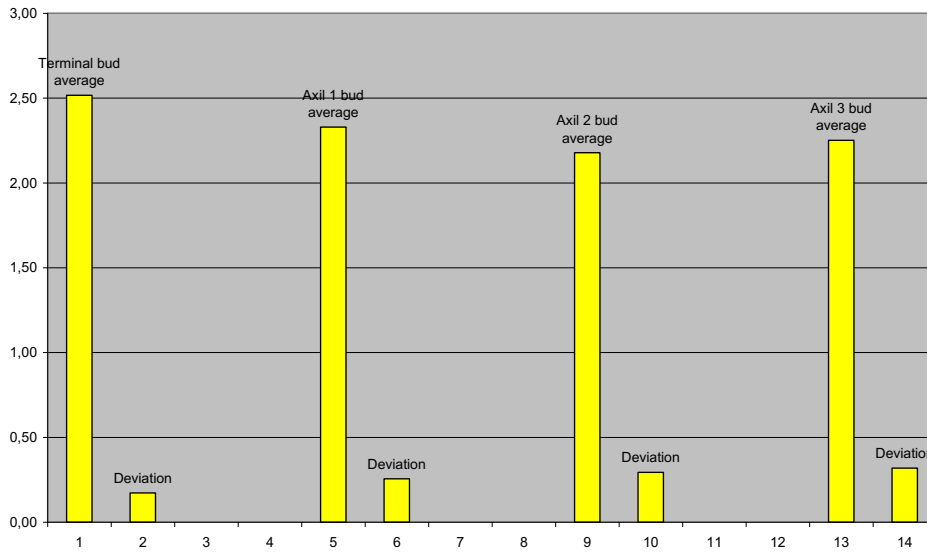
In the case of the *Coryllus avellana* bud, we don't measure any difference between the terminal bud and the 3 following axillary buds removed along the stem for all studied parameter.

The reason is that the opening level of the buds is not visible enough to show a visible physical difference. We would have to wait some days more, to obtain biological activation of the buds by sap and external climate parameters.

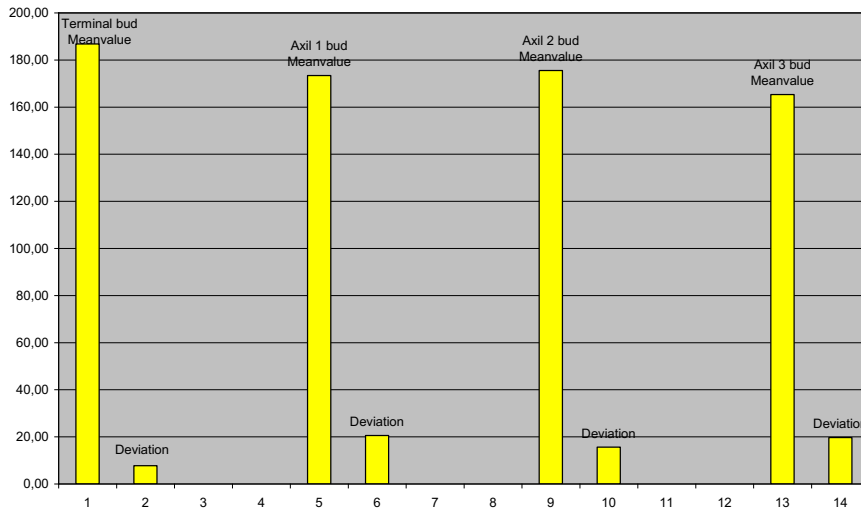
In the case of *Tilia tomentosa* buds, we observe a slight difference in the entropy on median level (more important in the terminal bud) and in the average brightness (also more important in the terminal bud).

See the graphs hereafter.

GDV Entropy on median level of *Tilia tomentosa* buds



GDV Average Brightness of *Tilia tomentosa* buds



A biological system as a tree bud can be considered as an information system that integrates information from its environment (temperature, climate, cosmos), and from its internal structure (moisture, sap, level of opening, nature of the tree).

It is impossible to physically separate the bud from these parameters, playing a major role on its biological activity and, of course, on the opening level of each bud.

The entropy is the parameter characterizing the difference level between a sleeping bud and a activated bud. It illustrates the energy necessary to disperse a thermodynamic system.

According to Prigiogine, a stationary biological level as the sleeping bud is characterized by a minimal dispersion of the entropy reflecting the homeostasis equilibrium of the bud during many months in winter.

An opening bud in the Spring is a biological organism which is, from a thermodynamic point of view, a dissipative open system. More developed is the opening level of the bud, higher is the entropy because the physical structure of the bud « disappears » progressively to become a group of leaves.

The choice of the optimal harvesting time of a bud is a compromise between the maximum entropy, without going out the physical form of the bud (not opened bud) and the average brightness which reflects the energy production of the biological system formed by the entire tree and the growing slightly opening bud .

Don't forget that, in nature, the growing entropy of the bud is always in connection with the stable entropy of the tree. The weight of a single tree is 1000 to 10.000 times more important than the weight of all the buds coming from this tree.

If we compare analogically the bud with a human embryo, we understand that the role of the tree can be compared to the role of the mother. Both are a source of energy which allows the development of these structures (embryo-buds).

4. CONCLUSIONS AND FUTURE WORK

The definition of gemmotherapy given in 1960 by his founder, the Dr. Pol Henry was based on the statement that : « *Gemmotherapy is based on the utilisation of the biological potential energy of plants and minerals* ».

Application of GDV technology in Gemmotherapy provides useful information about the energy field around the bud and proves that gemmotherapy must be considered first as an energetic medicine before being a medicine of active principles.

Cutting is an intrusive method, but the measure with the GDV camera is done max 5 minutes after cutting the bud.

We think that the measure of the energy field of a single bud with 5 time-separate successive recording frames can possibly influence the energy of the bud. It will be useful in the future to make dynamic continuous registration during a defined time.

In the future, to show better difference between the terminal bud and the axillary buds, we will measure axillary buds removed downer on the stem and at different stages of development.

In agreement with Dr. Sarkova and Dr. Sarek, who are studying the gemmotherapy with the EAV method (Electro-Acupuncture According to Dr.Voll), I am sure that « gemmotherapy will become a successful natural treatment method for the 21 st century ».

5. REFERENCES

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