

EFFECTS OF ELECTROMAGNETIC INFORMATION IMPRINTED INTO SOLID MATERIAL

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ABSTRACT

In this report we present our testing of a hypothesis that biologically effective information from two chosen substances (herbicide, pharmaceutical compound) can be nonchemically introduced into a composite material (Kerrock) to be polymerized by a high voltage electric field. For the imprinting of chemical information we constructed a special device. Under suitable conditions the stored information can be reproduced, evoking specific effects, biological or physical, without any chemical contact with the original substance. Three types of the research methods were applied, biological sensor system, electrophotography and tests by volunteers. The positive results were obtained by electrophotography and by volunteers.

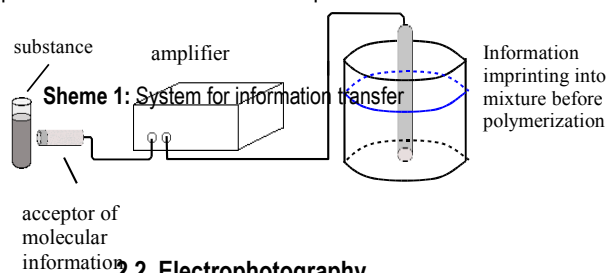
1. INTRODUCTION

In our previous work we tested the hypothesis that biologically effective information from various substances can be non-chemically transferred to organisms by high voltage electric fields (and sometimes the magnetic ones) that imprint the information into water or some solution that after exposition to organisms triggers biological effects (1, 2). The existence of the so called water memory is still an object of an intensive debate because there is still no generally accepted theory that would explain, how biologically effective information can be stored into water. Nevertheless, it seems that the imprinting changes the quantum state of the water electromagnetic field. The same problem with explanation of the biological effects of imprinted information resides in the imprinting process of biological relevant information into acryl material that is to be polymerized into polyacryl. There are some encouraging studies which show that electric and magnetic fields (especially the static magnetic ones) influence the speed of the polymerization as well as the structure and properties of acryl and polyacryl materials (3, 4). During the process of polymerisation the biologically effective information is supposed to "crystallize" into the solid structure via electric fields. In our experiments a biologically active substance (herbicide and pharmaceutical compound) were used as a source of an information. The thus informed polyacryl compound material called Kerrock can further affect water and biological objects as well. These effects were tested by electrophotography, which analyse the properties of treated water (5), by biological sensor exposed to stress (6) and by carefully designed double blind tests with volunteers.

2. MATERIAL AND METHODS

2.1. Instrumentation

To perform the imprinting of the chosen information into the tested material, we constructed a system consisting of a high voltage source which on one side accept the information of chosen substance and on the other side transfer it into the vessel with polymerising material (Scheme 1). The experiments were performed with the polyacryl based compound material called Kerrock, a complex material, which was designed for our experiments in a form of several plates with dimensions 7 x 7 x 1 cm. As an information source herbicide glyphosate and pharmaceutical substance diazepam were used.



2.2. Electrophotography

Experiments were performed with our well tested method (5), which was improved by digital acquiring of pictures. First we developed the system for electrophotographic imaging of water drops (or the corona around them, which are produced during the periodic discharge) and which were formerly exposed to various influences. Obtained pictures were analyzed by computer (standard and our own computer programs). The analysis of the results consisted of the comparison between different parameters of the corona, i.e. luminosity, arrangement and properties of its streamers. For every water drop we obtained 58 parameters for comparison. The differences in parameters between treated and untreated water were statistically analyzed. The system for digital electrophotography consisted of special equipment for scientific electrophotography (Pulz - Swing, Tyrotronic - Bioznanost Professional) and with additional part made of transparent electrode and digital camera (our own development).

In these experiments the bidistilled water from the same source was poured into different beakers, each one was put on one of the Kerrock plates where they remained around 30 min. and were frequently mixed. From every beaker, 30 drops were tested. As an information source diazepam was used.

2.3. Plant sensor system and the experiments

The plant sensor system consisted of *Lepidium sativum* (cress seeds) exposed to the heat stress after 24 hours (more details see refs. 1, 7). The Petri dishes were exposed to plates with information herbicide glyphosate during the whole experiment. For the control, the same plates were used but without imprinted information. During the germination the Petri dishes together with plates were covered with an aluminium foil and grew in the dark. While exposing to stress, the plates were removed. The seedlings were grown in a thermally isolated box at room temperature. After two days the length and the germination were measured and statistically evaluated.

2.4. Tests with volunteers

41 volunteers divided into two groups participated in experiments. More types of questionnaires were prepared. The volunteers were supplied with different plates with or without information of pharmaceutical substance diazepam. The volunteers as well as the experimenter did not know which one of the pair possessed information and which did not (double blind study). The volunteers have to hold these plates into hands, concentrate on them and after several minutes answered the questions. The purpose of these question was to find out: a) does the volunteers distinguish between plates (i.e. with or without information), b) what is the quality of their feelings.

2.5. Analysis of Data

The following types of statistical analysis were used: Student t-test for comparison between two groups, correlation coefficients and Chi square test.

3. RESULTS

3.1. Electrophotography

The results of these tests showed statistically significant differences between informed and not informed plates. The parameters of the water drops are in the normal range of the statistical variability of the results, where merely statistical fluctuations at 58 parameters produced 3 statistically significant results at $p < 0.05$ or 1 at $p < 0.02$ (Table 1).

Table 1. List of statistically significant parameters (bold); effect of Kerrock plates on the corona parameters of water drops.

| Plates 1 | Chi-test | T : C |
|-------------------|-------------|---------|
| slope | | |
| radius | 0,01 | 21 : 7 |
| streamer_illum | 0,01 | 7 : 21 |
| length_below | 0,02 | 21 : 8 |
| attainment_belowj | 0,04 | 20 : 9 |
| streamer_split | 0,06 | 16 : 7 |
| streamer_homog1. | 0,07 | 10 : 20 |
| slope | 0,13 | 18 : 10 |
| Plates 2 | | |

| parameter | Chi-test | T : C |
|------------------|-------------|---------|
| attainment_peak | 0,03 | 16 : 6 |
| attainment_below | 0,05 | 18 : 8 |
| no_streamers2 | 0,07 | 8 : 17 |
| streamer_homog1 | 0,09 | 19 : 10 |
| no_streamers1 | 0,09 | 10 : 19 |
| declineS_below | 0,12 | 9 : 17 |
| radius | 0,12 | 9 : 17 |

Plates 3

| parameter | Chi-test | T : C |
|--------------------|-------------|--------|
| streamer_width1 | 0,01 | 8 : 22 |
| streamer_width2 | 0,02 | 8 : 21 |
| no_streamers1 | 0,02 | 19 : 7 |
| streamer_width | 0,03 | 9 : 21 |
| Cstreamer-width3 | 0,03 | 9 : 21 |
| streamer_illum | 0,04 | 9 : 20 |
| Cstreamer-contast1 | 0,04 | 9 : 20 |

Legend: T-water exposed to plates, C - control

3.2 Biological sensor system

Except in one experiment the Kerrock plates did not influence the biological sensor system (Table 2). According to these results we conclude that herbicide information in this form did not affect cress seedlings as a stress information, so the seedlings did not react to it with changes in speed of growth and germination. Even when the plates were soaked into bidistilled water and than the water was used for watering the plants, the growth reaction did not occur. Our earlier experiments showed that the plant sensor system was mostly influenced by direct magnetic and/or electric fields or when information was imprinted into water by electromagnetic process (7, 1). So it is possible that the cress plants (or its early phase of growth) are not susceptible enough for these kind (i.e. via solid material) of information transfer. Further experiments are in progress.

Table 2. Average growth and statistical parameters of the plants exposed to different Kerrock plates with information herbicide.

| Exp. 1 | | average | | % of | t-test: | |
|----------|---|---------|-----|-----------|-------------|-----|
| T=25,1°C | | growth | SE | control | p value | N |
| Plates 1 | E | 24,1 | 7,7 | 93 | 0,01 | 195 |
| | C | 26,0 | 6,7 | | | 196 |
| Plates 2 | E | 24,7 | 6,1 | 98 | 0,388 | 188 |
| | C | 25,3 | 6,1 | | | 185 |
| Plates 3 | E | 25,3 | 6,8 | 102 | 0,449 | 196 |
| | C | 24,7 | 5,1 | | | 194 |

| Exp. 2 | | average | | % of | t-test | |
|----------|---|---------|-----|---------|---------|-----|
| T=22,8°C | | growth | SE | control | p value | N |
| Plates 1 | E | 25,1 | 6,2 | 101 | - | 195 |
| | C | 25,0 | 5,4 | | | 196 |

Legend: E-exposed, C-control, SE-standard deviation, N-number of germinated seedlings, T-average temperature of the experiment.

volunteers examined the plates. Mostly the volunteers described the feelings as spiritual and peaceful. Chi quadrate test for these qualities was highly statistically significant ($p < 1.6 \times 10^{-7}$).

3.3. Tests with volunteers

According to the summary results the volunteers were able to detect plates with imprinted information (see the lowest row in the table 3). Detailed analysis showed that the results were more pronounced when more susceptible group of

Table 3. Summary results of all questionnaires. The number of scores for different feelings and at different plates.

| Plate / feeling | control | | | with information | | | sum | |
|-----------------|---------|-----|-----|------------------|-------|-----|---------|------------------|
| | P1 | P2 | P3 | P1 | P2 | P3 | control | with information |
| stimulating | 9 | 11 | 24 | 8 | 9 | 17 | 44 | 34 |
| clarifying | 8 | 8 | 13 | 8 | 7 | | 29 | 15 |
| soporific | 6 | 9 | 8 | 7 | 11 | 3 | 23 | 21 |
| excitable | 5 | 12 | 1 | 6 | 5 | 3 | 18 | 14 |
| peaceful | 7 | 12 | 13 | 17 | 8 | 25 | 32 | 50 |
| purifying | 6 | 6 | | 3 | | 11 | 12 | 14 |
| aggressive | 6 | 6 | | 8 | 3 | 5 | 12 | 16 |
| spiritual | | | 3 | 11 | 6,5 | 17 | 3 | 34,5 |
| happy | | | 8 | 7 | | 4 | 8 | 11 |
| wearisome | | 4 | 3 | | 7 | | 7 | 7 |
| cold | 42 | 18 | 10 | 18 | 6 | 18 | 70 | 42 |
| warm | 22 | 8 | 19 | 18 | 10 | 9 | 49 | 37 |
| hot | | 7 | 5 | 3 | 4 | | 12 | 7 |
| pricking | 17 | 20 | 7 | 14 | 12 | 8 | 44 | 34 |
| repulsive | 2 | | 3 | 4 | 6 | 6 | 5 | 16 |
| unpleasant | 6 | 5 | 6 | 5 | 10 | 7 | 17 | 22 |
| pleasant, kind | 3 | 4 | 13 | 9 | 8 | 21 | 20 | 38 |
| sum | 139 | 130 | 136 | 146 | 112,5 | 154 | 405 | 412,5 |

Legend: P1, 2, 3 - different plates; colors signify higher surplus of scores (grey – smaller; black – higher)

4. CONCLUSIONS

According to the results a high voltage electric field can non-chemically transmit information into the solid material during the process of polymerisation. The material can then further produce the effects that can be detected by electrophotography or by volunteers. Changes of the corona parameters of water drops exposed to informed Kerrock plates

were clearly obtained by electrophotography. However, biological sensor system did not demonstrate effects, probably because growth reactions to stress require more direct contact of tested factor with plants or because of the plants smaller susceptibility, the positive effects were clearly obtained by volunteers in several double blind tests. They significantly distinguish the plates with information from the sham-informed plates, however the quality

of feelings are more difficult to explain. Further experiments are in progress.

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