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Biological Transmutation in Germination of Seeds

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Abstract:

Laws under which biological reactions are taking place seem to be different from physical laws and these laws do not apply to laws of biological reactions. In the biological system nuclear reactions are taking place at low temperature as equal to room temperature withstanding by biological system to form required elements from the available elements within biological system. Green grams seeds and bengal gram seeds were germinated in the room temperature and at its atmosphere. Elemental analysis was done for control and germinated seeds with wet method by using optical emission spectrometry. Results shown that Na increased by 417%, Al by 125%, Cr by 400%, Mn by 71.43%, Fe by 28.89% and Zn increased by 13% where was among decreased elements in germinated seeds with respect to control seeds Mg decreased by 14.60%, P by 4.57%, K by 10.16%, Ca by 24.59% and Cu decreased by 17.65% in green gram germinated seeds and while in bengal gram germinated seeds P increased by 8.48%, K by 22.40% and Zn increased by 10%. Among decreased elements in the germinated seeds with respect to control seeds Na decreased by 13.03%, Mg by 42.57%, Al by 36.35%, Ca by 6.13%, Mn by 40%, Fe by 22.22% and Cu by 12.5%. Results among total of increasing and decreasing elements, 147% increased and 10% decreased in green gram germinated seeds and in bengal gram germinated seeds total of 20.48% (1692 ppm) increased and 23.23% (324 ppm) decreased.

Keywords

Seed germination, biological reactions, biological transmutation, cold fusion, low energy nuclear reaction

1. Introduction

The phenomenon of evidence of reactions of non-radioactive, low-energy transmutation of light elements and their isotopes in plant, animals and minerals have came to be known as biological transmutations [1, 2]. Biological transmutation causes some minerals transmute into other minerals. Cold fusion or Low Energy Nuclear Reactions (LENR) is the ability to produce nuclear reactions at relatively low energies (temperatures) [3]. By performing number of chemical experiments showed that various elements can combine with each other, but without any change in their elemental compositions, Antoine Lavoisier at the end of the 18th century demonstrated that chemical elements cannot be created nor destroyed. This has been the principles of science until end of the 19th century with the discovery of radioactivity and later artificial radioactivity. Now, it is out of the question that nuclear reactions can occur outside the nuclear world of radioactivity and high-energy physics [4]. Started re looking at phenomena of biological transmutations after the study of Stanley Pons and Martin Fleischmann [5] in 1989 that it was possible to produce nuclear reactions at ambient temperature by electrochemistry. Kervran in his study stated that living matter employs energies which are not electromagnetic, that nature also operates right into the heart of the atomic nucleus, which has nothing to do with Lavoisier's laws [6]. As mentioned by John [7], Puri has conducted germination of ryegrass seeds for twenty-nine days and found out increase in K, Mg, and Cu and decrease in Ca. Puri also reports experiments on the Ca in hen's eggs. The normal diet of hens does not contain enough Ca for one egg. If the hens were kept away from Ca-containing foods, they laid eggs with thin shells devoid of Ca. If K (element 19) was added to the diet, the hens laid eggs with thick shells containing Ca (element 20). Jones, S.E., et al. suggested that cold fusion in terrestrial matter might even be responsible for localized volcanism [7]. The experiment results had indicated the stable isotope transmutation processes in growing microbiological cultures, in the iron-region of atomic masses [2]. Komaki studied the development of bacteria, mould and yeast and reported that eight strains of microorganisms grown in potassium deficient culture media increased the total of potassium by transmutation of calcium to potassium

[2]. Kervron had indicated from his experimental result that increase in phosphorus and copper in the lobster after moulting [8]. In the following, we report work in which changes in the quantity of trace elements in the germinated seeds of green gram and bengal gram with respect to their control sample dry seeds described.

2. Materials and Methods

Experiment was conducted in a clean room at natural environment. Distilled water was used for cleaning, soaking and germination of seeds. Three trials of elemental analysis of distilled water, control seeds, soaked seeds, soaked water and germinated seeds are conducted by wet method and used ICP-OES instrument. Seeds were selected randomly. For green gram design ~4 gm of seeds are taken each for control, soaked and germination sample. For bengal gram design ~15 gm of seeds are taken for each of control, soaked and germination sample. For control sample seeds are cleaned in distilled water to remove presence of toxic if any and had immediately kept in hot air oven for 6 hours at 60°c and grinded to powder and conducted elemental analysis. For soaked sample seeds are cleaned in distilled water to remove presence of toxic if any and soaked in 75 ml of distilled water for 9 hours in petri dish. Then soaked seeds were removed from water and kept in hot air oven for 6 hours at 60°c and grinded to powder and conducted elemental analysis. Removed soaked water also tested for elemental analysis. For germination of seeds dry seeds were washed with distilled water to remove any toxin present. Seeds were soaked in 75 ml distilled water for 9 hours. Then soaked seeds were kept sandwiched between filter paper wetted with distilled water in a petri dish for two days and allowed for the germination. During the germination watering was done on twice a day, morning and evening to make sure of the wetness of the filter paper. On day 2, counted number of seeds emerged, measured the radical length of each seed and the fresh weight of geminated seeds. Germinated seeds were kept in hot air oven for 6 hours at 60°c and measured dry weight of the germinated seeds. Dry germinated seeds are grinded to powder and done elemental analysis.

2.1 Procedure of Elemental Analysis

2.1.1. Digestion/Extraction. Took 1.5 gm of dry powdered sample in clean silica crucible. To this added 2 ml of H2SO4 and 3 ml of HNO3 and kept it on electric Bunsen fume hood chamber for charring, later kept it in muffle furnace at 600°c for one hour for ashing. Removed the crucible from muffle furnace and cooled it, again added 5 ml of HNO3 and heated it for five minutes on hot plate and filtered it through No. 41 filter paper and made it up to 25 ml with milli q water. Prepared the blank solution with out dry powder sample as mentioned above.

2.1.2. Instrumental analysis. Created the method for trace elements analysis by ICP-OES in ICP software. Standards for calibration of elements are prepared: 1.0 mg/l, 5.0 mg/l, 10.0 mg/l, and 100 mg/l as per requirement. Aspirated the standards and samples by ICP-OES.

2.1.3. Calculation. Element concentration in ppm = (Solution concentrationX25)/Sample weight

3. Results

Details of samples of green gram seeds were given in Table 1. Average weight of each of the sample was ~4 gm. Total number of seeds of control, soaked and germinated seeds were 98, 97 and 98 respectively. Green gram germinated seeds had 94.9% germination, mean radical length was of 4.46 cm with fresh weight of 20.44 gm after germination and dry weight of 3.61 gm after oven dry of germinated seeds. Table 2 gives details of samples of bengal gram. Average weight of each of samples was ~15 gm with control seeds of total of 42 numbers, soaked seeds of 42 numbers and 41 numbers of seeds for germination. Percentage germination of germinated seeds was 85.37 with mean radical length was of 1.39 cm, fresh weigh of 30. 90 gm after germination and 13.97 gm after oven dry of germinated seeds. Average value of three trials of elemental analysis of distilled water, soaked water, control seeds, soaked seeds and germinated seeds are given in Table 3 and Table 4 for green gram seeds and bengal gram seeds respectively. Green gram elemental analysis result showed that among increased elements in germinated seeds with respect to control seeds Na increased by 417%, Al by 125%, Cr by 400%, Mn by 71.43%, Fe by 28.89% and Zn increased by 13%, where was among decreased elements in germinated seeds with respect to control seeds Mg decreased by 14.60%, P by 4.57%, K by 10.16%, Ca by 24.59% and Cu decreased by 17.65%. Among neighboring elements as per periodic table between germinated seeds and control seeds Al increased by 125% where is Mg decreased by 14.60% and Zn increased by 13% and where is Cu decreased by 17.65%. By comparing the summation of value of elements which are increased with the summation of value of elements which are decreased, germinated green gram seeds has increased by 147%

and decreased by 10% with respect to control seeds. In summation of value of all the elements there is total of 8.89% decrease in germinated seeds with respect to control seeds. Result of elemental analysis of bengal gram showed that among increased elements in the germinated seeds with respect to control seeds P increased by 8.48%, K by 22.40% and Zn increased by 10%. Among decreased elements in the germinated seeds with respect to control seeds Na decreased by 13.03%, Mg by 42.57%, Al by 36.35%, Ca by 6.13%, Mn by 40%, Fe by 22.22% and Cu decreased by 12.5%. Among neighboring elements as per periodic table between germinated seeds and control seeds Zn increased by 10% where is Cu decreased by 12.5%. By comparing the summation of value of elements which are increased with the summation of value of elements which are decreased, germinated bengal gram seeds has increased by 20.48% and decreased by 23.13% with respect to control seeds. By summing of value of all the elements there is total of 14.16% increase in germinated seeds in comparison with control seeds.

Table 1. Samples details of green gram seeds

Sample	Weight of seeds (gm)	Number of seeds	% germination	Mean radical length (cm)	Fresh weight (gm)	Oven dry weight (gm)
Control seeds	4.03	98	-----	-----	-----	-----
Soaked seeds	4.03	97	-----	-----	-----	-----
Germinated seeds	4.03	98	94.90	4.46 cm	20.44	3.61

Table 2. Samples details of bengal gram seeds

Sample	Weight of seeds (gm)	Number of seeds	% germination	Mean radical length (cm)	Fresh weight (gm)	Oven dry weight (gm)
Control seeds	15.02	42	-----	-----	-----	-----
Soaked seeds	14.91	42	-----	-----	-----	-----
Germinated seeds	14.95	41	85.37	1.39	30.90	13.97

Table 3. Average value of elemental analysis of green gram seeds

Sample	Na (ppm)	Mg (ppm)	Al (ppm)	Si (ppm)	P (ppm)	K (ppm)	Ca (ppm)	Cr (ppm)	Mn (ppm)	Fe (ppm)	Ni (ppm)	Cu (ppm)	Zn (ppm)	Total (ppm)
Distilled water	0.072	0.030	<0.001	0.883	0.021	0.042	0.130	<0.001	0.003	0.001	0.002	<0.001	0.004	----
Soaked water	0.878	8.865	<0.001	1.734	2.465	47.57	10.40	0.001	0.014	0.008	0.020	0.011	0.060	----
Control seeds	35	1363	4	<1	3432	11169	736	1	7	45	5	17	30	16844
Soaked seeds	41	1151	<1	<1	2926	9551	387	<1	4	23	5	12	29	14129
Germinated seeds	181	1164	9	<1	3275	10034	555	5	12	58	5	14	34	15346
% change in germinated seeds w.r.t. control seeds	417*	14.60**	125*	----	4.57**	10.16**	24.59**	400 *	71.43*	28.89*	-----	17.65**	13*	8.89**

***% increase, **% decrease**

Table 4. Average value of elemental analysis in bengal gram seeds

Sample	Na (ppm)	Mg (ppm)	Al (ppm)	Si (ppm)	P (ppm)	K (ppm)	Ca (ppm)	Cr (ppm)	Mn (ppm)	Fe (ppm)	Ni (ppm)	Cu (ppm)	Zn (ppm)	Total (ppm)
Distilled water	0.072	0.030	<0.001	0.883	0.021	0.042	0.130	<0.001	0.003	0.001	0.002	<0.001	0.004	----
Soaked water	4.364	6.394	0.021	2.474	5.545	20.9	16.10	0.002	0.257	0.067	0.028	0.021	0.244	----
Control seeds	284	552	11	<1	1273	6970	473	<1	10	63	<1	8	20	9664
Soaked seeds	293	535	4	<1	1317	6613	476	<1	9	137	<1	6	31	9421
Germinated seeds	247	317	7	<1	1381	8552	444	<1	6	49	<1	7	22	11032
% change in germinated seeds w.r.t. control seeds	13.03**	42.57**	36.35**	----	8.48*	22.70*	6.13**	---	40**	22.22**	---	12.5**	10*	14.16*

*** % increase, ** % decrease**

4. Discussion

Table 3 and 4 showed that the media of distilled water used for soaking and germination of seeds had less than 1 ppm in each of the element, it indicates there is no incoming of elements from the distilled water into the germinated seeds. Table 3 and 4 showed that green gram seeds and bengal gram seeds have different mineral composition in control seeds as well as in germinated seeds as mentioned by Kervran [6] that different variety of seeds have different elemental constituents. In germinated green gram seeds Na, Al, Cr, Mn, Fe and Zn are increased with respect to control seeds where in germinated bengal gram seeds P, K and Zn are increased with respect to control seeds, these might be due to the requirement of elements for their metabolic activities [9]. In the bengal gram germinated seeds P has increased by 8.48% (108 ppm) with respect to control seeds this may be due to the formation of pathway (fusion of nitrogen and oxygen): N + O as found out by Komaki in his experiment with eight strains of microorganisms [1]. In bengal gram germinated seeds Na is decreased by 13.03% (37 ppm) and K is increased by 22.70% (1582 ppm) this may be due to the biological transmutation occurs as a form of cold fusion as suggested by Papas in his published article suggesting that biological transmutation occurs as a form of cold fusion in the cellular membrane sodium-potassium pump (SPP). According to Pappas, the ions are not pumped back and forth through the membrane, but instead transmute back and forth between Na and K [1]. By considering the aspect of changes in the value of neighboring elements as per periodic table, in the green gram germinated seeds Mg decreased by 14.60% where is Al increased by 125%, Cu decreased by 17.65% and Zn increased by 13%, in the bengal gram germinated seeds Cu decreased by 12.5% and Zn increased by 10% in comparison with control seeds may be the indication of biological transmutation between neighboring elements by nuclear cold fusion of respective previous posited element (in the periodic table) with proton of hydrogen [6]. This can be explained with the principle suggested by Kervran [6] in molecular reaction. A neutrino v, adding its effect to the enzyme's positive charges, repels the H+ proton towards the nucleus with sufficient energy for the proton to penetrate the nucleus by the tunnel effect. The atom recoils a little from the shock and becomes next element. The incident neutrino v, which has accompanied H, does not penetrate very far into nucleus. It has given up some energy to H and is refracted in nucleus, leaving with a different energy v prime not equal to v by carrying off the excess energy resulting from the loss of mass between next element and previous element + H. This re-emitted neutrino v prime will be lost in space without reacting with the material [6]. Goldfein made attempt at a rational explanation of transmutation in the living cell and indicated that localization of transmutation process found in the mitochondria. Within these organelles a magnesium compound of adenosinetriphosphate functions as the microscopic model for a cyclotron within which there is an acceleration of ions which is sufficient to cause a transmutation [1]. Or else cosmic energy and/or electromagnetic energy [10] might have caused on enzymes in the seeds to transmute the elements as per the seeds requirement for germination and for further growth.

5. Conclusions

In the present study elemental analysis has been done for control seeds and germinated seeds of green gram and bengal gram. Changes in the value of elements in the germinated seeds might be due to biological transmutation taken place in the seeds. This transmutation might be taken place because of low energy nuclear reactions or cold fusion that is nuclear reactions at relatively low energies (temperature) present in the seeds cellular structure [6]. This low energy nuclear reactions is unique to

the biological system with its own structured biological conditions like temperature, cellular structure, its molecular built up and of its own environment of enzymes, nutrients and proteins [8, 9] or can say that transmutation occurs in structural parts of biological objects, which are subjected to dynamic influences (zone of growth, non-stationary transport systems, and dynamic response systems to any kind of agitation etc.). In line with previous studies [6] the present experiment also demonstrated that each kind of seeds is only able to transmute certain elements into certain other elements as per its requirements for biological activities. This experimental result enabled us to conclude that there are effective transmutations of elements by biological mechanisms. Biological transmutations must be studied in depth since the consequences of this body of research are of vital importance to the fields of science, agriculture, health and medicine.

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