



**SDI Review Form 1.6**

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| Journal Name:            | <a href="#">American Journal of Experimental Agriculture</a>                                                                      |
| Manuscript Number:       | 2014_AJEA_15862                                                                                                                   |
| Title of the Manuscript: | <b>The influence of static strong magnetic field on the germination and growth of garden cress (<i>Lepidium sativum</i>, L.).</b> |
| Type of the Article      |                                                                                                                                   |

**General guideline for Peer Review process:**

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

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**PART 1: Review Comments**

|                                     | Reviewer's comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <b>Compulsory REVISION comments</b> | <p>1. Initial part of INTRODUCTION is irrelevant ( very old history and very old citations) should be rewritten<br/> <i>"The first notice of magnetism was in ancient times. In De Simplicium Medicamentorum Facultatibus (ca. 200 BC), Galen referred to the use of magnets in therapy. Also Paracelsus (the father of modern medicine; 15th century), recommended magnetotherapy as a form of treatment. At the beginning of the 17<sup>th</sup> century William Maxwell in Medicina Magnetica, wrote that There is a universal attraction, or what some people call a world-soul, it is life, as fire and ethereal as light itself. All matter is destitute of action, except when this life-force, magnetic force, permeates it [1]. In the second half of the 19<sup>th</sup> century, first attempts on impact of magnetic field on plants was published by J. Reinke [2]. Unfortunately negative opinions of his experiments put a stop to further research for dozen of years, until in 1893 Tolomeidis provided conclusions of Reinke, by showing the positive effect of magnetic fields on sprout and plant development. He also discovered the magnetotropism of plants roots."</i></p> <p>2. The literature cited below is grammatically incorrect and is related with very old citations, include some new references.<br/> <i>"What is interesting is that the influence of strong magnetic fields on the growth of medicinal herbs has not yet been tested Lepidium sativum Linn. (family: Brassicaceae) is one of the fastest growing, and most</i></p> | <p>I am not quite sure, but probably an important information from cover letter was not distributed and affiliations were hidden. This work was done by students from Students of Pharmacy Research Society (under my supervision). Typically to young people, they presented non-standard thinking. Therefore procedures in this work are non-standard, as measurements and use of specific software designed for photography. In my opinion it is one of valuable aspects of this work, together with results, of course. The paper was redesigned as <u>short original article</u>.</p> <p>Ad. 1, 2, 3<br/> The presented data were interesting especially from pharmacy point of view, but according to comments were significantly shortened and mainly deleted.</p> |



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|  | <p><i>edible, annual herbs. It originates from the region of present Ethiopia and western Asia, to the Europe was delivered by Romans, and has been known in Poland since the 15<sup>th</sup> century [ 8,9]"</i></p> <p>3. There is a long introduction about medicinal use of plant in the manuscript,. Point it in brief. <i>"Cress is recommended as a complimentary drug in the treatment of asthma, coughs with expectoration, poultices for sprains, leprosy, skin diseases, scurvy,cancers, and seminal weakness. [13,14]. It has also been proven that Lepidium sativum help in osteoarthritis, most likely due to its anti-inflammatory properties [15,16]. The doses of administered herb should be limited because of its diuretic properties, which could reduce the bioavailability of certain medical drugs [17]. Also seeds and its derivatives are not recommended in early pregnancy – cress seeds were used to carry out abortions in the early stages of fetus development [18]. The knowledge of cress is not complete, as shown by recent discoveries of a new isoflavonoid, 5,6-dimethoxy-2',3'-methylenedioxy-7-C-β-d-gluco-pyranosylisoflavone isolated from the seeds. This compound, along with two previously known isoflavonoids, has anti-oxidative and hepatoprotective properties [19]. Also two new acylatedflavonol glycosides were isolated from the cress seeds, but their usefulness in pharmacology has not yet been established [20]."</i></p> <p>4. Methods<br/><i>The experiment was then repeated.<br/>How many times it is repeated?</i></p> <p>5. STATISTICS<br/><b>Error bar are missed in the graph and figures. It should be considered</b></p> <p>6. Results and Discussion<br/><b>In Figure 3. Along Y axis, it is mean area of growth (how mean</b></p> | <p>Corrected (duplicated)</p> <p>Yes, it is important. But SD is very tiny – the lowest value is 0,5 mm and the highest is 7 mm, It is impossible to indicate these small values on the figure.</p> <p>corrected</p> <p>This data are received exactly from the software. There is no additional info in the software description, how it is tested. Probably the algorithm of counting is patented or it is trade secret.</p> <p>improved</p> |
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|                                  | <p><b>area is found? Is it area or diameter? Area unit is not cm)</b></p> <p>7. <b>Define</b> mean percentage of green ?</p> <p>8. In discussion part the literature cited are very old, Replace and compare your results with some new one.<br/>Magnetotropism of plants has been explored since the sixties. The oriented growth of plants in magnetic fields was observed,[24] as well as the root development toward the regions of the decreasing field strength in the inhomogeneous magnetic field [25].</p> <p>9. It is not clear that whether the lines below are related with present study or with cited reference?<br/>In this study the cultivation on the north pole also showed better growth, however in this case there were no significant differences when compared to the control group(s).<br/>There is also contradiction between better growth and no significant differences</p> <p>10. Mention the place where the practical is performed, and write the Earth horizontal and vertical component of magnetic field at that place.<br/>[the experiments were done on the north hemisphere, fig. 5).]</p> <p>11. <b>Figure 5 is very elementary . Delete this figure and its reference in the manuscript.</b></p> | <p><u>In this study</u> the cultivation on the north pole also showed better growth, however <u>in this case</u> there were no significant differences when compared to the control group(s). This data are our. Yes, there is some contradictions Sometimes are differences not statistics does not support this thesis with 95% probability. So we indicated differences and comment this situation, that statistics does not return the observed differences significant.</p> <p>The figure was deleted</p> |
| <b>Minor</b> REVISION comments   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Optional/General</b> comments |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |