

Various topics

## **Information transfer from an ultra high dilution through glass walls – A study on wheat seedlings, with regard to storage safety of homeopathic remedies**

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### **Objective**

To investigate whether information transfer between homeopathic potencies is possible through glass walls during storage or transport handling.

### **Introduction**

Previous studies using zoological (Endler et al. 1995, 1998; Hermann 2005) as well as botanical (Pongratz et al. 1998) bio-assays have examined interactions between ultra high dilutions, sealed in glass vials, and organisms. The possibility of information transfer from a potency through glass walls may also be interesting with regard to storage insensitivity of homeopathic remedies.

### **Methodology**

We compared the effects of potentized gibberellic acid (GA3; a plant growth hormone) and potentized solvent on wheat seedlings. In previous experiments (Bauhofer et al. 2007, Pflieger et al. 2010, Endler et al. 2010) potentized gibberellic acid had shown an inhibiting effect on winter wheat growth when experiments were performed in autumn season. In order to avoid molecular effects we chose to exceed Avogadro's limit by potentizing GA3 (as well as the solvent water for control) up to 30x (i.e.  $10e-30$ ). For the growth experiment wheat seedlings were germinated in three groups using (a) GA3 30x ("G30x"), (b) water 30x ("W30x"), and (c) water 30x that had been submitted to an additional process of gently being banged against G30x-bottles ("W/G30x"). Stalk lengths were measured after 7 days according to a standardized protocol. Differences in stalk length of germinated seedlings were calculated with ANOVA.

### **Results**

G30x-plants ( $57.38 \pm 13.13$  mm) as well as W/G30x-plants ( $58.60 \pm 13.43$  mm) showed less stalk growth than control plants (W30x;  $61.97 \pm 11.90$  mm). Significant differences were found between G30x-plants and W30x-plants as well as between W/G30x plants and W30x plants, ( $p < 0.01$ ) but not between G30x-plants and W/G30x-plants ( $p > 0.05$ ).

### **Conclusions**

The findings of this pilot study suggest that banging glass bottles of liquid homeopathic remedies together can lead to information transfer, and that relevant precautions may be desirable during transport and storage. Further studies are needed to substantiate our laboratory results on aqueous potencies and to determine whether these may also be relevant for alcoholic homeopathic dilutions or globuli.