

# HOW TO STERILISE SEEDS FOR STERILE PLANT CULTURE

By Dr.D.J.Jones \*

**DEFINITION:** How to kill the bugs on seeds!

**WHY STERILISE SEEDS?** All seeds have bacteria and fungi on their outer coat. Some of these microorganisms may be pathogenic and overwhelm the seedling, or they may interfere with experiments such as investigations of root exudates. The following method will kill the microorganisms on the seed surface, but will not destroy parasites within the seed tissues.

**PROCEDURE:**

- 1). If the seeds have husks or adhering bracts polish them and blow away the dust.
- 2). Prepare a 4% solution of sodium hypochlorite
- 3). Add about 40ml. to a sterile (autoclaved) 100ml. beaker
- 4). Place up to 20g. of seeds in the solution along with a magnetic stirring bar
- 5). Place a sterile cover (e.g. the top of a plastic petri-dish previously dipped in the solution) over the beaker and put on the magnetic stirrer for 30 minutes
- 6). Drain out the hypochlorite and replace with sterile (e.g. autoclaved) distilled water
- 7). Wash the seeds 5 times with sterile distilled water
- 8). The above procedure is best carried out in a sterile hood to avoid re-contamination
- 9). Place the seeds either on agar or other sterile medium to germinate.
- 10). If this doesn't work the following additional steps should be used: 1) Presoaking for 5 minutes in 100% ethanol, or 2) adding a drop of surfactant such as 'Tween 80' to the hypochlorite, or both.
- 11). These methods work for most seeds (e.g. maize, wheat, bean, *Arabidopsis*, tobacco). For small seeds such as tobacco and *Arabidopsis* this method should be scaled down to an Eppendorf volume (1ml.).

\* D.J.Jones, School of Agricultural and Forest Sciences, University of Wales, Bangor, LL57 2UW

**SEED AND ADVICE** can be obtained from:

**HERBISEED**  
NEW FARM  
MIRE LANE  
WEST END  
TWYFORD  
RG10 0NJ  
ENGLAND

Telephone: +44 (0) 118 9349464  
Fax: +44 (0) 118 9241996  
e-mail: [technical@herbiseed.com](mailto:technical@herbiseed.com)  
e-mail: [sales@herbiseed.com](mailto:sales@herbiseed.com)  
web site: [www.herbiseed.com](http://www.herbiseed.com)