

EFFECT OF IODINE DISINFECTED WATER ON SOY BEAN SEED GERMINATION DS Janik*, BA Macler* and RD MacElroy, NASA-Ames Research Center, Moffett Field CA USA

Iodine is used to disinfect potable water on US spacecraft. This water will likely be used to support plants on Space Station and longer missions. Little is known about the effects of iodine disinfection products (IDP) on plants. We recently reported presumptive evidence of decreased germination half-times ($T_{1/2}$) in several species of beans sprouted in iodinated water (I2W) compared to controls (1). Recent tests confirm this (mean and standard deviation 57.8 @ 7.8, 76.0 @ 6.7 hrs respectively; $Z=-3.5399$; $p<<0.001$; $n=4$). Seeds sprouted in NaI and KI solutions showed intermediate but not statistically different $T_{1/2}$'s. Clearly IDP's affect some higher plants. More work is necessary to determine the potential impact of IDP's on plant germination and growth in space.

1. Janik DS et al: Effect of iodine disinfection products on higher plants. Adv Space Res (in press).