# Growth Stage Dependent Cesium Uptake by Crested Wheat Grass in a Sagebrush-Steppe Ecosystem. (A05hess134814-Oral)

Authors:

- J.R.Hess\* INEEL, Idaho Falls, ID
- C.D.Palmer *INEEL*, *Idaho Falls*, *ID*
- M.A.Hamilton *INEEL*, *Idaho Falls*, *ID*
- L.L.Cook INEEL, Idaho Falls, ID

- L.S.Siegel Northeastern University, Boston, MA
- N.A.Yancey *INEEL*, *Idaho Falls*, *ID*
- G.J.White INEEL, Idaho Falls, ID

## Abstract:

Total cesium concentrations and radiocesium activities in soils and in plant tissues of crested wheatgrass (Agropyron cristatum) were measured on samples collected from a radiologically-contaminated site and an adjacent non-contaminated area at the Idaho National Engineering and Environmental Laboratory. The samples included both rhizosphere and bulk soils as well as roots and shoots from the crested wheatgrass. The ranges of total cesium in rhizosphere and bulk soils are similar, are fairly narrow (1.7 to 5.2 mg/kg), and do not appear to vary seasonally. In contrast, 137Cs activities in rhizosphere and bulk soils are significantly different, vary over orders of magnitude (10-180 pCi/g), and show seasonal differences. Shoot and root 137Cs activities decrease between April and May. Total Cs shoot-to-root ratios are greater than the corresponding ratios for radiocesium. Total Cs rootto-rhizosphere soil ratios are lower than the corresponding ratios for 137Cs. These results are being used to enhance our understanding of phytoremediation scenarios and issues associated with long-term stewardship of 137Cs-contaminated lands.

#### **Corresponding Author Information:**

Richard Hess	pho
INEEL	fax
P.O. Box 1625	e-n
Idaho Falls, ID 83415-2210	
U.S.A.	

phone: 208-526-0115 fax: 208-526-0690 e-mail: jrh@inel.gov

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