

**RP 284 – Integration of Weed-Suppressive Bacteria with Herbicides to Reduce Exotic Annual Grasses and Wildfire Problems on ITD Right-of-Ways**

- Project Description:

Exotic annual grasses continue to expand along Idaho’s highways, negatively affecting roadside vegetation efforts, increasing wildfire occurrence, and creating a need for greater use of herbicides and tillage. Example species include cheatgrass (*Bromus tectorum* L.) medusahead (*Taeniatherum caput-medusae* L.), and North-Africa wiregrass (*Ventanata dubious* L.). Exotic annual grasses easily disperse seed and readily establish in disturbed areas, such as where road construction or improvements have disturbed vegetation cover and soil. Their persistence along roadsides increases overall costs of roadside management and leads to poor establishment of desirable seeded plant species. The resulting increases in fire ignitions, and soil destabilization, along with corresponding water or wind erosion (dust storms), create major highway hazards in Idaho. This study will build upon a previous study (ITD Research Project RP 258) to evaluate the feasibility of using a Weed-Suppressive Bacteria (Strain ACK55) to control cheatgrass on Idaho roadsides and to provide recommendations for integrating the use of the Weed-Suppressive Bacteria into the department’s roadside management practices.
- Project Objective:

The objectives of this project include:

  - Building upon previous ITD research on the use of Weed-Suppressive Bacteria (WSB) (ITD Research Project RP 258) by:
    - Collecting additional data on the impact of the WSB on test plots included in the previous study to better assess the long-term performance of the WSB.
    - Establishing new experimental plots testing the effectiveness of WSB on target (i.e. exotic annual grasses) and non-target species with and without pre-mowing or co-application of herbicides or drill seeding.
  - Developing best practice and an integrated vegetation management plan for future utilization of the bacterium.
- Estimated Completion Date: October 31, 2021
- Budget: \$50,000
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