Enhancing and Protecting Populations of the Alkali Bee *Nomia Melanderi*
Washington State University - Walsh

Project Award: $19,444

Objectives:
- Pollination by alfalfa leafcutting (Megachile rotundata) or alkali (Nomia melanderi) bees is essential for seed set in alfalfa seed production. Bee mortality that results from inadvertent exposure to pesticides, disease, parasitism, direct predation, or motor vehicular traffic can negatively impact bee survival and fitness and potentially reduce seed yields. Recently, a price spike for leafcutting bees imported from Canada has put an economic hardship on alfalfa seed producers. Therefore, enhancement and protection of populations of the alkali bees where they currently are used (Walla Walla Valley, WA) and methods development to aid alfalfa producers in other alfalfa seed growing regions to establish alkali bee populations are desired. Objectives of this project are to develop pesticide use recommendations to avoid alkali bee kills based on the safe timing and bloom conditions for specific candidate pesticides, to enhance the ability to establish new alkali bee beds with modern irrigation management and delivery technology, and to investigate the genetic heterogeneity of the alkali bee populations in the Walla Walla Valley and other locations.