

CORVALLIS PLANT MATERIALS CENTER  
NATURAL RESOURCES CONSERVATION SERVICE  
CORVALLIS, OREGON  
Amy Bartow

September 20, 2007

**THE 2007 FEDERAL HIGHWAY ADMINISTRATION ANNUAL REPORT:**  
Fort Hill Nelson's Checkermallow (*Sidalcea nelsoniana*) Seed Increase



Figure 1. *Sidalcea nelsoniana* seed increase field at the Corvallis Plant Materials Center, July 20, 2007.

**I. Brief Background of Project**

The Corvallis Plant Materials Center (PMC) entered into a new agreement with the Federal Highway Administration in 2007 to provide temporary refuge for Nelson's checkermallow plants that will be impacted by road construction. Plants will be housed at the PMC until a mitigation site is established in 2010. While the plants are at the PMC, seeds will be collected from them. The seed will be used to grow containerized plants. At the conclusion of this project, the impacted plants, the seed they produced, and container plants (grown from the seed) will all be planted in the mitigation site.

## II. Accessions Involved

Accession included in the Fort Hill Nelson's checkermallow project is presented below.

Table 1. Accessions involved for the Fort Hill Nelson's checkermallow project at the Corvallis Plant Materials Center in 2007.

Species	Common name	Symbol	Accession	Activity in 2007 <sup>1</sup>
<i>Sidalcea nelsoniana</i>	Nelson's checkermallow	SINE	9079516	sfp

1- sfp= seed increase

## III. Field Seed Increase Activities



Figure 2. Salvaged plants were brought to the PMC and washed, removing soil, weeds, and weed seed.

Plants were dug up and transported to the PMC on March 13 and 14. Plants were stripped of soil and weeds using water hoses with sprayer nozzles. The root masses were chopped into 3-4in pieces using a machete. The pieces were planted into a field covered with weed fabric. Holes were cut in the fabric just big enough to put the plants through. 831 plant pieces were planted in the field. Rows are 3ft apart and plants within the rows are 2 ft apart. Field size is 15 ft by 190 ft (0.06 acres). Rain watered in the plants the day they were planted. Supplemental water (via sprinkler irrigation) was added twice in late May. No fertilizers or other inputs were added to the field. Plants grew very vigorously and flowered in late June. No seed weevils were detected. Plants were checked often to make sure that the expanding plants were not impeded by the weed fabric.

Seed maturity was quite variable across the field. On August 15, 2007, mature seed was hand-stripped from the plants and placed in an open greenhouse to dry. Seed was also swept up from the weed fabric. On September 13, the remaining seed was hand-stripped from the plants and the weed fabric was swept again. A few seeds that were collected in the later harvest appeared to be weevil damaged. This will be monitored closely in 2008.

Seed was cleaned using a large brush machine

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Figure 3. Washed and cut rhizome piece, ready to be transplanted into the seed increase field.



Figure 4. *Sidalcea nelsoniana* seeds on weed fabric in a seed increase field.

and an air screen machine. The field produced nine pounds of seed. Plants were cut back in September and the weed fabric was trimmed away from the base on larger plants. Survival was also recorded at this time. Out of 831 plants that had been transplanted in March, only 80 had died (91% survival).

### III. Plant Production

The *S. nelsoniana* production field has space to be expanded; therefore seed that was harvested from the plot in 2007 was used to grow plugs that will be used to expand the seed increase field. On September 14, seeds were sown into 200 Ray-Leach “stubby” cone-tainers filled with moistened media (sunshine #1, a special peat-based soil-less mix) and lightly covered with fine vermiculite. Seeded flats were placed in polyethylene bags and moved into a walk-in cooler (36-38°F) for three months. After stratification, they were placed in a greenhouse set at moderate temperatures. These plants will be transplanted into the field in early spring of 2008.

### IV. Delivery of Plant Materials

There were no deliveries in 2007. Seed produced for this project will be stored at the PMC seed storage facilities until requested.

Seed produced in 2007 was tested at an independent seed lab purity was 97.42%. Impurities were mostly stones, soil and chaff. Weed seed was only 0.02% of the total weight. A tetrazolium test was used to determine the viability of the seed. The test showed that 52% percent of the seed was viable and readily germinable, another 32% of the seed was viable but classified as hard seed (or super dormant). PLS weight for the seed lot produced in 2007 is 7.3 lbs of seed.