

Extending the Bare Root Planting Window for Customers -- Preliminary Findings

Introduction

The Bow Plant Materials Center continues to search for ways to make native plant materials available for its customers. Customers contact the facility looking to source bare root plants ready for fall planting, but the plants are unavailable until the winter; however, a technique called the Missouri Gravel Bed (MGB) has been found to extend the bare root plant planting season. Plants coming out of the MGB will:

- be ready for fall planting and summer planting with supplemental irrigation
- show an increase in root volume
- provide more flexibility in planting time

Currently, there is a skinny planting window for bare root plants. Fall planted bare root plants will benefit from late year rains to help establish them for survival through the next summer. Research found that plants heeled into a Missouri Gravel Bed can be successfully out-planted during the summer and fall months. If this trial is successful, then plants from the Bow Plant Materials Center will be available for customers over a greater period of time. The customers will enjoy the following benefits:

- cost savings as compared to containerized stock
- ease of transporting bare root plants as compared to containerized stock
- more opportunities for on the ground conservation

Plant Progression in Gravel Beds



May 21



June 4



June 18



July 8

Summer Out-planting at the Bow PMC

The initial observations are encouraging from summer planted MGB stock. The plants were harvested during the winter of 2020, and they were heeled into a MGB in May 2020. The gravel beds were irrigated about 100 minutes each day by embedded soaker hoses hooked up to a timer. The plants were left in the gravel bed for one month, and then they were transplanted at the nursery with supplemental irrigation. Any plants that died were replaced in July. A total of 26 plants of each species were transplanted, and the table below shows the preliminary findings.

Species	Gravel bed Date	Planting Dates	Observation Date	Number Living	Percent Living*
Salmonberry	5/21/20	6/23/20; 7/21/20	9/15/20	26	100
Indian plum	5/21/20	6/23/20	9/15/20	25	96
Pacific crabapple	5/21/20	6/23/20; 7/21/20	9/15/20	25	96
Thimbleberry	5/21/20	6/23/20; 7/21/20	9/15/20	23	88

* The plants received supplemental irrigation during the summer influencing the percentage living

Summer Field Pictures

The pictures were taken on July 8, two weeks after the first planting. The fifth plant of each species was selected. Three out of the four species survived which is a positive outcome following a summer transplant.



Salmonberry



Indian plum



P. crabapple



Thimbleberry (dead)

Fall Out-planting Trial with Skagit Land Trust

After observing high survival rates from summer transplants, Bow PMC is working with Skagit Land Trust to evaluate the survival of bare root plant through the winter. The planting site is near the Skagit River along Utopia Rd. It is a former pasture, and it is inhabited by common grasses, shrubs, and trees. The site was weedwhacked on October 15, and the plants will be installed on October 21. The species selection is the same as the gravel bed stock:

- Thimbleberry
- Salmonberry
- Indian plum
- Pacific crabapple

The planting site is 30' x 50'. The plants will be planted in four rows, one for each species. They will be spaced 10 feet between rows to allow room for a tractor to mow between the rows, and the within row spacing will be three feet.

If plants survive the winter, then more information will be gathered. Interest is in measuring the change in root volume, evaluating species suitability, comparing fertilizer applications, and out-planting without supplemental irrigation.

For More Information

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Timeline of Activities

May 21
Install MGB

Jun 23
1st planting

Jul 20
1st monitoring

Jul 21
Replanting dead

Aug 18
2nd monitoring

Sep 15
3rd monitoring

October 21
Fall out-planting trial

