

Arctostaphylos columbiana Germination Trials

OXBOW NATIVE PLANT NURSERY 2026 TRIALS

Four trials were conducted to attempt successful germination of *Arctostaphylos columbiana* (Hairy Manzanita) seeds. The seeds used were from Johnny Native Seed, collected for the growing year of 2023. All trials used 9.67g of seed, sown in one tray of 7ci plugs at a density of 4-5 seeds/cell, 98 plugs per tray. Detailed below are the types of growing media and methods used in our trials.

GROWING MEDIA

PRAIRIE MIX

- 2.5cu ft bark
- 2.5cu ft peat moss
- 3 scoops perlite
- 2 scoops sand
- 250g NutriRich (8-2-4)
- 4 cups wood ash

SEDUM MIX

- 2.5cu ft bark
- 2.5cu ft peat moss
- 3 scoops perlite
- 2 scoops sand
- 250g NutriRich (8-2-4)
- 1 scoop=58oz



TREATMENT METHODS

BOILING WATER

Boil water, let cool for 1-2mins. Soak seeds in the hot water for 20 seconds. Imbibe in warm water for 24hrs. Cold stratify for 90 days.

SAND SCARIFICATION

Soak in warm water for 24hrs. Scarify with sand paper. Must break through the seed coat without damaging the embryo. Use a sand paper block and a tray lined with sand paper to scarify. Imbibe in warm water for another 24hrs. Cold stratify for 90 days.



TRIALS

TRIAL	TREATMENTS	GERMINANTS	GERMINATION %
ARCO-1	Sedum Mix + Sand Scarification	0	0%
ARCO-2	Sedum Mix + Boiling Water	1, deceased	0%
ARCO-3	Prairie Mix + Sand Scarification	1	1%
ARCO-4	Prairie Mix + Boiling Water	2	2%

RESULTS

Very few plants germinated. Of the 98 plants in each tray, 2 seeds germinated from the ARCO-4 trial, 1 seed germinated from the ARCO-3 trial, and 1 seed germinated and promptly died from the ARCO 2 trial. This doesn't yield enough data points to be statistically significant.

DISCUSSION

One could believe that the wood ash in the prairie mix helped the couple seeds germinate. The seeds in the boiling trials likely weren't soaked long enough. The seeds in the scarification trials likely could have been scarified more.

If Oxbow decides to conduct future trials, there will be some changes to the methods. For the boiling water trial, the seed soaking duration will be increased from 20 seconds to 1-2 minutes. For the scarification trial, the seeds will be scarified more to increase the number of seeds seen with broken seed coats. Additional trials will also likely be conducted using the acid and fire methods listed below.

OTHER POSSIBLE METHODS

ACID METHOD

Use sulfuric acid or another acid to soften the seed coat. pH 2.0 HCl or H₂SO₄ (approx. pH of turkey/grouse gizzard). Soak for a few hours, up to 8hrs. Cold stratify for 90 days.

FIRE METHOD

Burn a 4" deep layer of leaves & twigs over a flat with sown seeds. The fire may reduce viability. Sow with the ashes. Cold stratify for 90 days.

CONCLUSION

Further research is needed!



Arctostaphylos columbiana germinant [04|03|2026]



Arctostaphylos columbiana seedling [4 months old]