PLANT PROPAGATION – NATIVE PLANTS OF PACIFIC NORTHWEST

This article on propagation of plants native to the Pacific Northwest is gleaned from gardening resources specific to the Pacific Northwest. It includes tips for successful propagation as well as a chart showing types of propagation appropriate for a sampling of local native plants. Both vegetative propagation and seeding are covered. This information is a starting point for gardeners to try some experimenting.

Descriptions of propagation methods can be found in "Plant Propagation Primer", the next article in this Clinic Reference Binder. The propagation methods described there are division, cuttings (softwood, heel, hardwood), seeding and layering.

Common Camas *Camassia quamash*

COLLECTING CUTTINGS

Never collect cuttings from parks or protected areas of any kind. Get permission from landowners to take cuttings or collect seeds and be mindful. Know that sexual reproduction (seeds) will contribute to genetic variation (plant diversity) whereas cuttings will ensure you get an exact replica. Collecting must not endanger a plant population. Whole plants should never be dug up from natural areas unless they are being salvaged (i.e. building site).   Accurate records of collection times and locations are recommended.

COLLECTING SEEDS

The dates given in the chart for seed collection and propagation are estimates, considering climate conditions can vary year to year and from location to location. Watching for healthy plants and their growth patterns will help to determine which plants to collect seed from and when.   Generally younger plants provide better propagation (seed) stock than older ones. In some species the rate of germination is low, therefore, other methods of propagation have been recommended. That is not to say it can't be done by seed!

NOTE: Ensuring that seeds are ripe (brown/black and dry) when they are picked is important. Refer to the "seed" column in the chart below for specific care and planting of seeds.

SOIL

There are many types of planting media out there and the general rule of thumb is to use a mix that is: non-fertilized; fast-draining; fine and uniform yet well aerated and loose; free of insects,

disease organisms and weed seeds; capable of holding moisture. When using an outdoor seed bed, the same principles apply.

CARE OF NEW CUTTINGS

Initially, cuttings benefit from some heat and moisture to get established. But it is important to mimic their growing conditions in nature, so transitioning to their natural climate as soon as possible is recommended. Cuttings can be placed outdoors in a sheltered place where they receive light but are out of direct sun and protected from wildlife. Check regularly to ensure they have adequate moisture and remove decayed or fallen leaves. NOTE: Do not fertilize until you see that they have formed several vigorous roots. At that point, you can place them into 4" pots using a soil mix or plant directly into native soil.

A FINAL NOTE ON LONG TERM SUCCESS OF YOUR NEW PLANTS

Researching a little about specific soil requirements of the plants you plan to grow is recommended, since needs can vary. NOTE: If you live in a developed area, you may have an urban soil, which can be quite different from native soil. This could impact the ability of your new plants to thrive.   There are many great references out there and some are listed below.   In coastal regions, planting into final space is best done once fall rains have started and can continue throughout the winter if the weather is mild but should be completed by mid-March. Once native plants are established, they will require an occasional deep watering.

REFER TO THE CHART THAT FOLLOWS FOR INFORMATION ON SPECIFIC PLANTS

In the photo above (L to R): Mock Orange, Red-flowering Currant, Hardhack, and Pacific Ninebark. (Photo is from Saanich Native Plant Nursery website – see below).

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References:

1. "Native Trees, Shrubs, & Vines: a guide to using, growing, and propagating North American woody plants", Cullina, William 2002
2. "Propagation of Pacific Northwest Native Plants", Robin Rose, Diane L. Haase, and Caryn E. C. Chachulski. January 1998
3. "Native Woody Plant Seed Collection Guide for British Columbia", S. Mishtu Banerjee, Kim Creasey and Diane Douglas Gertzen 2001
4. "Gardening with Native Plants of the Pacific Northwest", Arthur R. Kruckeberg and Linda Chalker-Scott 2019
5. "Cuttings through the year", Joy Spurr et all, WA Arboretum Foundation. 2018
6. Saanich Native Plant Nursery on Haliburton Road, Saanich Satinflower Nurseries

Websites for additional information:

1. Garry Oak Ecosystems Recovery Team (GOERT) https://goert.ca/gardeners-restoration/propagation
2. Garry Oak Ecosystems Recovery Team (GOERT) - Plant/Seed collection guidelines: https://goert.ca/gardeners-restoration/propagation/collection-guidelines/
3. Habitat Acquisition Trust - "Gardening with Native Plants" (also in Clinic Box) https://hat.bc.ca/images/Native-Plant-Guide-for-Web-22.08.2017-2.pdf
4. Swan Lake Christmas Hill Nature Sanctuary offers free workshops on native plants: https://www.swanlake.bc.ca/nativeplantworkshops/
5. "Propagating Native Shrubs from Seeds or Cuttings" - Oregon State University Extension https://blogs.oregonstate.edu/treetopics/2014/08/26/propagating-native-shrubs-seed-cuttings/

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Common Name	Botanical Name	Vegetative propagation	Seed		Remarks
			germination conditions	collection dates	
Trees Arbutus	*Arbutus menziesii*	L	B, G, H	Oct-Dec	Germinate in sand-peat medium. Seedlings grow slowly
Black hawthorn	*Crataegus douglasii*	D	D, G, I	Aug-Sep	Ripe fruits are deep red to blackish purple
Cascara	*Rhamnus purshiana*	H - Sep-Oct	B	Aug-Sep	Can also be layered in spring
Douglas fir	*Pseudotsuga menziesii*	N/A	B*	Aug-Oct	Cones ready when bown/purple tinge - moderately easy from seed
Grand fir	*Abies grandis*	N/A	B	Oct-Dec	Pick cones when brown, let air dry until they split apart - moderately easy from seed
Pacific willow	*Salix lucida*	H - Oct-Feb	A, H*	Sep-Oct	
Shore pine	*Pinus contorta*	N/A	B - (A), (I)	Sep-Oct	Seeds turn yellow/brown when ripe - easy to moderate from seed
Sitka mountain ash	*Sorbus sitchensis*	N/A	B or D,G,I	Aug-Sep	Pick fruits as soon as they start to turn orange-scarlet color
Western redcedar	*Thuja plicata*	H - Nov-Feb	B, H*	Sep-Nov	Seeds turn yellow when ripe
Western yew	*Taxus brevifolia*	H - Nov-Dec	D or C*	Aug-Oct	Take 3" sections of current year's growth
Shrubs Evergreen huckleberry	*Vaccinium ovatum*	H	A, B or H	Aug-Oct	
Flowering currant	*Ribes sanguineum*	S	B, G	Jul-Aug	Collect fruits when uniformly black - great results with fall sowing
June plum	*Oemleria cerasiformis*	S & SH	B	May-Jun	Seeds can be ripened whole and are ready when dark purple
Mock orange	*Philadelphus lewisii*	S	(A), B, H	Sep-Oct	Ripe capsules are brown - seeds within capsule are golden brown
Nootka rose	*Rosa nutkana*	S	B, G, I*	Sep-Dec	Collect hips when red/orange and remove seeds, discard any that float in water
Oceanspray	*Holodiscus discolor*	SH & H & L	B	Aug-Oct	Collect when flower clusters are dark brown. Seeds have low germination rate
Pacific ninebark	*Physocarpus capitatus*	S	A, or B, H	Sep-Oct	Pick clusters as they turn yellow and brown - mature seeds are golden brown
Red elderberry	*Sambucus racemosa*	S, SH, H	B, G	Jun-Aug	Collect when all fruits are uniformly red in color
Red-osier dogwood	*Cornus sericea*	S & H	B or D, G	Jul-Oct	Pick when seeds start to color (before the birds do)
Saskatoon berry	*Amelanchier alnifolia*	D - Feb-Mar	B, G, I*	Jul	Divide in early spring before buds swell - seed propagation easier

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	Snowberry	*Symphoricarpos albus*	S	D	Sep-Dec	Also spreads by suckers which can be divided - easy from cuttings & seed
	Tall oregon grape	*Mahonia aquifolium*	S, He	D, G	Jul-Sep	Seeds turn dark blue when ripe. NOTE: Difficult to grow by cuttings
	Thimbleberry	*Rubus parviflorus*	S & L	B, G	Jul-Aug	Collect seed as soon as berries are ripe
Ground cover	Broadleaf stonecrop	*Sedum spathulifolium*	S & D- spring			Take cuttings after plant has flowered
	Deer fern	*Blechnum spicant*	D		Aug	Can be spread by spores but little information available
	False lily of the valley	*Maianthemum dilatatum*	D	B	Sep-Oct	Plant seeds when berries turn red.
	False solomon's seal	*Smilacina racemosa*	D	C	Sep-Oct	Can be divided - take from edges - can take time to establish
	Fringecup	*Tellima grandiflora*	D- fall or late winter	B	Jul-Sep	
	Great camas & other lilies	*Camassia leichtlinii*	D - summer to fall	B	Jun-Jul	
	Kinnikinnick	*Arctostaphylos uva-ursi*	S	B, G, I	Jun-Oct	Seeds ripe when bright red or pink
	Low oregon grape	*Mahonia nervosa*	S, He	D, G	Aug-Sep	Ripe berries are blue - mature seeds are dark burgundy
	Menzies' larkspur	*Delphinium menziesii*	D - spring	B	Jun-Jul	Temperatures above 15°c inhibit germination
	Nodding onion	*Allium cernuum*	D - fall	B, I	Sep-Oct	Open capsules - keep seeds if they are black
	Pacific bleeding heart	*Dicentra formosa*	D - early spring	B	Sep	
	Pacific coast hybrids	*Iris*	D - see remarks			Divide late winter to early summer, and mid fall to early winter when roots are active
	Pearly everlasting	*Anaphalis margaritacea*	D - spring	B, H	Oct-Dec	
	Red columbine	*Aquilegia formosa*	N/A	B	Jun-Aug	
	Salal	*Gaultheria shallon*	D & L	A, H, G	Aug-Sep	Berries dark purple when ripe
	Sea thrift	*Armenia maritima*	D - spring	B	Jul-Sep	Seeds are ripe when tan color and papery husk is no longer green
	Shooting star	*Dodecatheon*	D	B	Aug-Sep	

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Spring gold	*Lomatium utriculatum*		B	Aug-Sep	Seed easily picked off stems
Sword fern	*Polystichum munitum*	D - spring	A	Jul-Aug	Spores must be kept moist to germinate
Trumpet honeysuckle	*Lonicera ciliosa*	SH-Jul/Aug, H-Nov	B, or D, G	Sep	
Western wild ginger	*Asarum caudatum*	D			Seed collection known to be difficult
Wood sorrel	*Oxalis oregana*	D - early spring	A	Jun-Oct	Seeds will also self-sow
Woodland strawberry	*Fragaria vesca*	Runners - see remarks		Jun-Jul	Cut newly rooted runners from parent plant and transplant early spring
Woolly sunflower	*Eriophyllum lanatum*	D	B	Aug-Oct	
Yarrow	*Achillea millefolium*	D	B	Aug-Sep	Crush seeds to remove from nutlets

VEGETATIVE propagation method

S - Softwood Cutting (taken in spring from fast-growing stems - May-Jul)   **He - Heel cutting**   **N/A - Vegetative propagation not recommended**

SH - Semi-hardwood cutting (Jul-Sep)   **L - Layering**

H - Hardwood Cutting (late fall or winter when plant is dormant)   **D - Division** - early spring or fall

SEED germination conditions (reference "Native Trees, Shrubs & Vines: A Guide to Using, Growing, and Propagating North American Woody Plants" page 268)

Code A: Seed will germinate within four weeks if sown in summer

Code B: Seed requires moist, cold stratification period in order to germinate. An outdoor seed bed is ideal. Can be used as a direct sow for fall/spring planting

Code C: Two-stage germinator. Requires at least 2 cycles of warm, cold in order to germinate

Code D: Seeds need a period of warm, moist stratification followed by cold stratification and will germinate when shifted back to warm again. Seeds fall in early summer.

Code G: Seed is inside a fruit and must be extracted prior to use. Can be scooped out or may need to be mashed and washed in a strainer.

Code H: See requires light to germinate

Code I: Seed requires scarification because of an impermeable seed coat.

Germination code *:   Seed is hydrophilic, should not be dried out and should be sown as soon as it is ripe

Definitions:

Scarification – involves breaking, scratching or softening the seed coat so water can enter and begin the germination process.

Stratification – provides an artificial chilling period for seeds that require a cold, dormant period before germinating