Pullman Plant Materials Center

United States Department of Agriculture
NRCS Natural Resources Conservation Service

Finding Vegetative Solutions to Conservation Problems

Partial List of Plant Species for Pollinator Habitat in the Inland Pacific Northwest

Select a mixture of species with varying bloom times to continuously provide pollinator forage early spring to mid fall.

	Ease of Establishment	Pure Stand Seeding Rate (PLS lb/ac, drilled) or other planting method	Planting Depth (in)	Planting Season	Minimum Precipitation (in)	Origin	Growth Type	Bloom Time	Height (ft)	Vital Attributes
Alfalfa	Easy	5–12	1/8–1/2	Spring or Fall	10	Introduced	Legume	early–mid	2–3	Very productive and easy to establish
Aster species*	Easy	2	0–1/2	Fall	10	Native and Introduced	Forb	mid–late	0.5–3	Found in all habitat types
Bitterbrush, Antelope	Moderate	2	1/2–1	Fall	9	Native	Shrub	early	2–15	Grows rapidly, excellent wildlife forage, requires stratification
Blanketflower	Easy	1	1/4–1/2	Spring	7	Native	Forb	mid–late	0.5–2	Drought tolerant, very attractive flowers, can be aggressive
Buckwheat species*	Moderate	seedlings	N/A	Spring	7	Native	Shrub	mid–late	1–2.5	Attractive landscape plant
Chokecherry**	Moderate	seedlings	N/A	Spring	12	Native	Tree	early	5–25	Grows well in all soil types except clay
Cinquefoil, Shrubby	Moderate	seedlings	N/A	Spring	18	Native	Shrub	early–mid	1–3	Attractive flowers, used for landscaping and erosion control
Cleome species*	Moderate	10	1/4	Spring or Fall	14	Native	Forb	early–late	1–3.5	Reseeding annual, long bloom time, exceptional pollinator plant
Clover species*	Easy	3–6	1/8–1/2	Spring	18	Introduced	Legume	early–mid	1–2.5	Can be grown for hay or pasture
Currant, Golden	Moderate	seedlings	N/A	Spring	8	Native	Shrub	early	6–8	Attractive plant that requires little maintenance
Elderberry	Moderate	seedlings	N/A	Spring	18	Native	Shrub	mid	3–13	Adapted to dry riparian or moist upland soils
Flax, Lewis or Blue	Easy	4	0–1/8	Spring	9	Native and Introduced	Forb	early–mid	1–2.5	Prefers full sun and well drained soils
Geranium, Sticky	Moderate	10	1/4	Fall	14	Native	Forb	early–mid	1.5–4	Attractive flowers, short-lived
Globemallow species*	Moderate	2	1/8–1/4	Fall	7	Native	Forb	mid	2–4	Drought tolerant, seed scarification required
Lupine species*	Difficult	6–12	1/4	Fall	7	Native	Forb	mid	0.5–3	Requires scarification
Milkvetch species*	Moderate	7	1/4–1/2	Spring	7	Native and Introduced	Legume	late	1–3	Long-lived, seed scarification required
Mockorange	Moderate	seedlings	N/A	Spring	14	Native	Shrub	early–mid	6–10	Fragrant, attractive flowers
Ninebark	Moderate	seedlings	N/A	Spring	18	Native	Shrub	mid	4–6	Long-lived forest shrub
Oceanspray	Moderate	seedlings	N/A	Spring	20	Native	Shrub	mid	8–12	Prefers sandy or gravelly soils
Peashrub, Siberian	Easy	seedlings	N/A	Spring	8	Introduced	Shrub	early–mid	10	Drought tolerant, attractive windbreak/border
Penstemon species*	Difficult	4	0–1/8	Fall	7	Native	Forb	early–mid	1–3	Not recommended in pure stands
Plum, American	Moderate	seedlings	N/A	Spring	16	Native	Shrub	early	10–25	Grows well in dry riparian areas
Prairieclover, Blue Mountain	Moderate	5	1/4–1/2	Fall	7	Native	Forb	mid	2–3	Prefers sandy or rocky soil
Rabbitbrush, Green or Rubber	Moderate	seedlings	N/A	Spring	7	Native	Shrub	late	1–6	Excellent for erosion control and wildlife cover
Raspberry species*	Easy	seedlings	N/A	Spring	18	Native and Introduced	Shrub	mid	3–5	Tasty food source for wildlife and humans
Rose, Wood's	Moderate	1	1/2	Fall	12	Native	Shrub	early–mid	2–6	Provides good forage and cover for wildlife
Sanfoin	Easy	34	1/4–3/4	Spring or Fall	9	Introduced	Forb	early–mid	2	Highly palatable for livestock and wildlife
Serviceberry	Moderate	seedlings	N/A	Spring	14	Native	Shrub	early	3–15	Attractive in all seasons
Snowberry	Moderate	seedlings	N/A	Spring	18	Native	Shrub	mid	1–5	Found in many habitat types
Spirea, Douglas	Moderate	seedlings	N/A	Spring	20	Native	Shrub	early	2–4	Attractive landscape plant
Sumac, Skunkbush	Moderate	seedlings	N/A	Spring	14	Native	Shrub	early	2–7	Drought tolerant, excellent wildlife habitat
Sweetclover, White or Yellow	Easy	4	1/8–1/2	Spring or Fall	10	Introduced	Forb	early–mid	2–4	Biennial, can re-seed, or be used for green manure or cover crop
Trefoil, Birdsfoot	Difficult	3	1/4–1/2	Fall	18	Introduced	Legume	mid–late	1.5–3	Short lived, can be used for pasture or hay
Yarrow	Very Easy	0.5	0–1/4	Fall	8	Native	Forb	mid–late	2	Adapted to many habitat types, not recommended in pure stands

** Select a species that is adapted to the climatic conditions of your area.*
*** Chokecherry should not be planted near cherry orchards due to potential for transmission of disease.*

8/09 128436

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Partial List of Green Manure and Cover Crops for the Pacific Northwest

Green manure and cover crops are planted to protect soil from water and wind erosion, improve soil organic matter and structure, enhance soil microbial activity, supply or scavenge nutrients, suppress nematodes and soil-borne diseases, suppress weeds, and loosen subsurface soil layers. Cover crops can be harvested, grazed, or left standing to provide pollinator and wildlife habitat. Green manure crops are cover crops that are incorporated into the soil prior to planting the primary crop. Mixtures of two or more cover crops (i.e. grasses and legumes) are often more effective than planting a single species.

	Ease of Establishment	Pure Stand Seeding Rate (lb/ac)	Seeding Season	Frost tolerance	Growth Type	Nutrient Requirement	Weed Suppression	Short-term Pasture	End Uses	Can be mixed with	Vital Attributes
Barley**	Easy	50–100	Spring or Fall	Good	Med. tall bunch	Moderate	Excellent	Yes	Hay, feed, grain	Annual legumes and grasses	Prevents erosion, scavenges excess nutrients, adds organic matter, serves as nurse crop, can be used as winter-killed cover
Clover, Berseem	Requires inoculation*	8–20	Spring	Fair	Succulent vine	Low	Excellent	Yes	Hay, silage, seed	Annual grasses	Provides nitrogen, establishes quickly, stabilizes soil, can be used as nurse crop for alfalfa or companion crop with oats, attracts pollinators and other beneficial insects
Clover, Subterranean	Requires inoculation*	10–30	Spring	Good	Low-growing vine	Low	Excellent	Yes	Forage	Other clovers, perennial grasses	Provides nitrogen, stabilizes soil, serves as orchard floor cover, self-reseeding
Buckwheat	Easy	50–90	Spring	Poor	Erect broadleaf	Low	Good	No	Grain	Sorghum hybrids	Establishes quickly, provides nectar for pollinators and other beneficial insects, loosens topsoil, rejuvenates low-fertility soils
Chickpea	Easy	80–200	Spring	Good	Succulent vine	Low	Poor	No	Edible legume, meal	Annual grasses	Provides nitrogen, good rotational crop
Lentils, Spring	Requires inoculation*	40–80	Spring	Good	Succulent vine	Low	Poor	No	Edible legume, meal	Annual grasses	Provides nitrogen, good rotational crop
Lentils, Winter	Requires inoculation*	40–80	Fall	Good	Succulent vine	Low	Poor	No	Edible legume, meal	Annual grasses	Provides nitrogen, good rotational crop
Medic, Black, Bur or Barrel	Difficult, requires inoculation*	8–26	Spring	Good	Succulent vine	Low	Good	Yes	Forage, hay	Clovers, grasses, small grains	Provides nitrogen, can be substitute for fallow, builds soil, controls erosion, re-seeding annuals or perennials
Mustard, Yellow or Brown	Easy	4–12	Spring or Summer	Good	Erect broadleaf	Moderate	Good	No	Condiment, forage, meal	Other mustards	Breaks up hard pan, fights pests
Oats**	Easy	80–140	Spring or Fall	Good	Med. tall bunch	Low	Excellent	Yes	Hay, forage, feed, grain	Annual legumes	Prevents erosion, scavenges excess nutrients, adds biomass, serves as nurse crop, can be used as winter-killed cover
Peas, Austrian Winter	Requires inoculation*	50–100	Fall	Good	Succulent vine	Low	Good	Yes	Edible legume, forage, hay	Annual grasses	Provides nitrogen, provides nectar for pollinators and other beneficial insects
Peas, Spring	Requires inoculation*	50–100	Spring	Good	Succulent vine	Low	Good	No	Edible legume, forage, hay	Annual grasses	Provides nitrogen, provides nectar for pollinators and other beneficial insects
Rapeseed, Spring	Easy	4–12	Spring	Good	Erect broadleaf	Moderate	Good	No	Industrial oil	None	Breaks up hard pan, fights pests
Rapeseed, Winter	Easy	4–12	Fall	Good	Erect broadleaf	Moderate	Good	No	Industrial oil	None	Breaks up hard pan, produces large amounts of biomass, fights pests
Rye***	Easy	60–120	Spring or Fall	Very good	Tall bunch	Low	Excellent	Yes	Hay, forage, feed	Annual legumes and grasses	Rejuvenates soil, prevents erosion, fights pests, scavenges excess nutrients, adds organic matter, serves as nurse crop
Sorghum-Sudangrass Hybrid	Easy with irrigation	35–50	Spring or Summer	Poor	Tall bunch	High	Excellent	Yes	Forage, grain	Buckwheat	Produces large amounts of biomass, rejuvenates soil, loosens subsoil, fights nematodes and diseases, is most effective when mowed once during growing season
Triticale	Easy	70–90	Spring or Fall	Very good	Med. tall bunch	Moderate	Excellent	Yes	Forage, hay, grain	Annual legumes and grasses	Rejuvenates soil, prevents erosion, fights pests, scavenges excess nutrients, adds organic matter, serves as nurse crop
Turnips	Easy	2–3	Spring or Summer	Good	Short broadleaf	Low	Good	Yes	Forage	Annual and perennial grasses	Provides excellent short term forage, can be inter-seeded into existing pasture
Sweetclover, Yellow or White	Requires inoculation*	6–20	Spring or Fall	Good	Succulent vine	Low	Poor first year, good second	Yes	Forage, hay, silage	Small grains	Biennial, summer annual or winter annual, provides nitrogen, scavenges nutrients, aerates subsoil, prevents erosion, attracts pollinators and other beneficial insects
Vetch, Hairy	Easy with irrigation, requires innoculation*	20–60	Spring or Summer	Good	Succulent vine	Low	Good	Yes	Forage	Annual stiff-stemmed grasses	Provides nitrogen, conditions topsoil
Vetch, Woolypod	Requires inoculation*	10–60	Spring or Fall	Good	Succulent vine	Low	Good	Yes	Forage, hay, seed	Other legumes, grasses	Provides nitrogen, prevents erosion, adds organic matter, attracts pollinators and other beneficial insects

** Inoculation with appropriate bacteria is required to enable the plant to produce nitrogen. Inoculation is not necessary if a legume has been grown on the field within the last three years.*
*** Planting of crop following barley or oats should be delayed by three weeks due to chemicals exuded by plants that inhibit seed germination (reason they are excellent weed suppressors).*
**** Rye is considered a weed in the Columbia Basin due to problems with contamination of wheat fields.*

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Photo by A. McGuire, WSU Extension