

TECHNICAL NOTE

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Plants for Pollinators in the Intermountain West

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The purpose of this Technical Note is to provide guidance for the design and implementation of conservation plantings to enhance habitat for pollinators including: bees, wasps, butterflies, moths and hummingbirds. Plant species included in this document are adapted to the Intermountain West; encompassing southern Idaho, eastern Oregon, northern Nevada and northern Utah.

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WHAT THIS GUIDE COVERS

This technical note provides information on plants adapted for use in pollinator plantings in the Intermountain West. The species listed should be used in areas to which they are adapted according to the precipitation and soil requirements of the species. For additional species adapted to the Inland Northwest, refer to Idaho Plant Materials Technical Note 2B. Species adapted to the Colorado Plateau can be found in Technical Note 2C.

This is not meant to be an inclusive list of all species that can be used for pollinator plantings but provides information on many plants available. Revisions and updates to this guide will be made as new species and varieties become available on the market, and as more knowledge is developed to better establish and manage pollinator plantings.

INTRODUCTION

Many of the world's crop species benefit from insect pollination, which is mostly provided by bees. In North America, bees pollinate billions of dollars' worth of crops annually. Over 30% of our diet comes from crops whose production benefits from pollinating bees.



Green sweat bee on hoary tansyaster. Derek Tilley, NRCS Aberdeen.

Pollinators include bees, moths, flies, beetles, wasps, desert bats, hummingbirds, and butterflies. Collectively, pollinators are critical to the function of terrestrial ecosystems because they enhance plant reproduction. Despite their importance, pollinators are threatened world-wide by habitat loss, habitat fragmentation, improper pesticide use, disease and parasites. This has serious economic implications for humans and for maintaining ecosystem diversity and stability.

The Natural Resources Conservation Service can assist landowners with habitat enhancement for pollinators by encouraging the establishment of an array of attractive plants that flower throughout the growing season. Plant species, both herbaceous and woody, that provide sources of nectar, pollen and cover for adult and immature pollinators, will also provide habitat for a large array of other wildlife species.

Well-chosen forbs, legumes, shrubs and trees planted along farm and ranch borders and within fields attract wildlife, including pollinators and other beneficial insects. The correct mix of plant species that bloom throughout the growing season will provide a continuous source of nectar and pollen needed by pollinators and other beneficial insects. An ideal plant mix would be one that consists of nine or more species: three that bloom early in the season,

three in mid-season and three in late season. In precipitation zones below 16 inches mean annual rainfall in the intermountain west, 9 adapted and commercially available species may not always be available. When seed of pollinator-friendly species are limited, at a minimum, try to have at least one blooming species available during the early, mid-, and late season.

Annual flowering plants can be useful tools in pollinator plantings because they produce tremendous amounts of flowers. However, annual plants only last one growing season and can be very competitive with perennial species that are slower establishing. Annual plants may also be “weedy”. Consequently, annuals should only be considered for small, odd areas, and should not be mixed with perennials. A few annual plants that readily attract pollinators include buckwheat, canola, safflower, berseem clover, camelina, lentils and dry peas. Annuals can also be used as interim crops prior to planting perennials, to suppress weed growth and can help to reduce the weed seed bank in the soil.

HABITAT CONSIDERATIONS

Habitat needs for pollinators are the same for other animal species: food, shelter, nesting sites and water. Shelter and nesting sites may also be a limiting factor in your project area and should be considered during planning.

Nectar and pollen from flowering plants provide food and water for pollinators. Additional needs for water, if necessary, can be met in riparian areas and wetlands, and with birdbaths, fountains, irrigation water, and moisture from plants. Moist salt licks help provide mineral requirements for butterflies and sweat bees. Shelter and nesting habitat needs differ by pollinator species and include bare or partially vegetated, well-drained soil; soil banks and cliffs, dead standing or fallen trees with beetle emergence holes, live trees, clumps of grass, live brush, tall grass, piles of leaves and sticks, wood piles, tree bark and rock crevices.

Most native bees are solitary, nesting underground, or less commonly, above ground using beetle holes in dead-wood or dead pithy stems (e.g. elderberry, sumac or rose). Bumblebees are social with colonies of dozens to hundreds of workers. They typically nest in tree hollows or below-ground in old rodent burrows or in grass hummocks.

In pollinator plantings, use of pesticides should be avoided, especially insecticides. (Some applications, such as carbaryl bran baits for grasshoppers, are safe for bees.) If pesticides must be used, choose active ingredients and formulations that are less toxic to bees. Harm to beneficial insects can be reduced by spraying after dark when pollinators are nesting and not actively foraging. Aerial application should not be used.

TABLE 1: HABITAT REQUIREMENTS FOR NATIVE POLLINATORS

Pollinator	Food	Shelter
Solitary bees	Nectar and pollen	Nest in bare and partially vegetated soils where water won't pond; or in beetle holes in deadwood, within pithy stems or twigs, or construct surface nests of mud or leaf pulp
Bumblebees	Nectar and pollen	Nest cavities underground, often in old rodent burrows, or in hollow trees or within clumps of grass
Butterflies and moths	Nectar, nutrients, minerals and salts from rotting fruit, tree sap, clay deposits and mud puddles	Leaves and stems of larval host plants; also small woodpiles used by species that winter as adults
Hummingbirds	Nectar, insects, caterpillars, tree sap and willow catkins	Trees, shrubs and vines

ECOLOGICAL BENEFITS OF POLLINATOR PLANTINGS

Pollinator-friendly plantings have the potential to provide multiple ecological benefits. They can:

Reduce pesticide use. Sequentially flowering plants provide forage and cover for predatory and parasitic insects that help control pest species. Established plant communities will resist weed invasion.

Stabilize soil and provide ground cover. Root systems and above ground vegetation hold soil in place, improve soil moisture infiltration, reduce the risk of erosion and serve as buffers which protect against surface water pollution. Legumes contribute nitrogen to the soil.

Serve as windbreaks and shelterbelts. Shrubs and trees protect farmsteads, feeding areas, crops and livestock from wind and dust damage. They also provide food, nesting and cover habitat for a great variety of wildlife, pollinators and other beneficial insects.

ESTABLISHING POLLINATOR PLANTINGS: GENERAL CONSIDERATIONS

- **Start right.** Most grasses and forbs, including legumes, can be started by direct seeding or in some cases by transplanting nursery seedlings. Flowering shrubs and trees are often best established by transplanting nursery seedlings.
- **Determine soil drainage and other soil limitation factors.** Most species will not do well in heavy, poorly drained or saline to sodic soils; select species that can perform well in the soils of the site.
- **Match plants with similar site preferences.** Choose plants that have similar soil and water requirements and that are adapted to the local climate. Choosing a small number of species well adapted to the site conditions saves money compared to using commercial mixes of 25 to 40 species covering a broader range of adaptation.
- **Water wisely.** Shrub and tree plantings in the drier portions of the Intermountain West will require irrigation. For the best establishment biweekly watering the first 2 to 3 years is recommended. Once the plants are well established, watering less frequently, for a longer duration will drive the moisture deeper into the soil to ensure the plants develop their roots more fully, enhancing long-term survival.
- **Control weeds.** Most plants do not compete well with weeds during establishment. Start with a weed free area or create one using appropriate herbicides or tillage. Keep the area relatively weed free for the first 2 to 3 years of establishment. Mowing weeds during plant establishment will help suppress weed competition and encourage desired plants. However, some annual and biennial weeds are good nectar sources for pollinators and will die out naturally as the planting becomes established. **Always control noxious weeds.**
- **Protect planting from wildlife and livestock.** Fencing to protect the planting may be required in areas with abundant deer, antelope or elk, or with livestock such as sheep, cattle or horses. Monitor and control rodents and rabbits. This will ensure flowers are available to provide nectar, pollen and succulent foliage for pollinators.
- **Choose the right plant species.** Plantings should include a mixture of species that provide continual blooms throughout much of the growing season. Depending on the precipitation zone, at least one to three species are recommended for each bloom period: early, mid, and late. One or two grass species may also be included in the mix if ground cover is needed. Grasses should not comprise more than 25% of the mixture. To select plant species for your precipitation zone, use the Approved Pollinator Plant Lists (Tables 2 - 6).

- **Maintain plantings.** Treatments such as haying or mowing may be required outside of the primary flowering period(s) to remove plant litter or weeds. Spot-spray herbicide treatments may also be needed to control invasive or noxious weeds.

PLANT SELECTION AND ESTABLISHMENT GUIDELINES FOR POLLINATOR HABITAT PLANTINGS

PLANT SELECTION

- Select plants from the Approved Plant List (found in appendix tables 2-6) that corresponds to your precipitation range.
- A mixture of 9 or more species including those that bloom in spring, summer and late summer (fall) are recommended. NRCS has a variance under CRP to only plant 5 species in areas under 16 in precipitation.
- Select plants that will attract the target pollinator type(s).
- Species not included on these lists may be substituted only if approved by the State Plant Materials Specialist.

RECOMMENDED ESTABLISHMENT GUIDELINES

SITE PREPARATION

- Some herbicides can have residual carryover and can negatively affect seedling establishment. Know the cropping history and past herbicide use of the site to be planted.
- Eliminate existing vegetation prior to seeding with tillage, herbicide, or a combination of techniques.
- Fallow the area to be seeded for at least one growing season. Delay seeding until after a flush of fall germinating weeds. These weed seedlings need to be controlled prior to any seeding.
- Create a firm, weed-free seed bed. Rule of thumb: a person's footprint will not be deeper than ½ inch into the seedbed.

SEEDING

- Seed forbs and grasses at the same time during a late fall dormant planting (November or December).
- One of two seeding methods is recommended:
 - Drill seed into a firm weed-free seedbed. The best drill seedings have been accomplished by setting the drill to place the seed no deeper than ¼ inch. Drag chains or press wheels help to cover the seed with a thin soil layer.
 - Broadcast seed into a weed-free seedbed. The best broadcast seedings have been accomplished by pulling the tubes on the drill and running the packer wheels with enough down pressure to create good furrows and seed to soil contact.
- Rice hulls, cracked grain or granular clay may be used to assist seed flow.
- Omit grasses from the planting mix in areas heavily infested with cheatgrass or medusahead to allow for the option of using selective grass herbicides. This should only be done if the ground is not highly erodible.

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- Alternating rows or swaths of forbs and grasses can reduce interspecies competition and favor better forb establishment.

SHRUB ESTABLISHMENT

- Plant shrub seedlings in early spring (late March through April) directly into soil where vegetation has been killed during the previous growing season with 1-2 applications of herbicides or by mechanical site preparation. Plant shrubs in areas that will not be mowed, or in rows to allow for mowing between the rows.
- Suppress weed growth around the shrubs with use of weed barrier fabric, cardboard sheets, or herbicides.
- Install protective tubes or other barriers to reduce damage from rodents, rabbits and deer.

MANAGEMENT

- Manage weeds during the first year by mowing to prevent spread of weed seed.
- Manage weeds during following years by spot spraying, using pre-emergent herbicides or herbicides applied during phases of perennial dormancy.
- Do not apply fertilizer during the first year of establishment.

Establishment techniques different than those listed above may be used, but only with extreme caution. The above-mentioned guidelines have proven to have the highest rates of success.

THERE ARE MANY CHALLENGES ASSOCIATED WITH ESTABLISHING FORB PLOTS. Many forb seedlings fail due to poor seed germination/emergence, weed competition, and neglect. Establishing, monitoring and maintaining forb plantings may be expensive and labor-intensive. The area may have to be re-seeded if an adequate stand is not achieved the first time.

An alternative establishment method to seeding is transplanting forb seedlings. Transplanting seedlings may initially be more expensive than seeding but may be less expensive in the long run, especially if a seeded stand fails, and has to be reseeded. The advantages of transplanting forb seedlings are: there are no seed dormancy/germination concerns, they already have a developed root system, and they can better compete with weeds. To establish forb plugs, use the same guidelines listed above for shrub establishment.

Species Descriptions

Additional information for many of these species can be found in NRCS Plant Guides and Fact Sheets, available by download from the PLANTS Database (<http://plants.usda.gov>). Seeding rates listed are full stand (not recommended) pure live seeding rates, derived from a target rate of 20-30 PLS/ft² for species with <500,000 PLS/lb, and 40-50 PLS/ft² for species with >500,000 PLS/lb. **Rates should be adjusted to reflect the percentage in the mixture when used as a part of a seed mixture.** Seed rates should be doubled when using broadcast seeding methods.

Forbs and Legumes



Western Yarrow. Derek Tilley, NRCS Idaho.

Achillea millefolium, western yarrow

Origin: native forb

Mature Height: 0.5-1.5 ft

Growth Rate: rapid

Growth Habit: upright to prostrate

Wildlife Value: good forage

Attracts: butterflies, some bees

Flowers: white to yellow

Bloom: June-August

Seeding Rate: 0.5 lb/ac

Recommended precipitation range: 8-60 in



Nettleleaf giant hyssop. Derek Tilley, NRCS Idaho.

Agastache urticifolia, nettleleaf giant hyssop

Origin: native forb

Mature Height: 2-3 ft

Growth Rate: rapid

Growth Habit: upright

Wildlife Value: good food

Attracts: bees, butterflies, monarch

Flowers: lavender

Bloom: June-July

Seeding Rate: 1 lb/ac

Recommended precipitation range: 18-36 in

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Blue columbine. Photo ©Al Schneider, www.swcoloradowildflowers.com, used with permission.

Aquilegia caerulea, Colorado columbine
 Origin: native forb
 Mature Height: 1-2 ft
 Growth Rate: moderate to rapid
 Growth Habit: upright
 Wildlife Value: excellent food
 Attracts: hummingbirds
 Flowers: blue-white to yellow
 Bloom: June-July
 Seeding Rate: 3 lb/ac
 Recommended precipitation range: 20-40 in



Butterfly milkweed, J.S. Peterson @ PLANTS Database

Asclepias tuberosa, butterfly milkweed
 Origin: native forb
 Mature Height: 1-3 ft
 Growth Rate: rapid
 Growth Habit: upright
 Wildlife Value: **can be toxic to livestock**
 Attracts: butterflies, monarchs
 Flowers: orange
 Bloom: July-August
 Seeding Rate: 15 lb/ac
 Recommended precipitation range: 28-45 in



Showy milkweed. Derek Tilley, NRCS Idaho

Asclepias speciosa, showy milkweed
 Origin: native forb
 Mature Height: 2-3 ft
 Growth Rate: moderate
 Growth Habit: upright
 Wildlife Value: **can be toxic to livestock**
 Attracts: butterflies; larval host plant for the monarch (*Danaus plexippus*,) and the queen butterflies (*Danaus gilippus thersippus*).
 Flowers: pink
 Bloom: May-July
 Seeding Rate: 8 lb/ac
 Recommended precipitation range: 16-30 in



Cicer milkvetch. Dan Ogle, NRCS Idaho

Astragalus cicer, cicer milkvetch
 Origin: introduced forb
 Mature Height: 1-3 ft
 Growth Rate: moderate to rapid
 Growth Habit: upright (lodges at maturity)
 Wildlife Value: excellent forage
 Attracts: bees; host plant for *Colias* butterflies.
 Flowers: cream
 Bloom: May-July
 Seeding Rate: 8 lb/ac
 Recommended precipitation range: 16-30 in

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Basalt milkvetch. Gary A. Monroe @ PLANTS Database

Astragalus filipes, basalt milkvetch

Origin: native legume

Mature height: 1-3 ft

Growth Rate:

Growth Habit: upright

Wildlife Value: excellent forage

Attracts: bees

Flowers: white to cream

Bloom: May-July

Seeding Rate: 9 lb/ac

Recommended precipitation range: 8-12 in

Balsamorhiza hookeri, Hooker's balsamroot

Origin: native forb

Mature Height: 1-2 ft

Growth Rate: slow

Growth Habit: upright

Wildlife Value: excellent

Attracts: bees

Flowers: yellow

Bloom: May-June

Seeding Rate: 18 lb/ac

Recommended precipitation range: 9-20 in

Balsamorhiza macrophylla, cutleaf balsamroot

Origin: native forb

Mature Height: 1-2 ft

Growth Rate: slow

Growth Habit: upright

Wildlife Value: excellent

Attracts: bees

Flowers: yellow

Bloom: May-June

Seeding Rate: 18 lb/ac

Recommended precipitation range: 14-40 in



Arrowleaf balsamroot. Derek Tilley, NRCS Idaho.

Balsamorhiza sagittata, arrowleaf balsamroot

Origin: native forb

Mature Height: 1-2 ft

Growth Rate: slow

Growth Habit: upright

Wildlife Value: excellent

Attracts: bees, butterflies

Flowers: yellow

Bloom: May-June

Seeding Rate: 18 lb/ac

Recommended precipitation range: 14-18 in



Douglas' dustymaiden. Derek Tilley, NRCS Idaho

Chaenactis douglasii, Douglas' dustymaiden

Origin: native forb

Mature Height: 1-3 ft

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Growth Rate: rapid
Growth Habit: upright
Wildlife Value: excellent food
Attracts: bees
Flowers: white to pinkish
Bloom: June-July
Seeding Rate: 3 lb/ac
Recommended precipitation range: 9-15 in



Yellow beflower. Idaho Dept. of Transportation

Cleome lutea, Yellow beflower

Origin: native forb
Mature Height: 2-3 ft
Growth Rate: rapid
Growth Habit: upright
Wildlife Value: limited
Attracts: bees, butterflies, monarchs
Flowers: yellow
Bloom: May-June
Seeding Rate: 11 lb/ac
Recommended precipitation range: 8-12 in

Cleome serrulata, Rocky Mountain bee plant

Origin: native forb
Mature Height: 2-3 ft
Growth Rate: rapid
Growth Habit: upright
Wildlife Value: pollinator forage
Attracts: bees, wasps, butterflies including monarchs;
larval host plant of *Pontia* and *Pieris* butterflies.
Flowers: purple
Bloom: May-June
Seeding Rate: 17 lb/ac
Recommended precipitation range: 13-55 in



Crownvetch. Purdue University

Coronilla varia, crownvetch

Origin: introduced legume
Mature Height: 1-2 ft
Growth Rate: rapid
Growth Habit: spreading to upright
Wildlife Value: good forage
Attracts: bees
Flowers: white-pink
Bloom: May-June
Seeding Rate: 8 lb/ac
Recommended precipitation range: 18-36 in



Searl's prairie clover. Gary A. Monroe @ PLANTS Database

Dalea spp., prairie clover

Origin: native forb
Mature Height: 1-2.5 ft
Growth Rate: moderate
Growth Habit: upright

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Wildlife Value: excellent forage
Attracts: bees
Flowers: purple
Bloom: June-August
Seeding Rate: 7 lb/ac
Recommended precipitation range: 10-18 in



Purple coneflower. Jeff McMillian@ PLANTS Database

Echinacea purpurea, purple coneflower
Origin: native forb
Mature Height: 1.5-3 ft
Growth Rate: rapid
Growth Habit: upright
Wildlife Value: excellent forage
Attracts: butterflies, bees
Flowers: white to purple
Bloom: July-September
Seeding Rate: 9 lb/ac
Recommended precipitation range: 14-40 in



Blanketflower. Casey Burns, NRCS Utah.

Gaillardia aristata, blanketflower
Origin: native forb
Mature Height: 1-1.5 ft
Growth Rate: moderate
Growth Habit: upright
Wildlife Value: excellent food and cover
Attracts: bees
Flowers: orange, yellow
Bloom: July-September

Seeding Rate: 5 lb/ac
Recommended precipitation range: 16-30 in



Sticky geranium. S. Hagwood @ PLANTS Database

Geranium viscosissimum, sticky geranium
Origin: native forb
Mature Height: 2-3 ft
Growth Rate: rapid
Growth Habit: upright
Wildlife Value:
Attracts: bees, butterflies
Flowers: purple
Bloom: May-June
Seeding Rate: 20 lb/ac
Recommended precipitation range: 16-20 in



Northern or Utah sweetvetch. USDA-ARS

Hedysarum boreale, northern or Utah sweetvetch
Origin: native legume
Mature Height: 1-2 ft
Growth Rate: upright to spreading
Growth Habit: spreading to upright
Wildlife Value: good forage
Attracts: bees, butterflies
Flowers: red to purple
Bloom: May-June
Seeding Rate: 24 lb/ac

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Recommended precipitation range: 12-18 in

Helianthella uniflora, oneflower sunflower

Origin: native forb

Mature Height: 1-3 ft

Growth Rate: rapid

Growth Habit: upright

Wildlife Value: good forage

Attracts: bees, ants

Flowers: yellow

Bloom: June-July

Seeding Rate: 26 lb/ac

Recommended precipitation range: 12-35 in



Annual sunflower. A. Schneider @ PLANTS Database

Helianthus annuus, annual sunflower

Origin: native forb

Mature Height: 2-5 ft

Growth Rate: rapid

Growth Habit: upright

Wildlife Value: good winter food

Attracts: butterflies, bees and ants

Flowers: yellow to orange

Bloom: July-September

Seeding Rate: 24 lb/ac

Recommended precipitation range: 8-15 in



Showy goldeneye. Photo ©Al Schneider, www.swcoloradowildflowers.com, used with permission.

Heliomeris multiflora, showy goldeneye

Origin: native forb

Mature Height: 1-3 ft

Growth Rate: rapid

Growth Habit: upright

Wildlife Value: cover

Attracts: bees

Flowers: yellow

Bloom: June-August

Seeding Rate: 2 lb/ac

Recommended precipitation range: 16-25 in



Scarlet gilia. Derek Tilley, NRCS Idaho

Ipomopsis aggregata, scarlet gilia

Origin: native forb

Mature Height: 2-3 ft

Growth Rate: biennial

Growth Habit: upright

Wildlife Value: forage

Attracts: bees, hummingbirds

Flowers: red

Bloom: April-July

Seeding Rate: 6 lb/ac

Recommended precipitation range: 10-25 in

Plants for Pollinators in the Intermountain West



Fewflower pea. Photo ©Al Schneider, www.swcoloradowildflowers.com, used with permission.

Lathyrus pauciflorus, fewflower pea

Origin: native forb

Mature Height: 1-3 ft

Growth Rate: rapid

Growth Habit: climbing vine

Wildlife Value: medium palatability

Attracts: bees; larval host for butterflies

Flowers: pink-purple

Bloom: April-May

Seeding Rate: 87 lb/ac

Recommended precipitation range: 5-14 in



Lewis flax. Derek Tilley, NRCS Idaho

Linum lewisii, Lewis flax

Origin: native forb

Mature height: 1-2 ft

Growth Rate: moderate to rapid

Growth Habit: upright

Wildlife value: excellent food

Attracts: bees

Flowers: light blue

Bloom: May-July

Seeding Rate: 4 lb/ac

Recommended precipitation range: 10-20 in



Blue flax. Derek Tilley, NRCS Idaho

Linum perenne, blue flax

Origin: introduced forb

Mature height: 1-2 ft

Growth Rate: moderate to rapid

Growth Habit: upright

Wildlife value: excellent food

Attracts: bees

Flowers: light blue

Bloom: May-July

Seeding Rate: 4 lb/ac

Recommended precipitation range: 10-20 in

Lomatium dissectum, fernleaf biscuitroot

Origin: native forb

Mature Height: 0.5-2 ft

Growth Rate: slow

Growth Habit: erect

Wildlife Value:

Attracts: bees

Flowers: yellow green

Bloom: June-July

Seeding Rate: 24 lb/ac

Recommended precipitation range: 14-30 in

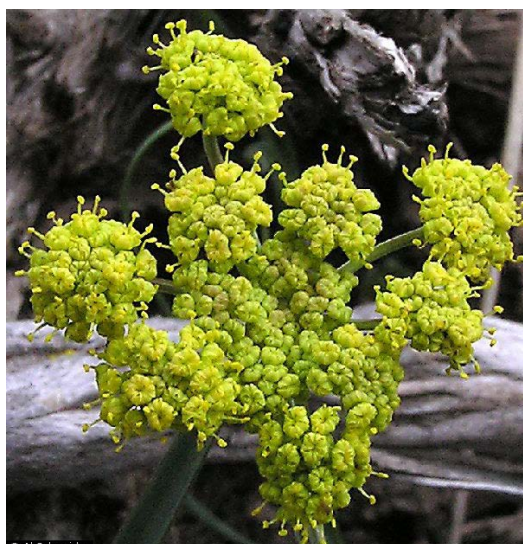
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Gray's biscuitroot. A. Schneider @ PLANTS Database

Lomatium grayi, Gray's biscuitroot

Origin: native forb
Mature Height: 0.5-1 ft
Growth Rate: slow
Growth Habit: erect
Wildlife Value:
Attracts: bees
Flowers: white
Bloom: April-June
Seeding Rate: 24 lb/ac
Recommended precipitation range: 12-20 in



Nineleaf biscuitroot. A. Schneider @ PLANTS Database

Lomatium triternatum, nineleaf biscuitroot

Origin: native forb
Mature Height: 2-3 ft
Growth Rate: slow
Growth Habit: erect
Wildlife Value:
Attracts: bees
Flowers: yellow green

Bloom: May-June
Seeding Rate: 24 lb/ac
Recommended precipitation range: 12-20 in



Birdsfoot trefoil. R. Mohlenbrock @ PLANTS Database

Lotus corniculatus, birdsfoot trefoil

Origin: introduced legume
Mature Height: 1.5-3 ft
Growth Rate: rapid
Growth Habit: upright
Wildlife Value: good winter food
Attracts: bees
Flowers: yellow
Bloom: June-August
Seeding Rate: 3 lb/ac
Recommended precipitation range: 20-45 in



Hoary tansyaster. Derek Tilley, NRCS Idaho

Machaeranthera canescens, hoary tansyaster

Origin: native forb
Mature Height: 2-3 ft
Growth Rate: rapid
Growth Habit: erect

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Wildlife Value: forage
Attracts: bees, butterflies
Flowers: blue to purple
Bloom: August-October
Seeding Rate: 2 lb/ac
Recommended precipitation range: 8-15 in



Alfalfa. Derek Tilley, NRCS Idaho.

Medicago sativa, alfalfa
Origin: introduced legume
Mature Height: 2-3 ft
Growth Rate: fast
Growth Habit: upright
Wildlife Value: excellent forage
Attracts: bees
Flowers: purple
Bloom: May-July (delay by cutting)
Seeding Rate: 5 lb/ac
Recommended precipitation range: 12-65 in



Yellow blossom alfalfa. Derek Tilley, NRCS Idaho.

Medicago sativa ssp. falcata, yellow blossom alfalfa

Origin: introduced legume
Mature Height: 2-3 ft
Growth Rate: fast
Growth Habit: upright, spreading
Wildlife Value: excellent forage
Attracts: bees
Flowers: yellow
Bloom: May – July (delay by cutting)
Seeding Rate: 5 lb/ac
Recommended precipitation range: 10-25 in



Yellow sweetclover. J.S. Peterson @ PLANTS Database

Melilotus alba* and *M. officinalis, white and yellow sweetclover

Origin: introduced legume
Mature Height: 1-3 ft
Growth Rate: rapid
Growth Habit: upright
Wildlife Value: fair forage
Attracts: many bees
Flowers: white or yellow
Bloom: June-July
Seeding Rate: 4 lb/ac
Recommended precipitation range: 9-18 in

Mentzelia laevicaulis, smoothstem blazingstar

Origin: native forb
Mature Height: 1-3 ft
Growth Rate: rapid
Growth Habit: upright
Wildlife Value: cover for small animals, poor forage
Attracts: bees, butterflies, moths
Flowers: yellow
Bloom: June-August
Seeding Rate: 4 lb/ac
Recommended precipitation range: 7-15 in

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Sainfoin. Derek Tilley. NRCS Idaho.

Onobrychis viciifolia, sainfoin

Origin: introduced legume
Mature Height: 2-5 ft
Growth rate: rapid
Growth Habit: upright
Wildlife Value: excellent forage
Attracts: larger bees
Flowers: pink
Bloom: May-July (delay by cutting)
Seeding Rate: 34 lb/ac
Recommended precipitation range: 14-45 in



Firecracker penstemon. Derek Tilley, NRCS Idaho

Penstemon eatonii, firecracker penstemon

Origin: native forb
Mature Height: 1-2.5 ft
Growth Rate: rapid
Growth Habit: upright
Wildlife Value: excellent forage
Attracts: bees, wasps, hummingbirds; larval host
plant of *Euphydryas anicia hermosa* butterfly
Flowers: red
Bloom: April-June
Seeding Rate: 3 lb/ac
Recommended precipitation range: 10-18 in



Palmer's penstemon Stan Young, Utah Crop Improvement Association. Used with permission.

Penstemon palmeri, Palmer's penstemon

Origin: native forb
Mature Height: 2-3 ft
Growth Rate: rapid
Growth Habit: erect
Wildlife Value: fair forage
Attracts: larger bees
Flowers: pink
Bloom: May-July
Seeding Rate: 4 lb/ac
Recommended precipitation range: 6-12 in

Plants for Pollinators in the Intermountain West



Royal penstemon. Derek Tilley, NRCS Idaho

Penstemon speciosus, royal penstemon

Origin: native forb
Mature Height: 2-3 ft
Growth Rate: rapid
Growth Habit: erect
Wildlife Value: fair forage
Attracts: bees, butterflies
Flowers: light blue
Bloom: July-August
Seeding Rate: 3 lb/ac
Recommended precipitation range: 12-18 in



Rocky Mountain penstemon. A. Schneider @ PLANTS Database

Penstemon strictus, Rocky Mountain penstemon

Origin: native forb
Mature Height: 1-3 ft
Growth Rate: rapid
Growth Habit:
Wildlife Value: fair forage
Attracts: bees

Flowers: purple
Bloom: May-July
Seeding Rate: 4 lb/ac
Recommended precipitation range: 14-26 in



Venus penstemon. Derek Tilley, NRCS Idaho

Penstemon venustus, Venus penstemon

Origin: native forb
Mature Height: 2-3 ft
Growth Rate: rapid
Growth Habit: erect
Wildlife Value:
Attracts: bees
Flowers: blue-purple
Bloom: July-August
Seeding Rate: 2 lb/ac
Recommended precipitation range: 16-25 in



Silverleaf phacelia. Derek Tilley, NRCS Idaho.

Plants for Pollinators in the Intermountain West

Phacelia hastata, silverleaf phacelia

Origin: native forb

Mature Height: 1-2 ft

Growth Rate:

Growth Habit: upright

Wildlife Value:

Attracts: bees

Flowers: blue-purple

Bloom: June-August

Seeding Rate: 2 lb/ac

Recommended precipitation range: 10-18 in



Prairie coneflower. Derek Tilley, NRCS Idaho.

Ratbida columnifera, prairie coneflower

Origin: native forb

Mature Height: 1-1.5 ft

Growth Rate: rapid

Growth Habit: upright

Wildlife Value: good forage

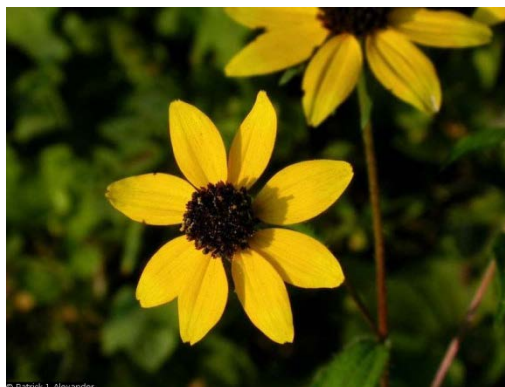
Attracts: bees

Flowers: yellow/orange

Bloom: June-August

Seeding Rate: 3 lb/ac

Recommended precipitation range: 16-40 in



Blackeyed Susan. P. Alexander @ PLANTS Database

Rudbeckia hirta, blackeyed Susan

Origin: native forb

Mature Height: 2-3 ft

Growth Rate: rapid

Growth Habit: upright

Wildlife Value: seed is food for birds

Attracts: bees, butterflies

Flowers: yellow

Bloom: June-July

Seeding Rate: 1 lb/ac

Recommended precipitation range: 28-65 in



Small burnet. Derek Tilley, NRCS Idaho.

Sanguisorba minor, small burnet

Origin: introduced forb

Mature Height: 1-2.5 ft

Growth Rate: rapid

Growth Habit: upright

Wildlife Value: excellent forage

Attracts: bees

Flowers: green-red

Bloom: June-August

Seeding Rate: 26 lb/ac

Recommended precipitation range: 15-25 in



Globemallow. Vince Tepedino, ARS Bee Research Lab.

Plants for Pollinators in the Intermountain West

***Sphaeralcea* spp.**, globemallow

Origin: native forb

Mature Height: 1-3 ft

Growth Rate: rapid

Growth Habit: upright

Wildlife Value: excellent forage

Attracts: bees

Flowers: orange to red

Bloom: April-June

Seeding Rate: 2 lb/ac

Recommended precipitation range: 7-15 in



Aster. G.A. Cooper @ PLANTS Database

***Symphyotrichum* spp.**, Aster

Origin: native forb

Mature Height: 0.5-3 ft

Growth Rate: moderate

Growth Habit: upright

Wildlife Value: excellent food and cover

Attracts: bees, butterflies Larval host plant for field
crescent (*Phyciodes pulchellus camilla*) and northern
crescent (*Phyciodes cocyta*) butterflies

Flowers: creamy white to purple

Bloom: June-September

Seeding Rate: 1 lb/ac

Recommended precipitation range: 14-60 in



Red clover. Jeff McMillian @ PLANTS Database

***Trifolium* spp.**, clover

Origin: introduced legume

Mature Height: 0.5-1 ft

Growth Rate: rapid

Growth Habit: spreading

Wildlife Value: excellent forage

Attracts: bees, butterflies (monarchs prefer red
clover)

Flowers: white, red, pink

Bloom: May-July (delay by cutting)

Seeding Rate: 4 lb/ac

Recommended precipitation range: 20-60 in

Plants for Pollinators in the Intermountain West



American vetch. Photo ©Al Schneider, www.swcoloradowildflowers.com, used with permission.

Vicia americana, American vetch

Origin: native legume
Mature Height: 0.5-1 ft
Growth Rate: rapid
Growth Habit: spreading
Wildlife Value: excellent forage
Attracts: bees
Flowers: purple
Bloom: May-June
Seeding Rate: 33 lb/ac
Recommended precipitation range: 9-50 in

Shrubs, Half-shrubs and Trees



Serviceberry. Derek Tilley, NRCS Idaho.

Amelanchier alnifolia, serviceberry

Origin: native shrub
Mature Height: 6-15 ft
Growth Rate: slow

Growth Habit: upright
Wildlife Value: good cover and food
Attracts: butterflies, bees
Flowers: white
Bloom: May-June
In-row Spacing: 5-10 ft
Recommended precipitation range: 14-30 in



Basin big sagebrush. Derek Tilley, NRCS Idaho

Artemisia tridentata* ssp. *tridentata, basin big sagebrush

Origin: native shrub
Mature Height: 3-8 ft
Growth Rate: slow
Growth Habit: upright shrub
Wildlife Value: cover and food
Attracts: provides habitat and nesting structure
Flowers: yellow
Bloom: September-October
Seeding Rate: 0.5 lb/ac
In-row Spacing: 3-6 ft
Recommended precipitation range: 9-15 in

Artemisia tridentata* ssp. *vaseyana, mountain big sagebrush

Origin: native shrub
Mature Height: 2-4 ft
Growth Rate: slow
Growth Habit: upright shrub
Wildlife Value: cover and food
Attracts: provides habitat and nesting structure
Flowers: yellow
Bloom: September-October
Seeding Rate: 0.5 lb/ac

Plants for Pollinators in the Intermountain West

In-row Spacing: 3-6 ft
Recommended precipitation range: 16-25 in



Wyoming big sagebrush. Derek Tilley, NRCS Idaho.

Artemisia tridentata* ssp. *wyomingensis, Wyoming big sagebrush
Origin: native shrub
Mature Height: 2-3 ft
Growth Rate: slow
Growth Habit: upright shrub
Wildlife Value: cover and food
Attracts: provides habitat and nesting structure
Flowers: yellow
Bloom: September-October
Seeding Rate: 0.5 lb/ac
In-row Spacing: 3-6 ft
Recommended precipitation range: 8-13 in



Fourwing saltbush. Derek Tilley, NRCS Idaho.

Atriplex canescens, fourwing saltbush
Origin: native shrub
Mature Height: 1-6 ft
Growth Rate: slow
Growth Habit: upright shrub
Wildlife Value: cover and browse
Attracts: provides habitat and nesting structure
Flowers: green/brown
Bloom: August-September
Seeding Rate: 2 lb/ac mixture rate

In-row Spacing: 3-6 ft
Recommended precipitation range: 8-16 in



Siberian peashrub. R.A. Howard @ PLANTS Database

***Caragana* spp.** Siberian peashrub
Origin: introduced shrub
Mature Height: 6-20 ft
Growth Rate: rapid
Growth Habit: erect oval shrub
Wildlife Value: nesting
Attracts: large bees (especially bumblebees)
Flowers: small showy yellow
Bloom: April-June
In-row Spacing: 5-10 ft
Recommended precipitation range: 12-50 in



Clematis. Tim Dring, NRCS Washington

Clematis ligusticifolia, clematis
Origin: native shrub or vine
Mature Height: 1 ft
Growth Rate: moderate
Growth Habit: spreading and climbing vine
Wildlife Value: cover
Attracts: moths, bees
Flowers: white
Bloom: May-July
In-row Spacing: 2-6 ft
Recommended precipitation range: 10-20 in

Plants for Pollinators in the Intermountain West



Cotoneaster. E.E. Herman @ PLANTS Database

Cotoneaster integerrimus, cotoneaster

Origin: introduced shrub

Mature Height: 4-6 ft

Growth Rate: moderate

Growth Habit: multi-branched erect shrub

Wildlife Value: fruit, cover

Attracts: bees

Flowers: white

Bloom: May – June

In-row Spacing: 4 – 6 ft

Recommended precipitation range: 18-30 in



Black hawthorn. Susan McDougall @ PLANTS Database

Crataegus douglasii, black hawthorn

Origin: native shrub

Mature Height: 12-15 ft

Growth Rate: slow

Growth Habit: upright

Wildlife Value: food and cover

Attracts: moths, bees, butterflies

Flowers: white

Blooms: May-June

In-row Spacing: 5-10 ft

Recommended precipitation range: 16-60in



Shrubby cinquefoil. Photo ©Al Schneider, www.swcoloradowildflowers.com, used with permission.

Dasiphora fruticosa, shrubby cinquefoil

Origin: native shrub

Mature Height: 2-4 ft

Growth Rate: slow

Growth Habit: upright

Wildlife Value: food and cover

Attracts: moths, bees, butterflies

Flowers: yellow

Blooms: May-June

In-row Spacing: 4-6 ft

Recommended precipitation range: 18-25 in



Rubber rabbitbrush. USDI-BLM

Ericameria and Chrysothamnus spp., rabbitbrush

Origin: native shrub

Mature Height: 2-6 ft

Growth Rate: moderate

Growth Habit: open spreading

Wildlife Value: loafing, food and browse

Attracts: butterflies, small bees

Flowers: yellow

Bloom: August-October

Seeding Rate: 0.5 lb/ac

In-row Spacing: 3-6 ft

Recommended precipitation range: 7-16 in

Plants for Pollinators in the Intermountain West



Whorled buckwheat. Derek Tilley, NRCS Idaho

Eriogonum heracleoides, whorled buckwheat

Origin: native sub-shrub
Mature Height: 1-3 ft
Growth Rate: moderate
Growth Habit: spreading, open sub-shrub
Wildlife Value: cover, fall forage
Attracts: moths, butterflies, bees
Flowers: white, cream
Bloom: July-September
Seeding Rate: 4 lb/ac
In-row Spacing: 1-3 ft
Recommended precipitation range: 12-25 in



Sulphurflower buckwheat. Derek Tilley, NRCS Idaho

Eriogonum umbellatum, sulphurflower buckwheat

Origin: native sub-shrub
Mature Height: 0.5-2 ft
Growth Rate: moderate

Growth Habit: spreading, open sub-shrub
Wildlife Value: cover, fall forage
Attracts: moths, butterflies, bees
Flowers: yellow
Bloom: July-September
Seeding Rate: 4 lb/ac
In-row Spacing: 1-3 ft
Recommended precipitation range: 8-20in



Winterfat. Derek Tilley, NRCS Idaho.

Krascheninnikovia lanata, winterfat

Origin: native shrub
Mature Height: 1-3 ft
Growth Rate: rapid
Growth Habit: low shrub
Wildlife Value: excellent winter forage
Attracts: provides nesting structure for bees
Flowers: green/white
Bloom: July-August
Seeding Rate: 2 lb/ac
In-row Spacing:
Recommended precipitation range: 7-12 in

Philadelphus lewisii, Lewis' mockorange

Origin: native shrub
Mature Height: 8-11 ft
Growth Rate: moderate
Growth Habit: multiple stemmed shrub
Wildlife Value: nesting, loafing, food, browse
Attracts: bees
Flowers: white
Bloom: May-June
In-row Spacing: 6-10 ft
Recommended precipitation range: 18-50 in

Plants for Pollinators in the Intermountain West

Prunus americana, American plum

Origin: native shrub
Mature Height: 8-10 ft
Growth Rate: moderate
Growth Habit: rounded crown, suckers
Wildlife Value: nesting, loafing, food, browse
Attracts: butterflies, bees
Flowers: white
Bloom: April-May
In-row Spacing: 6-10 ft
Recommended precipitation range: 20-40 in



Chokecherry. Derek Tilley, NRCS Idaho.

Prunus pumila, western sandcherry

Origin: native shrub
Mature Height: 3-6 ft
Growth Rate: moderate
Growth Habit: open and spreading
Wildlife Value: loafing, food, brose
Attracts: butterflies, bees
Flowers: white
Bloom: April-May
In-row Spacing: 3-6 ft
Recommended precipitation range: 20-40 in



Nanking cherry. D.E. Herman @ PLANTS Database

Prunus tomentosa, Nanking cherry

Origin: introduced shrub
Mature Height: 6-10 ft
Growth Rate: moderate
Growth Habit: upright, semi-spreading
Wildlife Value: browse, fruit for song birds
Attracts: butterflies, bees
Flowers: small pink
Bloom: April-May
In-row Spacing: 6-8 ft
Recommended precipitation range: 16-40 in

Prunus virginiana, chokecherry

Origin: native shrub
Mature Height: 12-25 ft
Growth Rate: moderate
Growth Habit: oval to round; suckering
Wildlife Value: excellent food and cover
Attracts: bees, butterflies
Flowers: white
Bloom: April-May
In-row Spacing: 8-12 ft
Recommended precipitation range: 16-60 in



Antelope bitterbrush. Derek Tilley, NRCS Idaho.

Purshia tridentata, antelope bitterbrush

Origin: native shrub
Mature Height: 2-6 ft
Growth Rate: moderate
Growth Habit: upright shrub
Wildlife Value: cover, fall forage
Attracts: butterflies, bees

Plants for Pollinators in the Intermountain West

Flowers: yellow
Bloom: May-June
In-row Spacing: 3-5 ft
Recommended precipitation range: 10-15 in



Skunkbush sumac. Derek Tilley, NRCS Idaho.

Rhus trilobata, skunkbush sumac
Origin: native shrub
Mature Height: 6-8 ft
Growth Rate: slow to moderate
Growth Habit: ascending to spreading
Wildlife Value: browse, nesting, bird food
Attracts: early bees
Flowers: light yellow
Bloom: May-June
In-row Spacing: 4-6 ft
Recommended precipitation range: 8-18 in



Golden currant. Derek Tilley, NRCS Idaho.

Ribes aueum, golden currant
Origin: native shrub
Mature Height: 5-8 ft
Growth Rate: moderate
Growth Habit: spreading and upright
Wildlife Value: roosting, loafing, nesting, fruit
Attracts: early spring bees, bumblebees
Flowers: fragrant golden yellow
Bloom: April-May
In-row Spacing: 4-6 ft
Recommended precipitation range: 12-18 in



Wood's rose. Derek Tilley, NRCS Idaho.

Rosa woodsii, Wood's rose
Origin: native shrub
Mature Height: 3-6 ft
Growth Rate: moderate
Growth Habit: upright to semi-weeping shrub
Wildlife Value: nesting, cover, excellent food
Attracts: bees
Flowers: pink
Bloom: June-July
In-row Spacing: 3-5 ft
Recommended precipitation range: 12-40 in

Salix spp., Willow
Origin: native shrub or tree
Mature Height: 8-30 ft
Growth Rate: moderate
Growth Habit: upright; single base or rhizomatous
Wildlife Value: nesting, cover, excellent food
Attracts: bees, butterflies
Flowers: yellow
Bloom: April-July
In-row Spacing: 10-15 ft
Recommended precipitation range: 18-40 in

Sambucus cerulea, elderberry
Origin: native shrub

Plants for Pollinators in the Intermountain West

Mature Height: 6-15 ft
Growth Rate: moderate
Growth Habit: upright
Wildlife Value: nesting, food
Attracts: butterflies, nesting bees
Flowers: white to cream
Bloom: June-July
In-row Spacing: 4-6 ft
Recommended precipitation range: 18-30 in



Buffaloberry. R.A. Howard @ PLANTS Database

Shepherdia argentea, buffalo berry
Origin: native shrub
Mature Height: 6-20 ft
Growth Rate: moderate
Growth Habit: upright to spreading tall shrub
Wildlife Value: browse, fruit
Attracts: butterflies, bees
Flowers: male=yellow; female=inconspicuous
Bloom: May-July
In-row Spacing: 8-10 ft
Recommended precipitation range: 12-20 in



Goldenrod. Thomas Barnes @ PLANTS Database

Solidago spp., goldenrod
Origin: native shrub
Mature Height: 3-6 ft
Growth Rate: moderate
Growth Habit: spreading shrub
Wildlife Value: cover
Attracts: butterflies, bees
Flowers: yellow
Bloom: July-October
In-row Spacing: 2-6 ft
Recommended precipitation range: 16-40 in



Douglas spiraea, L. Koepke @ PLANTS Database

Spiraea douglasii, Douglas spiraea
Origin: native shrub
Mature Height: 4-6 ft
Growth Rate: rapid
Growth Habit: thicket forming to upright
Wildlife Value: cover
Attracts: butterflies, bees
Flowers: rose to pink
Bloom: June
In-row Spacing: 2-4 ft
Recommended precipitation range: 16-50 in

Plants for Pollinators in the Intermountain West



Snowberry. R.A. Howard @ PLANTS Database

***Symphoricarpos* spp.**, snowberry

Origin: native shrub

Mature Height: 2-4 ft

Growth Rate: moderate

Growth Habit: open and spreading

Wildlife Value: loafing, food, browse

Attracts: butterflies, bees, hummingbirds

Flowers: pink

Bloom: June-August

In-row Spacing: 3-4 ft

Recommended precipitation range: 14-40 in

Syringa vulgaris, common lilac

Origin: introduced shrub

Mature Height: 6-12 ft

Growth Rate: moderate

Growth Habit: upright, leggy, suckering

Wildlife Value: nesting

Attracts: early spring bees

Flowers: white to purple

Bloom: April-May

In-row Spacing: 5-10 ft

Recommended precipitation range: 18-40 in



Yucca. Photo ©Al Schneider, www.swcoloradowildflowers.com, used with permission.

***Yucca* spp.**, yucca or soapweed

Origin: native shrub – Great Plains

Mature Height: 2-4 ft

Growth Rate: slow

Growth Habit: upright

Wildlife Value: cover

Attracts: moths

Flowers: creamy white

Blooms: June-July

In-row Spacing: 3 ft

Recommended precipitation range: 7-12 in





















APPROVED POLLINATOR PLANT LISTS

The following tables 2 – 6 are lists of plants that have known value for pollinators and are adapted to various precipitation ranges in the Intermountain West. The lists are separated into 7–9”, 9–12”, 12–15”, 15–18” and 18–25+” mean annual precipitation zones. Some judgment might be necessary to determine if a species from a lower precipitation zone can be used in a higher precipitation area; however, a species from a higher precipitation zone should not be used in a lower precipitation zone. Care was taken to list species that are commercially available. Additional species may be available or become available that were not considered for this technical note during publication. Consult your State Plant Materials Specialist prior to making any species substitutions.

The seeding rates listed are the full seeding rate (as if a single species were being planted). Adjust the seeding rate to the percentage of the species desired in the mix.

This section also lists additional grasses and shrubs, which, although they do not provide pollen or nectar, are important elements of pollinator habitat, and should be included in pollinator or wildlife friendly plantings.

Plants for Pollinators in the Intermountain West

TABLE 2: POLLINATOR PLANT LIST 7 – 9 INCH PRECIPITATION													
			Bloom Color and Time								Soils		
	Scientific Name	Common Name	spring	summer	late summer	Origin	Height (in)	Seeding Depth (in)	Seeds/lb	Full Seeding Rate (PLS lbs/ac)	fine	med	coarse
	Forbs												
	<i>Achillea millefolium</i>	Western yarrow				Native	6-24	0 - 1/8	4,400,000	0.5		X	X
	<i>Astragalus filipes</i>	Basalt milkvetch				Native	12-36	1/4-1/2	120,000	9	X	X	X
	<i>Chaenactis douglasii</i>	Douglas' dustymaiden				Native	12-36	0 - 1/8	350,000	3		X	X
	<i>Cleome lutea</i>	Yellow bee flower				Native	24-36	0 – 1/4	101,000	11	X	X	
^	<i>Helianthus annuus</i>	Annual sunflower				Native	36-120	1/4 - 1/2	45,000	24	X	X	X
	<i>Lathyrus pauciflorus</i>	Fewflower pea				Native	8-30	1/8-1/2	12,500	87	X	X	X
	<i>Machaeranthera canescens</i>	Hoary tansyaster				Native	24-36	0 - 1/8	1,300,000	2		X	X
^	<i>Melilotus alba</i>	White sweetclover				Introduced	12-36	1/8 - 1/2	260,000	4	X	X	X
^	<i>M. officinalis</i>	Yellow sweetclover				Introduced	12-36	1/8 - 1/2	260,000	4	X	X	X
	<i>Mentzelia laevicaulis</i>	Smoothstem blazingstar				Native	12-36	1/4-1/2	300,000	4		X	X
	<i>Penstemon palmeri</i>	Palmer’s penstemon				Native	24-36	0 - 1/8	294,000	4		X	X
	<i>Sphaeralcea</i> spp.	Globemallow				Native	12-30	1/4 - 1/2	500,000	2		X	X
	GRASSES												
	<i>Achnatherum hymenoides</i>	Indian ricegrass				Native	30	1/2 - 3	235,000	8		X	X
	<i>Elymus elymoides</i>	Bottlebrush squirreltail				Native	24	1/4 – 1/2	220,000	6		X	X
	<i>E. lanceolatus</i>	Thickspike wheatgrass				Native	32	1/4 – 1/2	135,000	8	X	X	
	<i>E. wawawaiensis</i>	Snake River wheatgrass				Native	48	1/4 - 3/4	139,000	8		X	X
	<i>Leymus cinereus</i>	Basin wildrye				Native	72	1/4 – 3/4	130,000	8		X	X
	<i>Poa secunda</i>	Sandberg bluegrass				Native	12	0 – 1/4	1,000,000	2	X	X	X
	<i>Sporobolus cryptandrus</i>	Sand dropseed				Native	36	0 – 1/4	5,298,000	1			X
































^ Can become weedy or invasive under proper conditions.

Plants for Pollinators in the Intermountain West

TABLE 2 continued: POLLINATOR PLANT LIST 7 – 9 INCH PRECIPITATION														
			Bloom Color and Time									Soils		
	Scientific Name	Common Name	spring	summer	late summer	Origin	Height (ft)	Seeding Depth (in)	Seeds/lb	Full Seeding Rate (PLS lbs/ac)	Plant Spacing (ft)	fine	med	coarse
	Shrubs													
	<i>Artemisia tridentata ssp. wyomingensis</i>	Wyoming big sagebrush				Native	1-4	0 – 1/8	1,700,000	0.5	6	X	X	X
	<i>Atriplex canescens</i>	Fourwing saltbush				Native	1-6	1/4 - 3/4	52,000	2	6		X	X
	<i>Chrysothamnus viscidiflorus</i>	Green rabbitbrush				Native	1-3	0 - 1/8 or seedlings	782,000	0.5	4		X	X
	<i>Ericameria nauseosa</i>	Rubber rabbitbrush				Native	1-6	0 - 1/8 or seedlings	693,000	0.5	4		X	X
	<i>Eriogonum umbellatum</i>	Sulphur buckwheat				Native	2	0 - 1/4 or seedlings	209,000	4	4		X	X
	<i>Krascheninikovia lanata</i>	Winterfat				Native	1-4	0 - 1/8	123,000	2	6		X	X
	<i>Rhus trilobata</i>	Skunkbush sumac				Native	2-7	Seedlings	N/A	N/A	8			X
	<i>Yucca</i> spp.	Yucca				Native	1-4	1/4 – 1/2 or seedlings	N/A	N/A	6		X	X

^ Can become weedy or invasive under proper conditions.

Plants for Pollinators in the Intermountain West

TABLE 3: POLLINATOR PLANT LIST 9 - 12 INCH PRECIPITATION													
			Bloom Color and Time								Soils		
	Scientific Name	Common Name	spring	summer	late summer	Origin	Height (in)	Seeding Depth (in)	Seeds/lb	Full Seeding Rate (PLS lbs/ac)	fine	med	coarse
	Forbs												
	<i>Achillea millefolium</i>	Western yarrow				Native	6-24	0 - 1/8	4,400,000	0.5		X	X
	<i>Astragalus filipes</i>	Basalt milkvetch				Native	12-36	1/4 - 1/2	120,000	9		X	X
	<i>Balsamorhiza hookeri</i>	Hooker's balsamroot				Native	12-24	0-1/4	55,000	18	X	X	X
	<i>Chaenactis douglasii</i>	Douglas' dustymaiden				Native	12-36	0 - 1/8	350,000	3		X	X
	<i>Cleome lutea</i>	Yellow bee plant				Native	24-36	1/8 – 1/4	101,000	11	X	X	
	<i>Dalea</i> spp.	Prairie coneflower				Native	12-36	1/4-1/2	148,000	7		X	X
^	<i>Helianthus annuus</i>	Annual sunflower				Native	36-120	1/4 - 1/2	45,000	24	X	X	X
	<i>Ipomopsis aggregata</i>	Scarlet gilia				Native	24-36	0-1/8	360,000	6		X	X
	<i>Lathyrus pauciflorus</i>	Fewflower pea				Native	8-30	1/8-1/2	12,500	87	X	X	X
	<i>Linum lewisii</i>	Lewis flax				Native	12-24	0 - 1/8	260,000	4		X	X
	<i>L. perenne</i>	Blue flax				Introduced	12-24	0 - 1/8	278,000	4		X	X
	<i>Machaeranthera canescens</i>	Hoary tansyaster				Native	24-36	0 - 1/8	1,300,000	2		X	X
	<i>Medicago sativa</i> ssp. <i>falcata</i>	Yellow blossom alfalfa				Introduced	24-36	1/8 - 1/2	211,000	5	X	X	
^	<i>Melilotus alba</i>	White sweetclover				Introduced	12-36	1/8 - 1/2	260,000	4	X	X	X
^	<i>M. officinalis</i>	Yellow sweetclover				Introduced	12-36	1/8 - 1/2	260,000	4	X	X	X
	<i>Mentzelia laevicaulis</i>	Smoothstem blazingstar				Native	12-36	1/4-1/2	300,000	4		X	X
	<i>Penstemon eatonii</i>	Firecracker penstemon				Native	12-30	0 - 1/8	315,000	3		X	X
	<i>Penstemon palmeri</i>	Palmer's penstemon				Native	24-36	0 - 1/8	294,000	4		X	X
	<i>Phacelia hastata</i>	Silverleaf phacelia				Native	18-24	1/8 – 1/4	450,000	2		X	X
	<i>Sphaeralcea</i> spp.	Globemallow				Native	12-24	1/4 - 1/2	500,000	2		X	X
^	<i>Vicia Americana</i>	American vetch				Native	6-12	1 - 2	33,000	33		X	X

^ Can become weedy or invasive under proper conditions.


























Plants for Pollinators in the Intermountain West

TABLE 3 continued: POLLINATOR PLANT LIST 9 - 12 INCH PRECIPITATION													
			Bloom Color and Time								Soils		
	Scientific Name	Common Name	spring	summer	late summer	Origin	Height (in)	Seeding Depth (in)	Seeds/lb	Full Seeding Rate (PLS lbs/ac)	fine	med	coarse
	Grasses												
	<i>Achnatherum hymenoides</i>	Indian ricegrass				Native	30	1/2 - 3	235,000	8		X	X
	<i>Elymus elymoides</i>	Bottlebrush squirreltail				Native	24	1/4 – 1/2	220,000	6		X	X
	<i>E. lanceolatus</i>	Thickspike wheatgrass				Native	32	1/4 – 1/2	135,000	8	X	X	
	<i>E. trachycaulus</i>	Slender wheatgrass				Native	40	1/2 - 3/4	135,000	8	X	X	
	<i>E. wawawaiensis</i>	Snake River wheatgrass				Native	48	1/4 – 1/2	139,000	8		X	X
	<i>Leymus cinereus</i>	Basin wildrye				Native	72	1/4 - 3/4	130,000	8		X	X
	<i>Poa ampla</i>	Big bluegrass				Native	48	0 - 1/4	925,000	2	X	X	
	<i>P. nevadensis</i>	Nevada bluegrass				Native	39	0 - 1/4	925,000	2	X	X	
	<i>P. secunda</i>	Sandberg’s bluegrass				Native	12	0 - 1/4	1,000,000	2	X	X	X
	<i>Pseudoroegneria spicata</i>	Bluebunch wheatgrass				Native	48	1/4 – 1/2	139,000	8	X	X	
	<i>Sporobolus cryptandrus</i>	Sand dropseed				Native	36	0 - 1/4	5,298,000	1			X
	<i>Stipa thurberiana</i>	Thurber’s needlegrass				Native	24	1/4 – 1/2	180,000	6	X	X	

Plants for Pollinators in the Intermountain West



































































TABLE 3continued: POLLINATOR PLANT LIST 9 - 12 INCH PRECIPITATION														
			Bloom Color and Time									Soils		
	Scientific Name	Common Name	spring	summer	late summer	Origin	Height (ft)	Seeding Depth (in)	Seeds/lb	Full Seeding Rate (PLS lbs/ac)	Plant Spacing (ft)	fine	med	coarse
	Shrubs													
	Artemisia tridentata ssp. tridentata	Basin big sagebrush				Native	5-10	0 – 1/8	1,700,000	0.5	6		X	X
	A. tridentata ssp. wyomingensis	Wyoming big sagebrush				Native	1-4	0 – 1/8	1,700,000	0.5	6	X	X	X
	Atriplex canescens	Fourwing saltbush				Native	1-6	1/4 - 3/4	52,000	2	6		X	X
	Chrysothamnus viscidiflorus	Green rabbitbrush				Native	1-3	0 - 1/8 or seedlings	782,000	0.5	4		X	X
	Ericameria nauseosa	Rubber rabbitbrush				Native	1-6	0 - 1/8 or seedlings	693,000	0.5	4		X	X
	Eriogonum umbellatum	Sulphur buckwheat				Native	2	0 - 1/4 or seedlings	209,000	4	4		X	X
	Krascheninikovia lanata	Winterfat				Native	1-4	0 – 1/8	123,000	2	6			
	Purshia tridentata	Antelope bitterbrush				Native	2-6	Seedlings	N/A	N/A	6		X	X
	Rhus trilobata	Skunkbush sumac				Native	2-7	Seedlings	N/A	N/A	8			X
	Yucca spp.	Yucca				Native	1-4	1/4 – 1/2	N/A	N/A	6		X	X

Plants for Pollinators in the Intermountain West

TABLE 4: POLLINATOR PLANT LIST 12 - 15 INCH PRECIPITATION													
			Bloom Color and Time								Soils		
	Scientific Name	Common Name	spring	summer	late summer	Origin	Height (in)	Seeding Depth (in)	Seeds/lb	Full Seeding Rate (PLS lbs/ac)	fine	med	coarse
	Forbs												
	<i>Achillea millefolium</i>	Western yarrow				Native	6-24	0 - 1/8	4,400,000	0.5		X	X
	<i>Balsamorhiza hookeri</i>	Hooker’s balsamroot				Native	12-24	0-1/4	55,000	18	X	X	X
	<i>Balsamorhiza macrophylla</i>	Cutleaf balsamroot				Native	12-24	0-1/4	55,000	18	X	X	X
	<i>Balsamorhiza sagittata</i>	Arrowleaf balsamroot				Native	12-24	0 - 1/4	55,000	18		X	X
	<i>Chaenactis douglasii</i>	Douglas dustymaiden				Native	12-36	0 - 1/8	350,000	3		X	X
	<i>Cleome serrulata</i>	Rocky Mountain bee plant				Native	12-72	0-1/8	66,000	17		X	
	<i>Dalea</i> spp.	Prairie coneflower				Native	12-36	1/4-1/2	148,000	7		X	X
	<i>Echinacea purpurea.</i>	Purple coneflower				Native	6-24	1/8 - 1/2	117,000	9	X	X	X
	<i>Hedysarum boreale</i>	Northern/Utah sweetvetch				Native	12-24	1/4 - 1/2	46,000	24	X	X	X
	<i>Helianthella uniflora</i>	Oneflower sunflower				Native	12-36	1/8-1/4	41,000	26		X	X
	<i>Helianthus annuus</i>	Annual sunflower				Native	36-120	1/4 - 1/2	45,000	24	X	X	X
	<i>Ipomopsis aggregata</i>	Scarlet gilia				Native	24-36	0-1/8	360,000	6		X	X
	<i>Lathyrus pauciflorus</i>	Fewflower pea				Native	8-30	1/8-1/2	12,500	87	X	X	X
	<i>Linum lewisii</i>	Lewis flax				Native	12-24	0 - 1/8	260,000	4		X	X
	<i>L. perenne</i>	Blue flax				Introduced	12-24	0 - 1/8	278,000	4		X	X
	<i>Lomatium dissectum</i>	Fernleaf biscuitroot				Native	6-24	1/8 - 1/2	45,000	24		X	
	<i>L. grayi</i>	Gray’s biscuitroot				Native	6-12	1/8 - 1/2	45,000	24		X	
	<i>L. triternatum</i>	Nineleaf biscuitroot				Native	24-36	1/8 - 1/2	45,000	24		X	
	<i>Machaeranthera canescens</i>	Hoary tansyaster				Native	24-36	0 - 1/8	1,300,000	2		X	X
	<i>Medicago sativa</i>	Alfalfa				Introduced	24-36	1/8 - 1/2	200,000	5	X	X	

^ Can become weedy or invasive under proper conditions.

Plants for Pollinators in the Intermountain West
































TABLE 4 continued: POLLINATOR PLANT LIST 12 - 15 INCH PRECIPITATION													
			Bloom Color and Time								Soils		
	Scientific Name	Common Name	spring	summer	late summer	Origin	Height (in)	Seeding Depth (in)	Seeds/lb	Full Seeding Rate (PLS lbs/ac)	fine	med	coarse
	<i>Medicago sativa</i> ssp. <i>falcata</i>	Yellow blossom alfalfa				Introduced	24-36	1/8 - 1/2	211,000	5	X	X	
^	<i>Melilotus alba</i>	White sweetclover				Introduced	12-36	1/8 - 1/2	260,000	4	X	X	X
^	<i>M. officinalis</i>	Yellow sweetclover				Introduced	12-36	1/8 - 1/2	260,000	4	X	X	X
	<i>Mentzelia laevicaulis</i>	Smoothstem blazingstar				Native	12-36	1/4-1/2	300,000	4		X	X
	<i>Onobrychis viciifolia</i>	Sainfoin				Introduced	24-60	1/4 - 3/4	18,500	34		X	X
	<i>Penstemon eatonii</i>	Firecracker penstemon				Native	12-30	0 - 1/8	315,000	3		X	X
	<i>P. palmeri</i>	Palmer's penstemon				Native	24-36	0 - 1/8	294,000	4		X	X
	<i>P. speciosus</i>	Royal penstemon				Native	24-36	0 - 1/8	400,000	3		X	
	<i>Phacelia hastata</i>	Silverleaf phacelia				Native	18-24	1/8 – 1/4	450,000	2		X	X
	<i>Sphaeralcea</i> spp.	Globemallow				Native	12-24	1/4 - 1/2	500,000	2		X	X
	<i>Symphyotrichum</i> spp	Aster				Native	12-40	0-1/4	2,000,000	1		X	X
^	<i>Vicia Americana</i>	American vetch				Native	6-12	1 - 2	33,000	33		X	X
	Grasses												
	<i>Achnatherum hymenoides</i>	Indian ricegrass				Native	30	1/2 - 3	235,000	8		X	X
	<i>Elymus elymoides</i>	Bottlebrush squirreltail				Native	24	1/4 – 1/2	220,000	6		X	X
	<i>E. lanceolatus</i>	Thickspike wheatgrass				Native	32	1/4 – 1/2	135,000	8	X	X	
	<i>E. multisetus</i>	Big squirreltail				Native	25	1/4 – 1/2	192,000	6	X	X	
	<i>E. trachycaulus</i>	Slender wheatgrass				Native	40	1/2 - 3/4	135,000	8	X	X	
	<i>E. wawawaiensis</i>	Snake River wheatgrass				Native	48	1/4 – 1/2	139,000	8		X	X
	<i>Leymus cinereus</i>	Basin wildrye				Native	72	1/4 - 3/4	130,000	8		X	X
	<i>Poa ampla</i>	Big bluegrass				Native	48	0 - 1/4	925,000	2	X	X	
	<i>Poa nevadensis</i>	Nevada bluegrass				Native	39	0 - 1/4	925,000	2	X	X	
	<i>Pseudoroegneria spicata</i>	Bluebunch wheatgrass				Native	48	1/4 – 1/2	139,000	8	X	X	

^ Can become weedy or invasive under proper conditions.





























































Plants for Pollinators in the Intermountain West

TABLE 4 continued: POLLINATOR PLANT LIST 12 - 15 INCH PRECIPITATION.														
			Bloom Color and Time									Soils		
	Scientific Name	Common Name	spring	summer	late summer	Origin	Height (ft)	Seeding Depth (in)	Seeds/lb	Full Seeding Rate (PLS lbs/ac)	Plant Spacing (ft)	fine	med	coarse
	Shrubs													
	<i>Amelanchier alnifolia</i>	Serviceberry	☼	☼		Native	3-15	Seedlings	N/A	N/A	10	X	X	X
	<i>Artemisia tridentata</i> ssp. <i>tridentata</i>	Basin big sagebrush			☼	Native	5-10	0 – 1/8	1,700,000	0.5	6		X	X
	<i>A. tridentata</i> ssp. <i>wyomingensis</i>	Wyoming big sagebrush			☼	Native	1-4	0 – 1/8	1,700,000	0.5	6	X	X	X
	<i>Atriplex canescens</i>	Fourwing saltbush			☼	Native	1-6	1/4 - 3/4	52,000	2	6		X	X
	<i>Caragana arborescens</i>	Siberian peashrub	☼			Introduced	10-25	Seedlings	N/A	N/A	10	X	X	X
	<i>Chrysothamnus viscidiflorus</i>	Green rabbitbrush			☼	Native	1-3	0 - 1/8 or seedlings	782,000	0.5	4		X	X
	<i>Clematis ligusticifolia</i>	Clematis		☼		Native	climbing	Seedlings	N/A	N/A	6	X	X	X
	<i>Crataegus douglasii</i>	Black hawthorn	☼	☼		Native	30	Seedlings	N/A	N/A	10	X	X	
	<i>Ericameria nauseosa</i>	Rubber rabbitbrush			☼	Native	1-6	0 - 1/8 or seedlings	693,000	0.5	4		X	X
	<i>Eriogonum heracleoides</i>	Whorled buckwheat		☼		Native	2.5	0 - 1/4 or seedlings	135,700	4	4		X	X
	<i>E. umbellatum</i>	Sulphur buckwheat		☼		Native	2	0 - 1/4 or seedlings	209,000	4	4		X	X
	<i>Purshia tridentata</i>	Antelope bitterbrush	☼			Native	2-6	Seedlings	N/A	N/A	6		X	X
	<i>Rhus trilobata</i>	Skunkbush sumac	☼			Native	2-7	Seedlings	N/A	N/A	8			X
	<i>Ribes aureum</i>	Golden currant	☼			Native	10	Seedlings	N/A	N/A	6		X	
	<i>Rosa woodsii</i>	Wood’s rose		☼		Native	2-6	Seedlings	N/A	N/A	5		X	
	<i>Shepherdia argentea</i>	Buffaloberry		☼		Native	6-20	Seedlings	N/A	N/A	10		X	

Plants for Pollinators in the Intermountain West

TABLE 5: POLLINATOR PLANT LIST 15 - 18 INCH PRECIPITATION.													
			Bloom Color and Time								Soils		
	Scientific Name	Common Name	spring	summer	late summer	Origin	Seeding Depth (in)	Height (in)	Seeds/lb	Full Seeding Rate (PLS lbs/ac)	fine	med	coarse
	Forbs												
^	<i>Achillea millefolium</i>	Western yarrow				Native	0 - 1/8	6-24	4,400,000	0.5		X	X
	<i>Asclepias speciosa</i>	Showy milkweed				Native	1/8-1/2	36-48	72,000	15		X	X
	<i>Astragalus cicer</i>	Cicer milkvetch				Introduced	1 /4 - 1/2	12-36	130,000	8	X	X	
	<i>Balsamorhiza hookeri</i>	Hooker’s balsamroot				Native	0-1/4	12-24	55,000	18	X	X	X
	<i>Balsamorhiza macrophylla</i>	Cutleaf balsamroot				Native	0-1/4	12-24	55,000	18	X	X	X
	<i>Balsamorhiza sagittata</i>	Arrowleaf balsamroot				Native	0 - 1/4	12-24	55,000	18		X	X
	<i>Cleome serrulata</i>	Rocky Mountain bee plant				Native	0-1/8	12-72	66,000	17		X	
	<i>Dalea spp.</i>	Prairie clover				Native	1 /4 - 1/2	12-36	148,000	7		X	X
	<i>Echinacea purpurea</i>	Purple coneflower				Native	1/8 - 1/2	6-24	117,000	9	X	X	X
	<i>Gaillardia aristata</i>	Blanket flower				Native	1 /4 - 1/2	12-18	200,000	5		X	X
	<i>Geranium viscosissimum</i>	Sticky geranium				Native	1 /4 - 1/2	24-36	55,000	20		X	
	<i>Hedysarum boreale</i>	Northern/Utah sweetvetch				Native	1/4 - 1/2	12-24	46,000	24	X	X	X
	<i>Helianthella uniflora</i>	Oneflower sunflower				Native	1/8-1/4	12-36	41,000	26		X	X
	<i>Heliomeris multiflora</i>	Showy goldeneye				Native	1/4-1/2	8-39	1,000,000	2		X	X
	<i>Ipomopsis aggregata</i>	Scarlet gilia				Native	24-36	0-1/8	360,000	6		X	X
	<i>Linum lewisii</i>	Lewis flax				Native	0 - 1/8	12-24	260,000	4		X	X
	<i>L. perenne</i>	Blue flax				Introduced	0 - 1/8	12-24	278,000	4		X	X
	<i>Lomatium dissectum</i>	Fernleaf biscuitroot				Native	1/8 - 1/2	6-24	45,000	24		X	
	<i>L. grayi</i>	Gray’s biscuitroot				Native	1/8 - 1/2	6-12	45,000	24		X	
	<i>L. triternatum</i>	Nineleaf biscuitroot				Native	1/8 - 1/2	24-36	45,000	24		X	
	<i>Medicago sativa</i>	Alfalfa				Introduced	1/8 - 1/2	24-36	200,000	5	X	X	
	<i>M. sativa ssp. falcata</i>	Yellow blossom alfalfa				Introduced	1/8 - 1/2	24-36	211,000	5	X	X	

Plants for Pollinators in the Intermountain West


































TABLE 5 continued: POLLINATOR PLANT LIST 15 - 18 INCH PRECIPITATION.													
			Bloom Color and Time								Soils		
	Scientific Name	Common Name	spring	summer	late summer	Origin	Height (in)	Seeding Depth (in)	Seeds/lb	Full Seeding Rate (PLS lbs/ac)	fine	med	coarse
	Forbs												
	<i>Onobrychis viciifolia</i>	Sainfoin				Introduced	24-60	1/4 - 3/4	18,500	34		X	X
	<i>Penstemon eatonii</i>	Firecracker penstemon				Native	12-30	0 - 1/8	315,000	3		X	X
	<i>P. speciosus</i>	Royal penstemon				Native	24-36	0 - 1/8	400,000	3		X	
	<i>P. strictus</i>	Rocky Mountain penstemon				Native	12-36	0 - 1/8	286,000	4	X	X	
	<i>P. venustus</i>	Venus penstemon				Native	24-36	0 - 1/8	1,090,000	2	X	X	
	<i>Phacelia hastata</i>	Silverleaf phacelia				Native	18-24	1/8 – 1/4	450,000	2		X	X
	<i>Ratibida columnifera</i>	Prairie coneflower				Native	12-18	1/4 - 1/2	740,000	3	X	X	X
	<i>Sanguisorba minor</i>	Small burnet				Introduced	12-30	1/4 - 1/2	42,000	26	X	X	
	<i>Symphyotrichum</i> spp	Aster				Native	12-40	0 - 1/2	2,000,000	1		X	X
^	<i>Vicia Americana</i>	American vetch				Native	6-12	1 - 2	33,000	33		X	X
	Grasses												
	<i>Bromus marginatus</i>	Mountain brome				Native	40	1/4 – 1/2	80,000	10	X	X	X
	<i>Elymus glaucus</i>	Blue wildrye				Native	60	1/4 – 1/2	145,000	8	X	X	
	<i>E. multisetus</i>	Big squirreltail				Native	25	1/4 – 1/2	192,000	6	X	X	
	<i>E. trachycaulus</i>	Slender wheatgrass				Native	40	1/2 – 3/4	135,000	8	X	X	
	<i>Festuca idahoensis</i>	Idaho fescue				Native	12	1/4 – 1/2	450,000	4	X	X	
	<i>Koeleria macrantha</i>	Prairie junegrass				Native	24	1/4 – 1/2	2,135,000	1		X	X
	<i>Leymus cinereus</i>	Basin wildrye				Native	72	1/4 - 3/4	130,000	8		X	X
	<i>Poa ampla</i>	Big bluegrass				Native	48	0 - 1/4	925,000	2	X	X	
	<i>Poa nevadensis</i>	Nevada bluegrass				Native	39	0 - 1/4	925,000	2	X	X	
	<i>Pseudoroegneria spicata</i>	Bluebunch wheatgrass				Native	48	1/4 – 1/2	139,000	8	X	X	

^ Can become weedy or invasive under proper conditions.

Plants for Pollinators in the Intermountain West











































		TABLE 5 continued: POLLINATOR PLANT LIST 15 - 18 INCH PRECIPITATION.												
			Bloom Color and Time									Soils		
	Scientific Name	Common Name	spring	summer	late summer	Origin	Height (ft)	Seeding Depth (in)	Seeds/lb	Full Seeding Rate (PLS lbs/ac)	Plant Spacing (ft)	fine	med	coarse
	Shrubs													
	Amelanchier alnifolia	Serviceberry	☼	☼		Native	3-15	Seedlings	N/A	N/A	10		X	
	Artemisia tridentata ssp. vasaseyana	Mountain big sagebrush			☼	Native	2-4	0 – 1/8	1,700,000	0.5	6		X	X
	Atriplex canescens	Fourwing saltbush			☼	Native	1-6	1/4 - 3/4	52,000	2	6		X	X
	Caragana arborescens	Siberian peashrub	☼			Introduced	10-25	Seedlings	N/A	N/A	10	X	X	X
	Clematis ligusticifolia	Clematis		☼		Native	Climbing	Seedlings	N/A	N/A	6	X	X	X
	Cotoneaster integerrimus	Cotoneaster	☼	☼		Native	4-6	Seedlings	N/A	N/A	10		X	
	Crataegus douglasii	Black hawthorn	☼	☼		Native	30	Seedlings	N/A	N/A	10	X	X	
	Ericameria nauseosa	Rubber rabbitbrush			☼	Native	1-6	0 - 1/8 or seedlings	693,000	0.5	4		X	X
	Eriogonum heracleoides	Whorled buckwheat		☼		Native	2.5	0 - 1/4 or seedlings	135,700	4	4		X	X
	E. umbellatum	Sulphur buckwheat		☼		Native	2	0 - 1/4 or seedlings	209,000	4	4		X	X
	Prunus tomentosa	Nanking cherry	☼			Introduced	10	Seedlings	N/A	N/A	8		X	
	P. virginiana	Chokecherry	☼			Native	12-25	Seedlings	N/A	N/A	12		X	
	Rhus trilobata	Skunkbush sumac	☼			Native	2-7	Seedlings	N/A	N/A	8			X
	Ribes aureum	Golden currant	☼			Native	10	Seedlings	N/A	N/A	6		X	
	Rosa woodsii	Wood’s rose		☼		Native	2-6	Seedlings	N/A	N/A	5		X	
	Sambucus cerulea	Elderberry		☼		Native	3-13	Seedlings	N/A	N/A	6		X	X
	Shepherdia argentea	Buffaloberry		☼		Native	6-20	Seedlings	N/A	N/A	10		X	
	Spiraea douglasii	Douglas spirea		☼		Native	4-6	Seedlings	N/A	N/A	5		X	X
	Symphoricarpos spp.	Snowberry		☼		Native	1-5	Seedlings	N/A	N/A	4		X	

Plants for Pollinators in the Intermountain West

TABLE 6: POLLINATOR PLANT LIST 18 – 25+ INCH PRECIPITATION.													
			Bloom Color and Time								Soils		
	Scientific Name	Common Name	spring	summer	late summer	Origin	Height (in)	Seeding Depth (in)	Seeds/lb	Full Seeding Rate (PLS lbs/ac)	fine	med	coarse
	Forbs												
^	Achillea millefolium	Western yarrow				Native	6-24	0 - 1/8	4,400,000	0.5		X	X
	Agastache urticifolia	Nettleleaf giant hyssop				Native	30-36	0-1/8	1,400,000	1	X	X	X
	Aquilegia caerulea.	Columbine				Native	12-24	0 - 1/8	400,000	3		X	
	Asclepias tuberosa	Butterfly milkweed				Native	12-36	1/8 - 1/2	70,000	15		X	X
	Astragalus cicer	Cicer milkvetch				Introduced	12-36	1 /4 - 1/2	130,000	8	X	X	
	Balsamorhiza hookeri	Hooker's balsamroot				Native	12-24	0-1/4	55,000	18	X	X	X
	B. macrophylla	Cutleaf balsamroot				Native	12-24	0-1/4	55,000	18	X	X	X
	Cleome serrulata	Rocky Mountain bee plant				Native	12-72	0-1/8	66,000	17		X	
^	Coronilla varia	Crownvetch				Introduced	12-24	1 /4 - 1/2	140,000	8		X	X
	Echinacea purpurea	Purple coneflower				Native	6-24	1/8 - 1/2	117,000	9	X	X	X
	Gaillardia aristata	Blanket flower				Native	12-18	1 /4 - 1/2	200,000	5		X	X
	Geranium viscosissimum	Sticky geranium				Native	24-36	1 /4 - 1/2	55,000	20		X	
	Helianthella uniflora	Oneflower sunflower				Native	12-36	1/8-1/4	41,000	26		X	X
	Heliomeris multiflora	Showy goldeneye				Native	8-39	1/4-1/2	1,000,000	2		X	X
	Ipomopsis aggregata	Scarlet gilia				Native	24-36	0-1/8	360,000	6		X	X
	Linum lewisii	Lewis flax				Native	12-24	0 - 1/8	260,000	4		X	X
	L. perenne	Blue flax				Introduced	12-24	0 - 1/8	278,000	4		X	X
	L. dissectum	Fernleaf biscuitroot				Native	6-24	1/8 - 1/2	45,000	24		X	
	L. grayi	Gray's biscuitroot				Native	6-12	1/8 - 1/2	45,000	24		X	
	L. triternatum	Nineleaf biscuitroot				Native	24-36	1/8 - 1/2	45,000	24		X	
	Lotus corniculatus	Birdsfoot trefoil				Introduced	18-36	1/4 – 1/2	375,000	3	X	X	X
	Medicago sativa	Alfalfa				Introduced	24-36	1/8 - 1/2	200,000	5	X	X	
	M. sativa ssp. falcata	Yellow blossom alfalfa				Introduced	24-36	1/8 - 1/2	211,000	5	X	X	
	Onobrychis viciifolia	Sainfoin				Introduced	24-60	1/4 - 3/4	18,500	34		X	X

Plants for Pollinators in the Intermountain West

^ Can become weedy or invasive under proper conditions.

TABLE 6 continued: POLLINATOR PLANT LIST 18 – 25+ INCH PRECIPITATION.													
			Bloom Color and Time								Soils		
	Scientific Name	Common Name	spring	summer	late summer	Origin	Height (in)	Seeding Depth (in)	Seeds/lb	Full Seeding Rate (PLS lbs/ac)	fine	med	coarse
	Forbs												
	<i>P. strictus</i>	Rocky Mountain penstemon				Native	12-36	0 - 1/8	286,000	4	X	X	
	<i>P. venustus</i>	Venus penstemon				Native	24-36	0 - 1/8	1,090,000	2	X	X	
	<i>Ratibida columnifera</i>	Prairie coneflower				Native	12-18	1 /4 - 1/2	740,000	3	X	X	X
	<i>Rudbeckia hirta</i>	Blackeyed Susan				Native	9-12	1/8-1/4	1,600,000	1	X	X	
	<i>Sanguisorba minor</i>	Small burnet				Introduced	12-30	¼ - 1/2	42,000	26	X	X	
	<i>Symphyotrichum</i> spp	Aster				Native	12-40	0 - 1/2	2,000,000	1		X	X
^	<i>Trifolium</i> spp.	Clover spp.				Introduced	8-24	1/8 – 1/4	300,000	4	X	X	X
^	<i>Vicia Americana</i>	American vetch				Native	6-12	1 - 2	33,000	33		X	X
	Grasses												
	<i>Bromus marginatus</i>	Mountain brome				Native	40	1/4 – 1/2	80,000	10		X	X
	<i>Elymus glaucus</i>	Blue wildrye				Native	60	1/4 – 1/2	145,000	8		X	
	<i>E. multisetus</i>	Big squirreltail				Native	25	1/4 – 1/2	192,000	6		X	
	<i>Festuca idahoensis</i>	Idaho fescue				Native	12	1/4 – 1/2	450,000	4		X	
	<i>Koeleria macrantha</i>	Prairie junegrass				Native	24	1/4 – 1/2	2,135,000	1		X	X
	<i>Pseudoroegneria spicata</i>	Bluebunch wheatgrass				Native	48	1/4 – 1/2	139,000	8		X	

^ Can become weedy or invasive under proper conditions.

Plants for Pollinators in the Intermountain West

TABLE 6 continued: POLLINATOR PLANT LIST 18 – 25+ INCH PRECIPITATION.														
			Bloom Color and Time									Soils		
	Scientific Name	Common Name	spring	summer	late summer	Origin	Height (ft)	Seeding Depth (in)	Seeds/lb	Full Seeding Rate (PLS lbs/ac)	Plant Spacing (ft)	fine	med	coarse
	Shrubs													
	<i>Amelanchier alnifolia</i>	Serviceberry	☼	☼		Native	3-15	Seedlings	N/A	N/A	10		X	
	<i>Artemisia tridentata</i> ssp. <i>vasaseyana</i>	Mountain big sagebrush			☼	Native	2-4	0 – 1/8	1,700,000	0.5	6		X	X
	<i>Caragana arborescens</i>	Siberian peashrub	☼			Introduced	10-25	Seedlings	N/A	N/A	10	X	X	X
	<i>Clematis ligusticifolia</i>	Clematis		☼		Native	Climbing	Seedlings	N/A	N/A	6	X	X	X
	<i>Cotoneaster integerrimus</i>	Cotoneaster	☼			Introduced	4-6	Seedlings	N/A	N/A	6		X	
	<i>Crataegus douglasii</i>	Black hawthorn	☼	☼		Native	30	Seedlings	N/A	N/A	10	X	X	
	<i>Dasiphora fruticosa</i>	Shrubby cinquefoil	☼	☼		Native	1-3	Seedlings	N/A	N/A	6		X	
	<i>Eriogonum heracleoides</i>	Whorled buckwheat		☼		Native	2.5	0 - 1/4 or seedlings	135,700	4	4		X	X
	<i>E. umbellatum</i>	Sulphur buckwheat		☼		Native	2	0 - 1/4 or seedlings	209,000	4	4		X	X
	<i>Philadelphus lewisii</i>	Lewis’ mockorange	☼	☼		Native	3-10	Seedlings	N/A	N/A	10	X	X	X
	<i>Prunus americana</i>	American plum	☼			Native	15	Seedlings	N/A	N/A	10		X	X
	<i>P. pumila</i>	Western sandcherry	☼	☼		Native	3-6	Seedlings	N/A	N/A	6		X	X
	<i>Prunus tomentosa</i>	Nanking cherry	☼			Introduced	10	Seedlings	N/A	N/A	8		X	
	<i>Prunus virginiana</i>	Chokecherry	☼			Native	12-25	Seedlings	N/A	N/A	12		X	
	<i>Rosa woodsii</i>	Wood’s rose		☼		Native	2-6	Seedlings	N/A	N/A	5		X	X
	<i>Salix</i> spp.	Willow	☼	☼		Native	8-30	Cuttings	N/A	N/A	10-15		X	X
	<i>Sambucus cerulea</i>	Elderberry		☼		Native	3-13	Seedlings	N/A	N/A	6		X	X
	<i>Shepherdia argentea</i>	Buffaloberry		☼		Native	6-20	Seedlings	N/A	N/A	10		X	
	<i>Solidago</i> spp.	Goldenrod		☼	☼	Native	2-6	0 - 1/4 or seedlings	4,600,000	0.5	2-6	X	X	X
	<i>Spirea douglasii</i>	Douglas spirea		☼		Native	4-6	Seedlings	N/A	N/A	4		X	X
	<i>Symphoricarpos</i> spp.	Snowberry		☼		Native	1-5	Seedlings	N/A	N/A	4		X	
	<i>Syringa vulgaris</i>	Common lilac	☼			Introduced	6-12	Seedlings	N/A	N/A	10	X	X	X

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