



Gardening for Native Bees in Utah and Beyond

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Do You Know?

- 900 species of native bees reside in Utah.
- Some wild bees are superb pollinators of Utah's tree fruits, raspberries, squashes, melons and cucumbers.
- Few of our native bees have much venom or any inclination to sting.
- Our native bees use hundreds of varieties of garden flowers, many of them water-wise.
- A garden plant need not be native to attract and feed native bees.

Utah is home to more than 20 percent of the 4,000+ named species of wild bees that are native to North America. Except for bumblebees and some sweat bees, our native bees are solitary, not social, many with just one annual generation that coincides with bloom by their favorite floral hosts. In contrast, the familiar honeybee is highly social, has perennial colonies, and was brought to North America by settlers from Europe. Regardless of these differences, however, all of our bees need pollen and nectar from flowers. The sugars in sweet nectar power their flight; mother bees also imbibe some nectar to mix with pollen that they gather. Pollen is fortified with proteins, oils and minerals that are essential for the diets of their grub-like larvae back at the nest.

Our flower gardens can become valuable cafeterias for local populations of diverse native bees. In our cities and towns, native plant communities have been displaced by pavement, buildings and lawns. In the countryside, grain and hay crops likewise



Fig. 1. Carder bee (*Anthidium*) foraging at lavender (*Lavendula*: Lamiaceae).¹



Fig. 2. A pollinator garden can also be water-wise. Purple *Penstemon strictus*, front, firecracker penstemon (*P. eatonii*), center, and blue flax (*Linum perenne*), background, combine to make a pleasing design.¹

offer our native bees little food. Because bees find their favorite flowers by their color or scent, a bee garden can also be appealing to the homeowner. Many of these flowering species are surprisingly easy to grow.

Some people are fearful of being stung if they attract native bees to their yard. In our 25 years of watching bees at flowers, we have yet to be stung by any species of non-social bees native to North America. We have been stung handling honey bees or bumble bees at their colonies. These social bees are the ones that deliver the most painful stings. But even then, we've never been stung when just watching them at flowers.

The table of garden plants for native bees (page 4) can help guide home gardeners in Utah and across North America to genera of flowering plants whose species will please gardener and bee alike. In turn, pollination services by bees set bumper crops of all of our tree fruits and some vegetables too. Native bees also give hours of pleasant entertainment and distraction as you follow their foraging rounds or their amorous pursuits at your flowers.

The list consists of plant genera, many of whose species both attract native bees and are available from standard or native seed companies or plant nurseries. In a few cases, particularly valuable plants for native bees are listed though not yet available commercially. If just beginning your Utah bee garden, consider species from the genera that are bolded in **blue italics**. These represent broadly available, adaptable, and dependable plant genera whose blooms reliably attract native bees. Many of the genera in the list will not be universally adaptable to all climates, soils, and irrigation regimes; you will need to make informed decisions from among the genera in the list for your local use. If you are trying water-wise (or xeriscape) plants from seed, autumn seeding is beneficial, as many need a cool wet period to elicit germination. Note that the vast majority of choices are perennials, in contrast with the many traditional annual bedding plants. You will need to be patient during their first year of establishment, weed regularly, and provide occasional water as they develop their extensive root systems.

Be aware of the invasive tendencies of some plant species in your locale. The bachelor's button or cornflower (*Centaurea cyanus*), for instance, is a well-behaved garden plant across much of the U.S., but in parts of the Pacific Northwest, it has become a naturalized, undesirable weed. If in doubt, please check with your county Extension agent or the Utah Department of Agriculture, or visit one of the Web sites listed below for introductory weed information.

invader.dbs.umt.edu/Noxious_Weeds, is a searchable listing of all U.S. weeds, by state

www.invasive.org/weedus, "Invasive Plant Atlas of the US," contains images

wiki.bugwood.org/Invasipedia, lists close to 200 species with detailed information on each



Fig. 3. Nevada bee-plant (*Cleome lutea*) is a water-wise annual native to western U.S., providing pollen in summer to bees such as this *Anthophora digger* bee.¹



Fig. 4. Mason bees (*Osmia*) are very important pollinators, and are superior to honey bees in tree fruit orchards. They forage at hundreds of different flowers, including sweetvetch (*Hedysarum Fabaceae*).¹



Fig. 5. Male *Melissodes* bees (with distinctive long antennae) sleeping on a sunflower head (*Helianthus*: Asteraceae).¹

Some popular garden flowers are missing from the list, such as tulips, petunias and marigolds. These and some other garden flowers have, through years of artificial breeding and selection, lost whatever attraction they may have had for bees. That's no reason not to plant and enjoy them; they just won't feed bees.

The list is a work in progress. If you find errors, oversights or useful refinements, I will be happy to consider your suggestions for modification so long as it retains its current form. You may disseminate the list or modify your copy of it for local needs or your personal preferences as you see fit. Happy bee-ing!!



Fig. 6. The legume, western prairie clover (*Dalea ornata*), is an Intermountain West native, producing pollen for months for bees like this bumblebee (*Bombus*).²



Fig. 7. The native squash bee (*Peponapis pruinosa*) pollinates most of Utah's squashes and pumpkins (cucurbits), and is active primarily in the early morning hours.¹



Fig. 8. Fernbush (*Chamaebatiaria millefolium*) is a native shrub with aromatic foliage.¹



Fig. 9. Russian sage (*Perovskia atriplicifolia*) blooms for months, and is the authors' favorite pollinator plant.¹



Fig. 10. Blue hyssop (*Agastache*: Lamiaceae) blooms in mid to late summer and is very hardy.¹



Fig. 11. Design the pollinator garden with a succession of blooms for season-long foraging.¹

Garden Plant Recommendations for Wild Bees of North America

This table contains nearly 200 garden plant genera with species whose flowers are sought by wild bees of North America.

The **Code** column is useful for Utah gardeners. Some additional species not coded as G or U are suitable for Utah but only in the hot, southernmost climates (e.g. *Larrea* or creosote bush).

- G** - grows in Utah
- U** - Utah native
- W** - water-wise
- F** - food product

Form tells whether the usable species in the genus are

- A** - annual
- P** - perennial
- S** - shrub
- T** - tree

Plants in **bold italic** are great choices for Utah gardeners.

Genus	Family	Common Name	Code	Forms	Notes
<i>Abelia</i>	CAPRIFOLIACEAE	abelia		S	
<i>Acacia</i>	FABACEAE	acacia	W	ST	
<i>Acer</i>	ACERACEAE	maple	GU	T	
<i>Achillea</i>	ASTERACEAE	yarrow	GUW	P	<i>A. millefolium</i> weedy
<i>Aconitum</i>	RANUNCULACEAE	monkshood	GU	P	
<i>Agastache</i>	LAMIACEAE	hyssop	G	P	see Fig. 10
<i>Ajuga</i>	LAMIACEAE	carpet bugle	G	P	
<i>Allium</i>	LILIACEAE	ornamental onions	GUW	P	
<i>Althea</i>	MALVACEAE	hollyhock	G	P	not double-flowered
<i>Amelanchier</i>	ROSACEAE	serviceberry	GU	S	
<i>Amorpha</i>	FABACEAE	false indigo	G	S	
<i>Anchusa</i>	BORAGINACEAE	wild forget-me-not		AP	
<i>Anethum</i>	APIACEAE	dill	G	A	
<i>Aquilegia</i>	RANUNCULACEAE	columbine	GU	P	not double-flowered
<i>Arctostaphylos</i>	ERICACEAE	manzanita	GUW	S	
<i>Argemone</i>	PAPAVERACEAE	prickly poppy	GUW	P	
<i>Armeria</i>	PLUMBAGINACEAE	sea thrift	G	P	
<i>Aster</i>	ASTERACEAE	aster	GUW	P	not double-flowered
<i>Astragalus</i>	FABACEAE	locoweed	GUW	P	
<i>Baileya</i>	ASTERACEAE	desert marigold	GW	P	
<i>Baptisia</i>	FABACEAE	wild-indigo	G	P	
<i>Berberis</i>	BERBERIDACEAE	barberry	G	S	
<i>Borago</i>	BORAGINACEAE	borage	G	A	
<i>Brassica</i>	BRASSICACEAE	mustard	G	A	<i>B. kaber</i> and <i>B. nigra</i> weedy
<i>Calamintha</i>	LAMIACEAE	calamint	G	P	
<i>Calliopsis</i>	ASTERACEAE	annual coreopsis	G	A	<i>C. tinctoria</i>
<i>Callirhoe</i>	MALVACEAE	wine cups	GW	P	
<i>Calluna</i>	ERICACEAE	heather		S	needs acidic soils
<i>Camissonia</i>	ONAGRACEAE	camissonia	G	P	
<i>Campanula</i>	CAMPANULACEAE	bell flower	G	P	

Genus	Family	Common Name	Code	Forms	Notes
<i>Caragena</i>	FABACEAE	Siberian peashrub	G	S	
<i>Carthamnus</i>	ASTERACEAE	safflower	GW	A	
<i>Caryopteris</i>	LAMIACEAE	blue mist spirea	GW	S	esp. <i>C. x clandonensis</i>
<i>Cassia</i>	FABACEAE	many now Senna		T	
<i>Ceanothus</i>	RHAMNACEAE	buckbrush	GW	S	California species only
<i>Cercidium</i>	FABACEAE	palo verde	W	T	
<i>Cercis</i>	FABACEAE	redbud	G	ST	
<i>Cercocarpus</i>	ROSACEAE	mountain mahogany	GUW	S	
<i>Chaenomeles</i>	ROSACEAE	flowering quince	G	S	
<i>Chamaebatiaria</i>	ROSACEAE	fernbush	GUW	S	see Fig. 8
<i>Chilopsis</i>	BIGNONIACEAE	desert willow		S	
<i>Chrysothamnus</i>	ASTERACEAE	rabbit brush, chamisa	GUW	S	= <i>Ericameria</i>
<i>Citrullus</i>	CUCURBITACEAE	watermelon	GF	A	
<i>Citrus</i>	RUTACEAE	grapefruit, orange, lemon		T	
<i>Clarkia</i>	ONAGRACEAE	clarkia	G	A	not double-flowered
<i>Cleome</i>	CLEOMACEAE	bee-plant	GUW	A	see Fig. 3
<i>Coreopsis</i>	ASTERACEAE	coreopsis	GW	AP	
<i>Coriandrum</i>	APIACEAE	coriander	GF	A	
<i>Coronilla</i>	FABACEAE	crownvetch	G	P	
<i>Cosmos</i>	ASTERACEAE	cosmos	G	AP	
<i>Crataegus</i>	ROSACEAE	hawthorn	GU	ST	
<i>Cucurbita</i>	CUCURBITACEAE	squash, gourd, pumpkin	GF	A	see Fig. 7
<i>Cuphea</i>	LYTHRACEAE	false heather	G	S	<i>C. hyssopifolia</i>
<i>Cydonia</i>	ROSACEAE	fruiting quince	F	S	
<i>Cynara</i>	ASTERACEAE	artichoke, cardoon	F	P	
<i>Cynoglossum</i>	BORAGINACEAE	hound's tongue	G	P	<i>C. grande</i> ; shade
<i>Dalea</i>	FABACEAE	prairie clover	GUW	P	see Fig. 6
<i>Daucus</i>	APIACEAE	carrot, Queen Anne's lace	GF	P	some weedy
<i>Delphinium</i>	RANUNCULACEAE	larkspur	GU	AP	not double-flowered
<i>Delosperma</i>	AIZOACEAE	ice plant	GW	P	
<i>Digitalis</i>	SCROPHULARIACEAE	foxglove	G	P	
<i>Echinacea</i>	ASTERACEAE	cone flower	G	P	
<i>Echium</i>	BORAGINACEAE	Pride of Madera		P	
<i>Ericameria</i>	ASTERACEAE	rabbit brush, chamisa	GUW	S	<i>E. nauseosa</i>
<i>Erigeron</i>	ASTERACEAE	fleabane	GUW	P	
<i>Eriodictyon</i>	HYDROPHYLLACEAE	yerba santa	W	P	
<i>Eriogonum</i>	POLYGONACEAE	wild buckwheat	GUW	SP	
<i>Eryngium</i>	APIACEAE	sea holly	G	AP	

Genus	Family	Common Name	Code	Forms	Notes
<i>Erysimum</i>	BRASSICACEAE	wallflower	GU	P	
<i>Escholzia</i>	PAPAVERACEAE	California poppy	GW	P	
<i>Eupatorium</i>	ASTERACEAE	joe pye weed	G	P	not <i>E. capillifolium</i>
<i>Ferocactus</i>	CACTACEAE	barrel cactus	W	P	
<i>Foeniculum</i>	APIACEAE	fennel	GF	P	<i>F. vulgare</i>
<i>Fragaria</i>	ROSACEAE	strawberry	GF	P	
<i>Fremontodendron</i>	STERCULIACEAE	flannelbush	W	S	
Gaillardia	ASTERACEAE	blanket flower	GW	AP	
<i>Gaura</i>	ONAGRACEAE	gaura	GW	P	
<i>Gentiana</i>	GENTIANACEAE	blue gentian	GU	P	
<i>Geraea</i>	ASTERACEAE	desert sunflower	W	A	
<i>Geum</i>	ROSACEAE	avens, prairie smoke	G	P	
<i>Gilia</i>	POLEMONIACEAE	gilia	GUW	P	blue or violet
<i>Glycyrrhiza</i>	FABACEAE	licorice		P	
<i>Hedeoma</i>	LAMIACEAE	sweetscent, mock pennyroyal		P	
Hedysarum	FABACEAE	sweet vetch	GUW	P	<i>H. boreale</i>; see Fig. 4
<i>Helenium</i>	ASTERACEAE	sneezeweed	GW	P	
<i>Helianthella</i>	ASTERACEAE	sunflower	GU	P	
Helianthus	ASTERACEAE	sunflower	GUW	AP	not double-flowered or pollen-free; see Fig. 5
<i>Heliotropium</i>	BORAGINACEAE	heliotrope	G	P	often grown as annual
<i>Hibiscus</i>	MALVACEAE	rose-of-sharon, hollyhock	G	S	not double-flowered
<i>Holodiscus</i>	ROSACEAE	cliff spirea, mountainspray	GU	S	
<i>Hymenoxys</i>	ASTERACEAE	alpine sunflower	GUW	P	
<i>Hyptis</i>	LAMIACEAE	desert lavender	GW	S	
Hyssopus	LAMIACEAE	hyssop	GW	P	
<i>Ilex</i>	AQUIFOLIACEAE	holly		ST	needs acidic soils
<i>Iliamna</i>	MALVACEAE	mountain hollyhock	GU	P	
<i>Kallstroemia</i>	ZYGOPHYLLACEAE	Arizona poppy	W	P	
<i>Keckiella</i>	SCROPHULARIACEAE	bush penstemon		S	
<i>Lamium</i>	LAMIACEAE	deadnettle	G	P	incl. <i>Lamiastrum</i>
<i>Larrea</i>	ZYGOPHYLLACEAE	creosote bush	W	S	
<i>Lathyrus</i>	FABACEAE	sweet pea	G	AP	a marginal bee plant
Lavendula	LAMIACEAE	lavendar	GW	S	see Fig. 1
<i>Layia</i>	ASTERACEAE	tidytips		A	
<i>Lespedeza</i>	FABACEAE	bush clover	W	PS	esp. <i>L. cuneata</i>
<i>Lesquerella</i>	BRASSICACEAE	bladderpod	W	A	
<i>Liatris</i>	ASTERACEAE	gayfeather	G	P	

Genus	Family	Common Name	Code	Forms	Notes
<i>Limnanthes</i>	LIMNANTHACEAE	meadowfoam, fried egg flower	G	A	
<i>Linanthus</i>	POLEMONIACEAE	mountain phlox	W	A	
<i>Linum</i>	LINACEAE	flax	GUW	AP	see Fig. 2
<i>Lotus</i>	FABACEAE	birdsfoot trefoil, lotus	G	P	good in pastures
<i>Lycium</i>	SOLANACEAE	wolfberry	W	S	
<i>Mahonia</i>	BERBERIDACEAE	Oregon grape	GUW	S	
<i>Malus</i>	ROSACEAE	apple, crabapple	GF	T	
<i>Malva</i>	MALVACEAE	mallow		P	
<i>Medicago</i>	FABACEAE	alfalfa, medic	G	P	good in pastures
<i>Melilotus</i>	FABACEAE	sweet clover	G	AP	can be weedy
<i>Mentha</i>	LAMIACEAE	mint	GF	P	
<i>Mentzelia</i>	LOASACEAE	blazing star	GUW	P	
<i>Mertensia</i>	BORAGINACEAE	bluebells	GU	P	
<i>Mimulus</i>	SCROPHULARIACEAE	monkey flower	GU	P	
<i>Monarda</i>	LAMIACEAE	bee balm	G	P	not red
<i>Myoporum</i>	MYOPORACEAE	myoporum	W	ST	<i>M. laetum</i>
<i>Nemophila</i>	HYDROPHYLLACEAE	blue eyes	G	A	
<i>Nepeta</i>	LAMIACEAE	catmint	GW	P	esp. <i>N. x faassenii</i>
<i>Ocimum</i>	LAMIACEAE	basil	GF	A	
<i>Oenothera</i>	ONAGRACEAE	evening primrose	GUW	P	
<i>Opuntia</i>	CACTACEAE	pear cactus	GUW	P	
<i>Origanum</i>	LAMIACEAE	oregano	GF	P	
<i>Oxydendrum</i>	ERICACEAE	sourwood		T	
<i>Oxytropis</i>	FABACEAE	locoweed	GUW	P	
<i>Parkinsonia</i>	FABACEAE	Mexican palo verde	W	S	
<i>Pedicularis</i>	SCROPHULARIACEAE	lousewort	GU	P	
<i>Penstemon</i>	SCROPHULARIACEAE	penstemon	GUW	P	<i>P. palmeri, P. strictus, P. eatoni</i> etc.; see Fig. 2
<i>Perovskia</i>	LAMIACEAE	Russian sage	GW	S	<i>P. atriplicifolia</i> ; see Fig. 9
<i>Petalostemon</i>	FABACEAE	prairie clover	GUW	P	= <i>Dalea</i>
<i>Phacelia</i>	HYDROPHYLLACEAE	bluebells, scorpionweed	GW	A	
<i>Phyllodoce</i>	ERICACEAE	mountain-heath		S	needs acidic soil
<i>Physocarpus</i>	ROSACEAE	ninebark	GUW	S	
<i>Physostegia</i>	LAMIACEAE	obedient plant	G	P	
<i>Pieris</i>	ERICACEAE	fetterbush		S	needs acidic soil
<i>Platystemon</i>	PAPAVERACEAE	creamcups		A	
<i>Polemonium</i>	POLEMONIACEAE	Jacob's ladder	GU	P	
<i>Pontederia</i>	PONTEDERIACEAE	pickerelweed		P	an aquatic plant

Genus	Family	Common Name	Code	Forms	Notes
<i>Prosopis</i>	FABACEAE	mesquite	W	ST	
<i>Prunella</i>	LAMIACEAE	henbit	G	P	some weedy
<i>Prunus</i>	ROSACEAE	cherry, plum, apricot	GUF	ST	not double-flowered
<i>Psoralea</i>	FABACEAE	indigobush	W	S	
<i>Purshia</i>	ROSACEAE	cliff rose	GUW	S	
<i>Pycnanthemum</i>	LAMIACEAE	mountain mint	G	P	
<i>Raphanus</i>	BRASSICACEAE	mustard		A	
<i>Ratibida</i>	ASTERACEAE	Mexican hat	GW	P	
<i>Rhamnus</i>	RHAMNACEAE	buckthorn	G	S	
<i>Rhus</i>	ANACARDIACEAE	sumac	GUW	S	
<i>Ribes</i>	GROSSULARIACEAE	currant	GUF	S	esp. <i>R. aureum</i>
<i>Robinia</i>	FABACEAE	black locust	G	T	
<i>Romneya</i>	PAPAVERACEAE	Matilija poppy		P	
<i>Rosa</i>	ROSACEAE	rugosa-type and wild roses	GU	P	not double-flowered, some weedy
<i>Rosmarinus</i>	LAMIACEAE	rosemary	GF	S	
Rubus	ROSACEAE	raspberry, blackberry, brambles	GUF	P	some weedy
<i>Rudbeckia</i>	ASTERACEAE	black-eyed susan	GU	P	
Salix	SALICACEAE	willow	GU	ST	pussywillow, not weeping willow
<i>Salvia</i>	LAMIACEAE	sage	G	PS	blue or violet
<i>Sambucus</i>	CAPRIFOLIACEAE	elderberry	GU	S	
<i>Scabiosa</i>	DIPSACEAE	pincushion flower	G	P	not double-flowered
Sedum	CRASSULACEAE	sedum, stonecrop	GUW	P	
<i>Senecio</i>	ASTERACEAE	butterweed,	W	P	
<i>Senna</i>	FABACEAE	senna		S	
<i>Sidalcea</i>	MALVACEAE	checkermallow	GUW	P	
<i>Solanum</i>	SOLANACEAE	nightshade	G	PS	some weedy
Solidago	ASTERACEAE	goldenrod	GUW	P	
<i>Sphaeralcea</i>	MALVACEAE	globemallow	GUW	P	
<i>Spiraea</i>	ROSACEAE	spirea	G	S	
<i>Stachys</i>	LAMIACEAE	lamb's ear	GX	P	
<i>Stanleya</i>	BRASSICACEAE	prince's plume	GUW	P	
<i>Sympytm</i>	BORAGINACEAE	comfrey	G	P	can be weedy
<i>Talinum</i>	PORTULACACEAE	fameflower		P	
<i>Tanacetum</i>	ASTERACEAE	tansy	G	P	
<i>Tecoma</i>	BIGNONIACEAE	yellow trumpet bush		S	
<i>Teucrium</i>	LAMIACEAE	germander	G	P	

Genus	Family	Common Name	Code	Forms	Notes
<i>Thermopsis</i>	FABACEAE	false lupine, golden pea	GU	P	
<i>Thymus</i>	LAMIACEAE	thyme	GWF	P	
<i>Tilia</i>	TILIACEAE	basswood, linden	G	T	
<i>Tithonia</i>	ASTERACEAE	Mexican sunflower	G	A	
<i>Trichostema</i>	LAMIACEAE	bluecurls	W	S	
<i>Trifolium</i>	FABACEAE	clover	G	P	good in pastures
<i>Vaccinium</i>	ERICACEAE	blueberry, cranberry, huckleberry	G	S	needs acidic soil; widely attractive
<i>Valeriana</i>	VALERIANACEAE	valerian	GU	P	
<i>Verbena</i>	VERBENACEAE	verbena	GW	P	not red
<i>Verbesina</i>	ASTERACEAE	golden crownbeard	GUW	P	
<i>Veronica</i>	SCROPHULARIACEAE	speedwell, veronica	GW	P	
<i>Viburnum</i>	CAPRIFOLIACEAE	arrowwood, snowball bush		S	
<i>Vicia</i>	FABACEAE	vetch	GU	P	good in pastures
<i>Viguiera</i>	ASTERACEAE	showy golden-eye	GUW	P	
<i>Viola</i>	VIOLACEAE	violets	GU	AP	not pansies
<i>Wyethia</i>	ASTERACEAE	mules ear	GUW	P	
<i>Zinnia</i>	ASTERACEAE	zinnia	GW	AP	not double-flowered

RESOURCES FOR UTAH AND INTERMOUNTAIN WEST

WEB SITES

Intermountain Native Plant Growers Association, with information on the program, "Utah's Choice": [click here](#)

UC-Berkeley's "Guide to Bee-Friendly Gardens": [click here](#)

PLACES TO VISIT

Pollinator Garden at USU Campus, Logan

Conservation Garden Park at Jordan Valley, West Jordan, UT, [click here](#) for Web site

Red Butte Botanical Garden, SLC, [click here](#) for Web site

Washington County Water Conservancy District [demonstration garden](#), 1851 Dixie Drive, St. George, UT

BOOKS

Sunset Guide to Western Gardening, by Sunset Editors

Weeds of the West, by Tom Whitson

Landscaping on the New Frontier: Waterwise Design for the Intermountain West, by Susan Meyer, Roger Kjelgren, Darrel Morrison, William Varga, and Bettina Schultz

Waterwise: Native Plants for Intermountain Landscapes, by Richard Sutton, Craig Johnson, Wendy Mee, Jared Barnes, Roger Kjelgren, Teresa Cerny

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²Image courtesy of Kevin Connors

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