

	A	B	C	D	E	F	G	H	I
1	<b>Honey Bee Nectar and Pollen Plants of Vermont - Includes Sources for Propolis (See sources for this data below.)</b>								
2	<p>The information in this worksheet can be helpful to homeowners, landowners, land managers, and consultants who wish to plant or retain species helpful to honey bees and other pollinators. It's helpful to create or maintain a habitat with plant species that bloom from Spring through Fall to provide pollinator forage as consistently as possible throughout the growing season. Having abundant forage is critical to pollinator health. Nectar containing natural sugars is used as their energy source. Pollen is the protein source needed to raise new pollinator babies (brood.) Aspen and Cottonwood trees (Populus spp.) are a primary source for bud resins that honey bees process into propolis used to seal cracks and holes in their hives (much like we use silicone caulk as a sealant.) Early Spring species such as Red Maple, Sugar maple, and sumac and others are critical for species emerging from winter with food stores depleted. Spring and early summer species like dandelions, fruit trees, white clovers, alfalfas, locusts, and Basswood (Linden) give a boost to colonies that are expanding to their summer peak numbers which has strong influence on a colony being large enough to survive the winter. During the late summer and Fall honey bees (and other pollinators) rely heavily upon species such as goldenrod and aster to build up stores that will be needed for their survival through the 6-to-7-month long period in Vermont when foraging is limited or not possible due to lack of forage after first front or because it's too cold for them to fly. Management guidelines could include:</p> <ul style="list-style-type: none"> <li>•When logging or other vegetation management is planned, retain a variety of tree species used by pollinators.</li> <li>•Defer mowing lawns and fields when species like dandelions, white clover, and goldenrod are blooming.</li> <li>•Plant or retain a variety of native pollinator-friendly species that bloom throughout the growing season.</li> <li>•And, of course, avoid the using products containing pesticides since even sublethal exposure to pesticides can make the difference between a colony surviving through the winter or expiring.</li> </ul> <p>The pollinators thank you for your help!</p>								
3	<b>Listed in order of approximate blooming periods with observations on the sugar concentration of certain nectars.*</b>								
4	<u>Common Name</u>	<u>Scientific Name</u>	<u>Value</u>	<u>Plant Type</u>	<u>Usually Blooms</u>	<u>Occurance**</u>	<u>Sugar Conc. Of Nectar</u>		
5							<u>Min.</u>	<u>Max.</u>	<u>Avg.</u>
6	Alfalfa	Medicago sativa	Nectar	Perennial	June	G/C	27.0	44.6	<b>32.7</b>
7	Alsike clover	Trifolium hybridum	Nectar & Pollen	Perennial	June	G/C	26.5	48.0	<b>40.5</b>
8	American aspen	Populus tremuloides	Pollen	Tree	April	N			
9	American elm	Ulmus americana	Pollen	Tree	April	N			
10	Andromeda-fetter bush	Xolisma lucida	Nectar & Pollen	Evergreen Shrub	April	N			
11	Apple	Pyrus malus	Pollen & Nectar	Tree	May	G/C	41.0	57.7	<b>50.6</b>
12	Ash	Fraxinus spp.	Pollen	Hardy Tree	April	N			
13	Asparagus	Asparagus officinalis	Nectar & Pollen	Perennial	June	G/C			
14	Aspen (Bigtooth, poplar)	Populus grandidentata	Resin for propolis	Tree		N			
15	Aspen (Quaking, poplar)	Populus tremuloides	Resin for propolis	Tree		N			
16	Aster	Aster acuminatus	Nectar & Pollen	Herbaceous Perennial	July	N	31.0	46.0	<b>37.3</b>
17	Aster	Aster novea angliae	Nectar & Pollen	Herbaceous Perennial	July	N	26.0	35.0	<b>31.6</b>
18	Aster	Aster prealtus	Nectar & Pollen	Herbaceous Perennial	July	N	21.0	36.0	<b>30.0</b>
19	Aster	Aster viminius	Nectar & Pollen	Herbaceous Perennial	July	N	51.3	55.5	<b>53.6</b>
20	Bachelor's button	Centaurea cyanus	Nectar	Herbaceous Perennial	August	G/C			
21	Barberry	Berberis vulgaris	Nectar & Pollen	Shrub	May	E			
22	Basswood	Tilia americana	Nectar & Pollen	Tree	July	N	28.2	42.0	<b>36.4</b>
23	Beach plum	Prunus maritima	Nectar & Pollen	Shrub	May	N			

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24	Bee balm, Bergamot, Oswego Tea (mint family - Lamiaceae)	Monarda punctata, fistulosa, and didyma	Nectar & Pollen	Herbacious Perennial	July	G/C			
25	Beech (American)	Fagus grandifolia	Pollen	Tree	April	N			
26	Birch	Betula spp.	Pollen	Tree	April	N			
27	Bittersweet	Calastrus officinalis	Nectar & Pollen	Vine	June	N	33.0	44.5	<b>36.7</b>
28	Black alder	Ilex verticillata	Nectar & Pollen	Shrub	May	N			
29	Black locust	Robinia pseudo-acacia	Nectar & Pollen	Tree	June	N	36.2	49.6	<b>46.3</b>
30	Blackberry	Rubus spp.	Nectar & Pollen	Shrub	June	N			
31	Black cherry (wild)	Prunas serotina	Nectar & Pollen	Tree or Shrub	May	N			
32	Blackhaw	Viburnum spp.	Nectar & Pollen	Hardy shrub	April	N			
33	Bloodroot	Sanguinaria canadensis	Pollen	Herbaceous Perennial	April	N			
34	Blueberry (Highbush)	Vaccinium corymbosm	Nectar & Pollen	Shrub	May	N	16.0	26.4	<b>20.8</b>
35	Blueberry (Lowbush)	Vaccinium pennsylvanicum	Nectar & Pollen	Shrub	May	N			
36	Boneset	Eupatorium perfoliatum	Nectar & Pollen	Herbaceous Perennial	August	N	21.0	28.0	<b>21.3</b>
37	Box Elder	Acer negundo	Pollen & Nectar	Tree	April	E			
38	Buckwheat	Fagopyrum esculentum	Nectar	Annual	July	G/C	37.6	48.5	<b>42.5</b>
39	Burdock	Arctium minus	Nectar & Pollen	Biennial	August	E/I	20.0	34.0	<b>30.1</b>
40	Bur-mariold	Bidens laevis	Nectar	Perennial	August	N			
41	Butterfly-bush	Buddleia davidi	Nectar	Shrub	July	G/C			
42	Buttonbush	Cephalanthus occidentalis	Nectar & Pollen	Shrub	July	N	32.1	41.0	<b>36.9</b>
43	California poppy	Eschscholtzia californica	Nectar & Pollen	Annual	July	G/C			
44	Canada thistle	Cirsium arvense	Nectar	Perennial	July	N			
45	Carrot	Daucus carota	Nectar & Pollen	Biennial	June	N			
46	Cassandra	Chamaedaphne calyculata	Nectar & Pollen	Shrub	April	N			
47	Catalpa	Catalpa speciosa	Nectar & Pollen	Biennial	June	N			
48	Cherry	Prunus avium cerasus	Nectar & Pollen	Tree	May	G/C	27.5	47.0	<b>37.7</b>
49	Cherry (sweet)	Several	Necatr and pollen	Tree	May/June	G/C			
50	Chick weed	Stellaria media	Nectar	Annual	May	E	36.4	50.6	<b>44.2</b>
51	Chick weed (Mouse eared)	Cerastium spp.	Nectar	Biennial	May	E			

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52	Choke cherry	Prunus virginiana	Nectar & Pollen	Shrub or Small Bush	May	N	27.4	35.2	<b>31.3</b>
53	Clematis	Clematis virginiana	Nectar & Pollen	Herbaceous Perennial	July	N			
54	Corn	Zea mays	Pollen	Annual	July	G/C			
55	Cottonwood (eastern)	Populus deltoides	Resin for propolis	Tree		N			
56	Cranberry	Vaccinium macrocarpon	Pollen & Nectar	Vine	June	N			
57	Cranberry	Var. howes	Pollen & Nectar	Vine	June	N	46.5	58.0	<b>50.2</b>
58	Cranberry	Var. early black	Pollen & Nectar	Vine	June	N	40.0	62.0	<b>54.7</b>
59	Cranberry	Var. MacFarlin	Pollen & Nectar	Vine	June	N	38.0	53.0	<b>45.7</b>
60	Crocus	Crocus	Pollen	Bulb	March	G/C			
61	Cucumber	Cucumis sativa	Nectar & Pollen	Annual	July	G/C			
62	Cup Plant	Silphium perfoliatum	Nectar & Pollen	Perennial	July-Aug	N			
63	Current	Ribes spp.	Nectar & Pollen	Shrub	May	N			
64	Dandelion	Taraxacum officinale	Nectar & Pollen	Herbaceous Perennial	April	N	16.0	61.0	<b>40.9</b>
65	Deutzia	Deutzia lemoinei	Nectar & Pollen	Shrub	April	G/C	10.0	57.5	<b>40.3</b>
66	Devil's paintbrush/Hawkweed	Hieracium aurantiacum and pratense	Nectar	Perennial	June	E	17.2	33.4	<b>24.6</b>
67	Dogbane (spreading)	Apocynum sativa	Nectar & Pollen	Perennial	July	N	24.0	28.0	<b>26.2</b>
68	Dogwood	Cornus spp.	Nectar & Pollen	Small Tree	May	N			
69	Dwarf sumac	Rhus copallina	Nectar & Pollen	Shrub	July	N			
70	Elder	Sambucus canadensis	Pollen	Shrub	June	N			
71	English Ivy	Hebera helix	Nectar	Vine	July	G/C	17.0	30.0	<b>26.2</b>
72	European linden	Tilia europea	Nectar & Pollen	Tree	June	G/C	54.0	58.0	<b>56.1</b>
73	False-chamomile	Boltonia asteroides	Nectar & Pollen	Perennial	September	N			
74	Figwort, Simpson's honey plant	Scrophularia spp.	Nectar	Herbaceous Perennial		N, G/C			
75	Fireweed	Epilobium angustifolium	Nectar & Pollen	Perennial	July	N	28.6	48.5	<b>38.2</b>
76	Flowering dogwood	Cornus florida	Nectar & Pollen	Tree	May	N			
77	Fox Grape	Vitis labrusca	Pollen	Vine	June	N			
78	Gill - Over-the-ground	Nepeta hederacea	Nectar & Pollen	Herbaceous	April	E			
79	Goldenglow, Cutleaf coneflower	Rudbeckia laciniata	Pollen & Nectar	Perennial	August	N			

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80	Golden-rain Tree	Koelreuteria paniculata	Nectar & Pollen	Tree	July	G/C			
81	Goldenrod general	Solidago spp. (many species)	Nectar & Pollen	Herbaceous Perennial	July-Sept	N			
82	Goldenrod (lance-leaved)	Solidago graminifolia	Nectar & Pollen	Herbaceous Perennial	July	N	22.0	40.0	<b>29.8</b>
83	Goldenrod (rough-stemmed)	Solidago rugosa	Nectar & Pollen	Herbaceous Perennial	July	N	27.0	48.0	<b>37.9</b>
84	Goldenrod (showy)	Solidago speciosa	Nectar & Pollen	Herbaceous Perennial	July	N	26.0	29.0	<b>27.0</b>
85	Hardhack	Spiraea tomentosa	Nectar	Shrub	July	N			
86	Hazelnut	Corylus americana	Pollen	Shrub	April	N			
87	Heart's Ease	Polygonum persicaria	Nectar	Perennial	August	N	39.6	50.0	<b>43.7</b>
88	Highbush cranberry, Arrowwood	Viburnum trilobum spp.	Nectar	Shrub	May	N			
89	Hobblebush	Viburnum alnifolium	Nectar & Pollen	Shrub	May	G/C			
90	Hollyhock	Althaea rosea	Nectar & Pollen	Annual	June	G/C			
91	Honeysuckle	Lonicera tatarica	Nectar	Vine or Shrub	May	G/C	30.5	48.0	<b>35.9</b>
92	Horsechestnut	Aesculus hippocastanum	Pollen & Nectar	Tree	May	N	43.8	52.0	<b>47.2</b>
93	Huckleberry	Gaylussacia frondosa	Pollen & Nectar	Shrub	May	N			
94	Japanese barberry	Berberis thunbergii	Pollen & Nectar	Shrub	May	G/C	18.0	47.0	<b>33.9</b>
95	Japanese flowering crab	Malus floribunda	Pollen & Nectar	Shrub	May	G/C			
96	Japanese knotweed [aka Japanese bamboo]	Polygonum cuspidatum	Nectar	Perennial	September	E/I	28.5	35.5	<b>31.9</b>
97	Japanese witch hazel	Hammamelis japonica	Pollen & Nectar	Shrub	March	G/C			
98	Jersey-tea	Ceanothus americanus	Nectar & Pollen	Shrub	July	N			
99	Jewelweed	Impatiens biflora	Nectar	Annual	July	N	21.0	28.0	<b>21.3</b>
100	Joe-Pye weed, Gravel root	Eupatorium purpureum, reclassified as genus Eutrochium	Nectar & Pollen	Herbaceous Perennial	August	N	27.5	39.0	<b>33.3</b>
101	Lavender	Lavandula vera	Nectar	Perennial	June	G/C			
102	Lilac	Syringa spp.	Pollen & Nectar	Shrub	May	G/C			
103	Lupine	Lupinus spp.	Pollen	Annual or Perennial	June	G/C			
104	Magnolia	Magnolia virginiana	Nectar & Pollen	Tree	June	N			
105	Marjoram	Origanum	Nectar & Pollen	Perennial	July	E/I			<b>29.6</b>
106	Marsh Marigold, Cowslip	Calthe palustris	Pollen	Annual	April	N			

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107	Meadowsweet	Spiraea latifolia	Nectar	Shrub	July	N	19.0	26.5	23.3
108	Mignonette	Reseda odorata	Nectar	Annual	June	G/C			
109	Milkweed	Asclepias spp.	Nectar & Pollen	Perennial	July	N	20.0	32.0	25.6
110	Mints	Labiatae (many species)			June				
111	Mustard	Brassica nigra	Nectar	Biennial	May	E	41.2	55.7	48.6
112	Narcissus	Narcissus	Nectar & Pollen	Bulb	April	G/C			
113	Norway maple	Acer platanoides	Nectar & Pollen	Tree	May	G/C			
114	Onion	Allium cepa	Nectar	Biennial	July	G/C			
115	Pear	Pyrus communis	Nectar & Pollen	Tree	May	G/C	11.0	30.2	20.1
116	Plums	Prunus spp.	Nectar & Pollen	Tree	May	G/C			
117	Poppy	Papaver spp.	Pollen	Annual & Perennial	May	G/C			
118	Privet	Ligustrum vulgare	Nectar & Pollen	Shrub	June	G/C	18.0	31.0	23.5
119	Purple loosestrife	Lythrum salicaria	Nectar & Pollen	Perennial	July	N	28.3	38.4	34.6
120	Purple vervain	Verbena hastata	Nectar & Pollen	Herbaceous Perennial	July	N			
121	Ragweed	Ambrosia artemisiifolia	Pollen	Annual	August	N			
122	Raspberry	Rubus spp.	Nectar & Pollen	Shrub	May	N & G/C	26.0	34.4	30.7
123	Red maple	Acer rubrum	Pollen & Nectar	Tree	April	G/C	37.4	44.3	41.1
124	Red Oak	Quercus rubra	Pollen	Tree	May	N			
125	Rhubarb	Rheum	Nectar & Pollen	Perennial	June-July	N			
126	Rock-rose	Helianthemum canadense	Pollen	Annual	July	G/C			
127	Rose	Rosa spp.	Pollen	ClimbinG/C Shrub	June	G/C & N			
128	Sage	Salvia officinalis	Nectar	Annual	June	G/C			
129	Shadbush/Serviceberry/Smooth Juneberry	Amelanchier spp.	Nectar & Pollen	Shrub or Tree	April/May	N			
130	Siberian crab	Pyrus baccata	Nectar	Tree	May	G/C			
131	Silver maple	Acer dasycarpum	Nectar & Pollen	Tree	April	G/C			
132	Skunk cabbage	Symplocarpus foetidus	Pollen	Herbaceous Perennial	March	N			
133	Smooth sumac	Rhus glabra	Nectar & Pollen	Shrub	July	N	42.0	58.5	48.5
134	Snowberry	Symphoricarpos albus	Nectar & Pollen	Shrub	June	N			

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5							<u>Min.</u>	<u>Max.</u>	<u>Avg.</u>
135	Sour gum	Nyssa sylvatica	Nectar & Pollen	Tree	May	N			
136	Spicebush	Benzoin aestivale	Nectar & Pollen	Shrub	April	N			
137	Staghorn sumac	Rhus typhina	Nectar & Pollen	Shrub	June	N	37.0	53.5	<b>46.8</b>
138	Strawberry	Fraggaria virginiana	Nectar & Pollen	Perennial	May	N	26.4	36.0	<b>30.2</b>
139	Sugar Maple	Acer saccharum	Pollen & Nectar	Tree	May	N			
140	Swamp loosestrife	Decodon verticillatus	Nectar & Pollen	Perennial	July	N			
141	Sweet mockorange	Philadelphus coronarius	Pollen & Nectar	Shrub	June	G/C			
142	Sweet pepperbush, Clethra	Clethra alnifolia	Nectar & Pollen	Shrub	July	N	19.5	34.0	<b>26.2</b>
143	Tag alder or Speckled alder	Alnus incana	Pollen	Bulb	April	N			
144	Thyme	Thymus serpyllum	Nectar	Herbaceous Perennial	July	E/I	38.0	47.5	<b>43.2</b>
145	Trillium	Trillium grandiflorum	Pollen	Herbaceous Perennial	May-July	N			
146	Tulip	Tulipa	Pollen	Bulb	April	G/C			
147	Tulip tree	Liriodendron tulipifera	Nectar & Pollen	Shrub/Tree	June	G/C			
148	Vetch	Vicia cracca	Nectar & Pollen	Perennial	June	E	31.0	52.0	<b>42.3</b>
149	Viper's eugloss, Blue thistle	Echium vulgare	Nectar & Pollen	Biennial	June	E	37.0	49.2	<b>42.2</b>
150	Virginia creeper	Parthenocissus quinquefolia	Pollen & Nectar	Vine	August	N			
151	Weigelia	Weigelia rosea	Pollen & Nectar	Shrub	May	G/C			
152	White clover	Trifolium repens	Nectar & Pollen	Biennial	June	N	27.0	56.0	<b>39.7</b>
153	White snakeroot	Ageratina altissima (reclassified from Eupatorium rugosum)	Nectar	Herbaceous Perennial	August-Frost	N			
154	White sweet clover	Melilotus alba	Nectar & Pollen	Biennial or Annual	June	G/C	34.0	48.0	<b>40.2</b>
155	Wild cucumber	Echinocystis lobata	Nectar & Pollen	Annual	July	N			
156	Willows - many species	Salix spp.	Pollen & Nectar	Small Shrub to Trees	April	N	37.0	46.1	<b>44.2</b>
157	Winged euonmus	Euonmus alata	Nectar & Pollen	Shrub	May	G/C	31.4	41.0	<b>35.8</b>
158	Winter squash	Cucurbita maxima	Nectar & Pollen	Annual	July	G/C	18.0	38.0	<b>29.7</b>
159	Witch hazel	Hamamelis virginiana	Pollen	Shrub	October	N			
160	Yellow rocket	Barbarea vulgaris	Nectar	Biennial	May	E	32.4	40.1	<b>37.6</b>
161	Yellow sweet clover	Melilotys officinalis	Nectar & Pollen		June	G/C	38.0	58.4	<b>51.7</b>

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5							<u>Min.</u>	<u>Max.</u>	<u>Avg.</u>
162									
163									
164	*A note of explanation on the flowering dates indicated. These indicate the approximate blooming periods as observed in the valley regions of Vermont. Of course some plants may bloom more than once, others may have a period of bloom extended over a month or more. Thus, some asters and Goldenrod may bloom from July - October. The dates indicated may vary from 7 - 14 days according to the region of the state and also the season.								
165									
166	** Occurance: N = Native, G/C = Garden or Cultivated, E/I = Escaped/Invasive (a plant which has been introduced to the area but which is now growing wild)								
167									
168	<b>Original data from Special Circular #27, Revised F.R. Shaw, Department of Entomology, University of Massachusetts, 2-2-56.</b>								
169	<b>Updated and localized to Vermont by Vermont Beekeepers Association members Jeff Cunnigham and Fred Putnam, Jr. - 2022</b>								