TECHNICAL NOTES

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ALBUQUERQUE, NEW MEXICO

NATURAL RESOURCES CONSERVATION SERVICE
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PLANT MATERIALS TECHNICAL NOTE NO. 71

Preliminary Pollinator Plant Recommendations for New Mexico

Los Lunas Plant Materials Center
David R. Dreesen, Agronomist/Horticulturist

New Mexico State University
Tess R. Grasswitz, Assistant Professor, Urban/Small Farms IPM Specialist

In recent years, domesticated honey bee populations and beekeepers have had to endure many new challenges. These include introduced diseases and parasites, as well as a new phenomenon known as Colony Collapse Disorder, which is thought to be caused by a complex combination of habitat loss, pathogens, pests, exposure to insecticides, and other stresses. The decline in honey bee populations has stimulated increasing interest in providing habitat for both domesticated (hive) bees and for native wild bees. In nature, native pollinators perform most of the pollination of wild plants, whereas, domesticated honey bees provide the primary pollination service for many crop plants.

To help to enhance these pollinator populations, the Natural Resources Conservation Service (NRCS) Plant Materials Program is conducting field trials to develop recommendations on the plants that will provide the most abundant pollen and nectar for bees throughout the growing season. Funding for on-farm pollinator plantings is now available under the cost-share programs administered by the NRCS (e.g., the EQIP program for both organic and conventional producers); these wildflowers, trees, shrubs, and grasses are an integral part of the conservation practices that landowners, farmers and ranchers install as part of their conservation plan. However, advice on suitable plants is currently developed from broad-based regional guides, with little research-based information on the best choices for New Mexico. The aim of this project is to meet this need by testing a variety of (mostly native) plants for their ability to attract and sustain pollinators and other beneficial insects under a range of NM conditions.

The Los Lunas NRCS Plant Materials Center (LLPMC) installed plantings in 2010 and 2011 to evaluate native and introduced species for pollinator activity; the combined species totals included 136 herbaceous perennials, 50 annuals and biennials, and 34 shrubs. We are evaluating different plant species for pollinator use (abundance and diversity), plant survival, plant vigor, and duration and timing of flowering. The insects collected in 2011 are being identified to genus for native bees and to family for flies and wasps (predatory and parasitic). The results describing the insects collected on particular plant species will be published at a later date.

In addition to the plantings at Los Lunas, in 2011, fairly comprehensive pollinator plantings were installed at NMSU's Farmington and Tucumcari Agricultural Science Centers as well as at a demonstration farm for disadvantaged beginning farmers at Vado (south of Las Cruces), NM. In 2010, limited plantings were also installed at a rural high school in Reserve, NM and at the Whitfield Wildlife Conservation Area near Belen, NM.

In 2011, weekly pollinator observations and collections were made at the LLPMC from early March to early November and were compiled to yield qualitative pollinator abundance and diversity data for each plant species. Considerable variability in pollinator activity on particular plant species was observed from week to week as the sources of pollen and nectar were continuously changing as other species came into bloom. Differences in pollinator activity on various plant species were also noted between morning and afternoon observations, which may have been at least partly due to differences in timing of nectar secretion.

Bloom periods were recorded for all species. It became apparent that the bloom periods were not consistent between 2010 and 2011 due to a number of factors including:

- extreme cold in February 2011 (-13° F), followed by a very warm spring
- influence of planting date and degree of establishment (i.e., whether the species had overwintered versus having been planted out as a seedling in the spring)

The following tables summarize the recommended annual, herbaceous perennial, and shrub species which attracted appreciable pollinator activity at the LLPMC. In each table, the order of species is based on descending insect visitor abundance. The commercial availability of seed of the recommended species is also noted; some species may only be available in small quantities. More comprehensive information can be found in the tables in Appendix A for all species which flowered at the LLPMC during 2011 and had some insect activity; the tables list activity by insect group (i.e., predatory and parasitic wasps, (e.g. hover flies and tachinid flies), domesticated honey bees, bumble bees, other native bees, butterflies, and beetles).

Recommended Native Annuals

Species Name	**Common Name**	**Commercially Available**	**Bloom Season** Spring Summer Fall
Verbesina encelioides	golden crownbeard	Yes	
Phacelia integrifolia	gypsum phacelia	Not Currently	
Monarda citriodora	lemon beebalm	Yes	
Cleome serrulata	Rocky Mountain beeplant	Yes	
Dimorphocarpa wislizeni	touristplant	Not Currently	
Helianthus petiolaris	prairie sunflower	Yes	
Argemone polyanthemos	crested pricklypoppy	Occasionally	
Baileya multiradiata	desert marigold	Yes	
Gaillardia pulchella	firewheel (wild annual)	Yes	
Gilia capitata	Bluehead gilia	Yes	

Recommended Native Perennials (Native to NM, AZ, CO, UT *except two species noted in common name column*)

Species Name	**Common Name**	**Commercially Available**	**Bloom Season** Spring Summer Fall
Achillea millefolium	common yarrow	Yes	
Dalea candida	white prairie clover	Yes	
Gaillardia pinnatifida	red dome blanketflower	Yes	
Gaillardia pulchella	firewheel	Yes	
Helenium autumnale	common sneezeweed	Yes	
Helianthus maximiliani	Maximilian sunflower	Yes	
Heliomeris multiflora var. multiflora	showy goldeneye	Yes	
Pycnanthemum verticillatum var. pilosum	whorled mountainmint *(Midwest Native)*	Yes	
Ratibida columnifera	mexican hat (brown)		
Scrophularia californica	California figwort *(California Native)*	Yes	
Solidago nemoralis	gray goldenrod	Yes	
Solidago petiolaris	downy ragged goldenrod	Yes	
Solidago speciosa	showy goldenrod	Yes	
Symphyotrichum oblongifolium	aromatic aster	Yes	
Thelesperma filifolium	stiff greenthread	Yes	
Coreopsis lanceolata	lanceleaf tickseed	Yes	
Dalea purpurea	purple prairie clover	Yes	
Gaillardia aristata	common gaillardia	Yes	
Sphaeralcea laxa	caliche globemallow	Occasionally	
Agastache pallidiflora ssp. neomexicana	Bill Williams Mountain giant hyssop	Occasionally	
Melampodium leucanthum	plains blackfoot	Yes	
Physaria newberryi	Newberry's twinpod	Occasionally	
Ratibida columnifera	upright prairie coneflower (yellow)	Yes	
Symphyotrichum laeve var. geyeri	Geyer's aster	Yes	
Thelesperma subnudum	Navajo tea	Yes	

Recommended Native Shrubs

Species Name	Common Name	Seed Commercially Available	Bloom Season Spring Summer Fall
Baccharis emoryi	Emory's baccharis (male plant in particular)	Occasionally	
Dalea bicolor var. argyrea	silver prairie clover	Occasionally	
Ericameria nauseosa	rubber rabbitbrush	Yes	
Eriogonum corymbosum	crispleaf buckwheat	Occasionally	
Parthenium incanum	mariola	Not Currently	
Poliomintha incana	frosted mint	Not Currently	
Salix irrorata	dewystem willow	Not Currently	
Salix lasiolepis	arroyo willow	Not Currently	
Chamaebatiaria millefolium	desert sweet	Yes	
Rhus trilobata	skunkbush sumac	Yes	
Forestiera pubescens var. pubescens	stretchberry (New Mexico olive)	Yes	
Lycium torreyi	Torrey wolfberry	Not Currently	
Ribes aureum	golden currant	Yes	

Recommended Introduced Annuals and Perennials

Species Name	Common Name	Annual or Perennial	Commercially Available	Bloom Season Spring Summer Fall
Cosmos bipinnatus	garden cosmos	Annual	Yes	
Ocimum basilicum	basil	Annual	Yes	
Tithonia rotundifolia	clavel de muerto	Annual	Yes	
Foeniculum vulgare var. azoricum	sweet fennel	Perennial	Yes	
Nepeta cataria	catnip	Perennial	Yes	
Scabiosa atropurpurea	mourningbride	Perennial	Yes	
Origanum marjorana	sweet marjoram	Perennial	Yes	

Appendix A

The following tables record the predominant insect groups observed on each plant species during 2011 as well as a qualitative rating of pollinator abundance and diversity at the family level. The plant species in each table are listed in order of relative pollinator abundance, and within each abundance category the species are ordered by relative diversity. The bloom periods are presented in broad categories of semi-seasons because of the inconsistencies in flowering time described above and because some had repeat bloom periods. The species are grouped by native status.

Native Annuals and Biennials							**Bloom Period**					
Species Name	**Common Name**	**Recommended Pollinator Plant**	**Predominant Insect Groups***	**Pollinator Diversity**	**Pollinator Abundance**	**Notes**	**Early Feb. - Mid Mar.**	**Mid Mar. - Early May**	**Early May - Mid June**	**Mid June - Early Aug.**	**Early Aug. - Mid Sept.**	**Mid Sept. - Early Nov.**
Verbesina encelioides	golden crownbeard	**X**	NB, F, W	High	High					**X**	**X**	
Phacelia integrifolia	gypsum phacelia	**X**	NB	Medium	High				**X**			
Monarda citriodora	lemon beebalm	**X**	BB, NB	Low	High					**X**	**X**	**X**
Cleome serrulata	Rocky Mountain beeplant	**X**	NB, HB, W, BT	Medium - High	Medium - High					**X**	**X**	
Dimorphocarpa wislizeni	touristplant	**X**	F, W, BT	High	Medium			**X**	**X**			
Helianthus petiolaris	prairie sunflower	**X**	NB, HB, F, W, BT	High	Medium					**X**	**X**	
Argemone polyanthemos	crested pricklypoppy	**X**	NB, HB	Medium	Medium				**X**			
Baileya multiradiata	desert marigold	**X**	NB, W, F	Medium	Medium					**X**	**X**	**X**
Gaillardia pulchella	firewheel (wild annual)	**X**	NB, HB, BB, W	Medium	Medium			**X**	**X**	**X**	**X**	**X**
Gilia capitata	bluehead gilia	**X**	NB, HB,	Medium	Medium	Blue pollen			**X**	**X**		
Layia platyglossa	coastal tidytips		NB, W, F	Medium	Medium	Difficult from seedlings			**X**			
*Machaeranthera bigelovii***	Bigelow's tansyaster		NB, F	Medium	Medium						**X**	**X**
Oenothera albicaulis	whitest evening primrose		HB, NB, F	Medium	Low					**X**		
Eschscholzia californica ssp. mexicana	California poppy		HB, W	Low	Low				**X**			
*Phacelia heterophylla***	varileaf phacelia		NB	Low	Low				**X**			

***W = Predatory and Parasitic Wasps, F = Flies (e.g. Hover Flies and Tachinids), HB = Domesticated Honey Bees, BB = Bumble Bees, NB = Other Native Bees, BF = Butterflies, BT = Beetles**
**** Biennial Natives**

Native Perennials with High Pollinator Abundance (native to NM, AZ, CO, or UT)							Bloom Period					
Species Name	**Common Name**	**Recommended Pollinator Plant**	**Predominant Insect Groups***	**Pollinator Diversity**	**Pollinator Abundance**	**Notes**	**Early Feb. - Mid Mar.**	**Mid Mar. - Early May**	**Early May - Mid June**	**Mid June - Early Aug.**	**Early Aug. - Mid Sept.**	**Mid Sept. - Early Nov.**
Achillea millefolium	common yarrow	**X**	W, F	High	High				**X**	**X**		
Dalea candida	white prairie clover	**X**	W, NB, HB, BB	High	High				**X**	**X**	**X**	
Gaillardia pinnatifida	red dome blanketflower	**X**	NB, F, W	High	High	Unusual native bees			**X**	**X**		
Gaillardia pulchella	firewheel	**X**	NB, HB, W,BB	High	High				**X**	**X**	**X**	**X**
Helianthus maximiliani	Maximilian sunflower	**X**	NB	High	High	Very large, spreads					**X**	
Heliomeris multiflora var. multiflora	showy goldeneye	**X**	NB, HB, F, BT	High	High				**X**			
Ratibida columnifera	mexican hat	**X**	W, NB	High	High					**X**	**X**	**X**
Rudbeckia hirta	blackeyed Susan	**X**	NB, W, F	High	High				**X**	**X**	**X**	**X**
Solidago nemoralis	gray goldenrod	**X**	W, NB, F, BT, BF	High	High						**X**	**X**
Solidago petiolaris	downy ragged goldenrod	**X**	W, NB, BF, F	High	High						**X**	
Solidago speciosa	showy goldenrod	**X**	BB, NB, HB, F, W	High	High						**X**	**X**
Symphyotrichum oblongifolium	aromatic aster	**X**	NB, W, F, HB	High	High							**X**
Thelesperma filifolium	stiff greenthread	**X**	F, NB, W, BT	High	High				**X**	**X**	**X**	**X**
Helenium autumnale	common sneezeweed	**X**	NB, HB, W, F, BF	Medium	High							**X**
***W = Predatory and Parasitic Wasps, F = Flies (e.g. Hover Flies and Tachinids), HB = Domesticated Honey Bees, BB = Bumble Bees, NB = Other Native Bees, BF = Butterflies, BT = Beetles**												

Native Perennials with Medium Pollinator Abundance (native to NM, AZ, CO, or UT)							Bloom Period					
Species Name	**Common Name**	**Recommended Pollinator Plant**	**Predominant Insect Groups***	**Pollinator Diversity**	**Pollinator Abundance**	**Notes**	**Early Feb. - Mid Mar.**	**Mid Mar. - Early May**	**Early May - Mid June**	**Mid June - Early Aug.**	**Early Aug. - Mid Sept.**	**Mid Sept. - Early Nov.**
Asclepias subverticillata	horsetail milkweed		W, F, NB, BF	High	Medium - High	Toxic to livestock					**X**	
Coreopsis lanceolata	lanceleaf tickseed	**X**	NB, W, HB	High	Medium - High				**X**	**X**	**X**	**X**
Dalea purpurea	purple prairie clover	**X**	NB, HB, W, BB, F	High	Medium - High				**X**	**X**	**X**	

Native Perennials with Medium Pollinator Abundance (native to NM, AZ, CO, or UT)							Bloom Period					
Species Name	**Common Name**	**Recommended Pollinator Plant**	**Predominant Insect Groups***	**Pollinator Diversity**	**Pollinator Abundance**	**Notes**	**Early Feb. - Mid Mar.**	**Mid Mar. - Early May**	**Early May - Mid June**	**Mid June - Early Aug.**	**Early Aug. - Mid Sept.**	**Mid Sept. - Early Nov.**
Gaillardia aristata	common gaillardia	**X**	NB, W, HB	Medium	Medium - High				**X**			
Sphaeralcea laxa	caliche globemallow	**X**	NB, HB, F, BB, W, BT	High	Medium - High					**X**	**X**	**X**
Melampodium leucanthum	plains blackfoot	**X**	NB, F, W	High	Medium				**X**	**X**	**X**	**X**
Ratibida columnifera	upright prairie coneflower	**X**	W, NB, F	High	Medium					**X**	**X**	**X**
Symphyotrichum laeve var. geyeri	Geyer's aster	**X**	NB, W, HB	High	Medium						**X**	**X**
Thelesperma subnudum	Navajo tea	**X**	NB, F, W	High	Medium				**X**	**X**	**X**	
Thymophylla pentachaeta	fiveneedle pricklyleaf		NB, F, W	Medium - High	Medium	Attracted some unusual native bees					**X**	**X**
Agastache rupestris	threadleaf giant hyssop		BB, HB	Medium	Medium						**X**	**X**
Lesquerella fendleri	Fendler's bladderpod		NB, HB, F	Medium	Medium					**X**		
Machaeranthera pinnatifida	lacy tansyaster		NB, W, F	Medium	Medium						**X**	**X**
Psilostrophe cooperi	whitestem paperflower		NB, F, W	Medium	Medium	Difficult to keep alive			**X**	**X**		
Symphyotrichum ericoides	white heath aster		NB, F, W	Medium	Medium						**X**	
Symphyotrichum novae-angliae	New England aster		NB	Medium	Medium						**X**	**X**
Symphyotrichum sericeum	western silver aster		NB	Medium	Medium						**X**	**X**
Sphaeralcea ambigua	desert globemallow (Orange)		NB, BT	Medium	Medium							**X**
Verbena macdougalii	Mac Dougal verbena		NB	Medium	Medium						**X**	
Agastache pallidiflora ssp. neomexicana	Bill Williams Mountain giant hyssop	**X**	BB, NB	Low	Medium	Very good for BB's					**X**	
Monarda fistulosa	wild bergamot		BB, NB	Low	Medium				**X**	**X**		
Physaria newberryi	Newberry's twinpod	**X**	NB	Low	Medium	Early bloomer		**X**				

Native Perennials with Medium Pollinator Abundance (native to NM, AZ, CO, or UT)							Bloom Period					
Species Name	**Common Name**	**Recommended Pollinator Plant**	**Predominant Insect Groups***	**Pollinator Diversity**	**Pollinator Abundance**	**Notes**	**Early Feb. - Mid Mar.**	**Mid Mar. - Early May**	**Early May - Mid June**	**Mid June - Early Aug.**	**Early Aug. - Mid Sept.**	**Mid Sept. - Early Nov.**
Oenothera organensis	Organ Mountain evening primrose		NB	Medium	Medium - Low					**X**		
Vernonia missurica	Missouri ironweed		BB, NB	Medium	Medium - Low						**X**	
Vicia americana	American vetch		BB	Low	Medium - Low						**X**	**X**
***W = Predatory and Parasitic Wasps, F = Flies (e.g. Hover Flies and Tachinids), HB = Domesticated Honey Bees, BB = Bumble Bees, NB = Other Native Bees, BF = Butterflies, BT = Beetles**												

Native Perennials with Low Pollinator Abundance (native to NM, AZ, CO, or UT)							Bloom Period					
Species Name	**Common Name**	**Recommended Pollinator Plant**	**Predominant Insect Groups***	**Pollinator Diversity**	**Pollinator Abundance**	**Notes**	**Early Feb. - Mid Mar.**	**Mid Mar. - Early May**	**Early May - Mid June**	**Mid June - Early Aug.**	**Early Aug. - Mid Sept.**	**Mid Sept. - Early Nov.**
Berlandiera lyrata	lyreleaf greeneyes		NB, F,W, HB	High	Low - Medium			**X**	**X**	**X**		
Coreopsis tinctoria	golden tickseed		NB, W, F	Medium	Low - Medium					**X**	**X**	**X**
Penstemon virgatus	upright blue beardtongue		BB, F, W	Medium	Low - Medium				**X**			
Silphium integrifolium	wholeleaf rosinweed		NB	Low - Medium	Low - Medium						**X**	
Verbena stricta	hoary verbena		NB, HB	Low - Medium	Low - Medium				**X**			
Agastache cana	mosquito plant		BB	Low	Low							**X**
Calylophus tubicula	Texas sundrops		HB	Low	Low					**X**	**X**	**X**
Oenothera pallida	pale evening primrose		NB, BB	Medium	Low					**X**	**X**	
Sphaeralcea gierischii	Gierisch's globemallow		NB	Low	Low					**X**	**X**	**X**
Conoclinium greggii	palmleaf thoroughwort		BF	Very Low	Very Low						**X**	**X**
Senecio flaccidus var. flaccidus	threadleaf ragwort		NB	Very Low	Very Low				**X**			
***W = Predatory and Parasitic Wasps, F = Flies (e.g. Hover Flies and Tachinids), HB = Domesticated Honey Bees, BB = Bumble Bees, NB = Other Native Bees, BF = Butterflies, BT = Beetles**												

West and Midwest Native Perennials (not native to NM, AZ, CO, or UT)							Bloom Period					
Species Name	**Common Name**	**Recommended Pollinator Plant**	**Predominant Insect Groups***	**Pollinator Diversity**	**Pollinator Abundance**	**Notes**	**Early Feb. - Mid Mar.**	**Mid Mar. - Early May**	**Early May - Mid June**	**Mid June - Early Aug.**	**Early Aug. - Mid Sept.**	**Mid Sept. - Early Nov.**
Pycnanthemum verticillatum var. pilosum	whorled mountainmint	**X**	W, NB, BB, HB, F	High	High						**X**	**X**
Scrophularia californica	California figwort	**X**	HB, NB, F, W	Medium	High	Attracted some unusual native bees					**X**	**X**
Eupatorium altissimum	tall thoroughwort		W, NB, F	Medium	Medium							**X**
Heterotheca camporum	lemonyellow false goldenaster		NB	Medium	Medium						**X**	**X**
Oligoneuron rigidum	stiff goldenrod		NB, BF	Medium	Medium						**X**	**X**
Echinacea paradoxa	Bush's purple coneflower		NB, HB	Medium	Low				**X**	**X**		
Rudbeckia fulgida	orange coneflower		NB, W, F	Medium	Low							**X**
Rudbeckia subtomentosa	sweet coneflower		NB, F, HB	Medium	Low						**X**	**X**
Coreopsis tripteris	tall tickseed		HB, W	Low	Low							**X**
***W = Predatory and Parasitic Wasps, F = Flies (e.g. Hover Flies and Tachinids), HB = Domesticated Honey Bees, BB = Bumble Bees, NB = Other Native Bees, BF = Butterflies, BT = Beetles**												

Native Shrubs (native to NM, AZ, CO, or UT)							Bloom Period					
Species Name	**Common Name**	**Recommended Pollinator Plant**	**Predominant Insect Groups***	**Pollinator Diversity**	**Pollinator Abundance**	**Notes**	**Early Feb. - Mid Mar.**	**Mid Mar. - Early May**	**Early May - Mid June**	**Mid June - Early Aug.**	**Early Aug. - Mid Sept.**	**Mid Sept. - Early Nov.**
Baccharis emoryi	Emory's baccharis	**X**	W, F, NB, HB, BT, BF	High	High	Male plants more attractive to pollinators						**X**
Ericameria nauseosa	rubber rabbitbrush	**X**	NB, W, HB, F, BB, BF	High	High						**X**	**X**
Eriogonum corymbosum	crispleaf buckwheat	**X**	W, F, NB	High	High						**X**	
Parthenium incanum	mariola	**X**	W, F, NB	High	High						**X**	
Poliomintha incana	frosted mint	**X**	NB, W, F, HB	High	High				**X**	**X**	**X**	**X**
Salix irrorata	dewystem	**X**	NB, HB, F	Medium	High	Earliest	**X**					

Native Shrubs (native to NM, AZ, CO, or UT)							Bloom Period					
Species Name	**Common Name**	**Recommended Pollinator Plant**	**Predominant Insect Groups***	**Pollinator Diversity**	**Pollinator Abundance**	**Notes**	**Early Feb. - Mid Mar.**	**Mid Mar. - Early May**	**Early May - Mid June**	**Mid June - Early Aug.**	**Early Aug. - Mid Sept.**	**Mid Sept. - Early Nov.**
	willow					bloomer, good for hoverflies						
Salix lasiolepis	arroyo willow	**X**	NB, HB, F	Medium	High	Earliest bloomer, good for hoverflies	**X**					
Dalea bicolor var. argyrea	silver prairie clover	**X**	HB	Low	High							**X**
Chamaebatiaria millefolium	desert sweet	**X**	W, F, NB, HB	High	Medium - High	Good for tachinids			**X**			
Rhus trilobata	skunkbush sumac	**X**	W, F, NB, HB, BF	Medium - High	Medium - High	Early bloomer	**X**	**X**				
Forestiera pubescens var. pubescens	stretchberry (New Mexico olive)	**X**	NB, F	Medium	Medium	Early bloomer	**X**	**X**				
Lycium torreyi	Torrey wolfberry	**X**	NB, W	Medium	Medium	Early bloomer; edible fruits		**X**				
Ribes aureum	golden currant	**X**	NB	Medium	Medium	Early bloomer; edible fruits		**X**				
Eriogonum jamesii	James' buckwheat		W	Medium - Low	Medium - Low					**X**		
Fallugia paradoxa	Apache plume		NB, F, HB, W	Medium - Low	Medium - Low				**X**	**X**	**X**	**X**
W = Predatory and Parasitic Wasps, F = Flies (e.g. Hover Flies and Tachinids), HB = Domesticated Honey Bees, BB = Bumble Bees, NB = Other Native Bees, BF = Butterflies, BT = Beetles												

Introduced Annuals							Bloom Period					
Species Name	**Common Name**	**Recommended Pollinator Plant**	**Predominant Insect Groups***	**Pollinator Diversity**	**Pollinator Abundance**	**Notes**	**Early Feb. - Mid Mar.**	**Mid Mar. - Early May**	**Early May - Mid June**	**Mid June - Early Aug.**	**Early Aug. - Mid Sept.**	**Mid Sept. - Early Nov.**
Cosmos bipinnatus	garden cosmos	**X**	NB, W, BB, HB, BT, F	Medium - High	Medium - High						**X**	**X**
Ammi majus	large bullwort		W, F	Medium	Medium					**X**		
Brassica sp.	mustard (cover crop)		NB, F,W	High	Medium				**X**			

Introduced Annuals							**Bloom Period**					
Species Name	**Common Name**	**Recommended Pollinator Plant**	**Predominant Insect Groups***	**Pollinator Diversity**	**Pollinator Abundance**	**Notes**	**Early Feb. - Mid Mar.**	**Mid Mar. - Early May**	**Early May - Mid June**	**Mid June - Early Aug.**	**Early Aug. - Mid Sept.**	**Mid Sept. - Early Nov.**
Ocimum basilicum	basil	**X**	NB, HB	Medium	Medium	Attracted some unusual native bees					**X**	**X**
Tithonia rotundifolia	clavel de muerto	**X**	BB, NB, BF	Medium - Low	Medium	Very good for BBs and BFs					**X**	**X**
Anethum graveolens	dill		F, W	Low - Medium	Low - Medium	Good for beneficial flies & wasps				**X**		
Cosmos sulphureus	sulphur cosmos		NB, BB	Low - Medium	Low - Medium					**X**	**X**	**X**
***W = Predatory and Parasitic Wasps, F = Flies (e.g. Hover Flies and Tachinids), HB = Domesticated Honey Bees, BB = Bumble Bees, NB = Other Native Bees, BF = Butterflies, BT = Beetles**												

Introduced Perennials							**Bloom Period**					
Species Name	**Common Name**	**Recommended Pollinator Plant**	**Predominant Insect Groups***	**Pollinator Diversity**	**Pollinator Abundance**	**Notes**	**Early Feb. - Mid Mar.**	**Mid Mar. - Early May**	**Early May - Mid June**	**Mid June - Early Aug.**	**Early Aug. - Mid Sept.**	**Mid Sept. - Early Nov.**
Foeniculum vulgare var. azoricum	sweet fennel	**X**	W, F	High	High	Good for beneficial flies & wasps					**X**	**X**
Nepeta cataria	catnip	**X**	NB, BB, HB, W, F	High	High						**X**	**X**
Scabiosa atropurpurea	mourningbride		NB, HB, BB, W, F	High	High						**X**	**X**
Teucrium orientale	Oriental germander		NB, HB, W	High	Medium					**X**	**X**	**X**
Origanum marjorana	sweet marjoram	**X**	W, NB, F	Medium - High	Medium - High						**X**	**X**
Trifolium pratense	red clover (double cut)		NB, BB, HB	Medium	Medium				**X**	**X**	**X**	**X**
Origanum vulgare	oregano		NB, HB, F	Medium	Low						**X**	
***W = Predatory and Parasitic Wasps, F = Flies (e.g. Hover Flies and Tachinids), HB = Domesticated Honey Bees, BB = Bumble Bees, NB = Other Native Bees, BF = Butterflies, BT = Beetles**												