

# TECHNICAL NOTES

U.S. DEPARTMENT OF AGRICULTURE  
ALBUQUERQUE, NEW MEXICO

NATURAL RESOURCES CONSERVATION SERVICE  
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PLANT MATERIALS TECHNICAL NOTE NO. 71 (rev.)

## Revised Pollinator Plant Recommendations for New Mexico

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In recent years, domesticated honey bee populations and beekeepers have been faced with 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 an 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 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 sustain 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). Wildflowers, trees, shrubs, and grasses are an integral part of the conservation practices that landowners, farmers and ranchers can install as part of their conservation plan. However, advice on suitable plants is currently based on broad 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 New Mexico conditions.

The Los Lunas NRCS Plant Materials Center (LLPMC) installed plantings in 2010, 2011, and 2012 to evaluate native and introduced species for pollinator activity (abundance and diversity); the combined plant species totals included 170 herbaceous perennials, 60 annuals and biennials, and 40 shrubs. We are evaluating these different plant species for pollinator use, plant survival, plant vigor, and duration and timing of flowering. The insects collected in 2011 and 2012 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 three pollinator plantings were installed at NMSU's Farmington and Tucumcari Agricultural Science Centers as well as at a demonstration farm for beginning farmers at Chaparral (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 these data were combined with those from monthly visits to all four sites made in 2012, yielding qualitative pollinator abundance and diversity information 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 partly due to differences in timing of nectar secretion, as well as diurnal variation in the activity of different insects.

Bloom periods were recorded for all species. It became apparent that the bloom periods were not consistent between years (2010 to 2012) due to a number of factors including:

- above average March and April maximum temperatures in 2011 and 2012
- extreme cold in February 2011 (-15° F)
- 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 or in at least one of the other sites. In each table, the order of species is based on estimated start of the bloom period.

Recommended Native Annuals								
Genus Species	Common Name	Commercially Available	Bloom Season			Self* Seeds	GH** Prop.	Notes***
			Spring	Summer	Fall			
<i>Lesquerella gordonii</i>	Gordon's bladderpod	Yes	■			++	++	(NM), Dry, host of beet leafhopper?
<i>Dimorphocarpa wislizeni</i>	touristplant (spectacle pod)	Occasionally	■			++	-	(NM), Dry, host of beet leafhopper?
<i>Gaillardia pulchella</i>	firewheel (wild annual)	Yes	■	■		++	++	(NM), Dry
<i>Phacelia integrifolia</i>	gypsum phacelia	Not Currently	■			++	-	(NM), Dry
<i>Gilia capitata</i>	bluehead gilia	Yes	■			+	+	(NM)
<i>Nama hispidum</i>	bristly nama	Not Currently	■			+	+	(NM), Dry
<i>Machaeranthera tanacetifolia</i>	tansyleaf tansyaster	Occasionally	■			++	+	(NM), Dry
<i>Baileya multiradiata</i>	desert marigold	Yes	■			+	^	(NM), Dry
<i>Cleome serrulata</i>	Rocky Mountain beeplant	Yes		■		++	++	(NM), Weedy?, host of harlequin bug
<i>Helianthus petiolaris</i>	prairie sunflower	Yes		■		++	++	(NM), Weedy?
<i>Monarda citriodora</i>	lemon beebalm	Yes		■		++	+	(NM)
<i>Verbesina encelioides</i>	golden crownbeard	Yes		■		++	+	(NM)

\* Self-seeds: ++ very easily, + easily, ^ occasionally,

\*\* Greenhouse propagation: ++ very easy, + easy, ^fairly easy, - difficult, -- very difficult

\*\*\*Notes: (native state – NM or closest state), Weedy = probably invasive, Dry = probably suitable for dry land situations, and ? = possibly instead of probably

Recommended Native Perennials									
Species Name	Common Name	Commercially Available	Bloom Season			Self* Seeds	GH** Prop.	Notes***	
			Spring	Summer	Fall				
<i>Physaria newberryi</i>	Newberry's twinpod	Occasionally	■				-	(NM), Dry, host of beet leafhopper?	
<i>Erigeron pulcherrimus</i>	basin fleabane	Yes	■				^	(NM)	
<i>Penstemon eatonii</i>	firecracker penstemon	Yes	■				-	(NM)	
<i>Zizia aptera</i>	meadow zizia	Yes	■				^	(CO)	
<i>Hedysarum boreale</i>	Utah sweetvetch	Yes	■	■			^	(NM)	
<i>Achillea millefolium</i>	common yarrow	Yes	■	■			^	++	(NM), Intro.
<i>Gaillardia aristata</i>	common gaillardia	Yes	■	■			+	+	(NM)
<i>Gaillardia pinnatifida</i>	red dome blanketflower	Yes	■	■			++	++	(NM)
<i>Heliomeris multiflora</i> var. <i>multiflora</i>	showy goldeneye	Yes	■	■			+	^	(NM), Dry?
<i>Dalea candida</i>	white prairie clover	Yes	■	■			^	^	(NM)
<i>Dalea purpurea</i>	purple prairie clover	Yes	■	■			^	^	(NM)
<i>Thelesperma subnudum</i>	Navajo tea	Yes	■	■				^	(NM), Dry
<i>Psilostrophe cooperi</i>	whitestem paperflower	Yes	■	■				^	(NM), Dry
<i>Symphyotrichum laeve</i> var. <i>geyeri</i>	Geyer's aster	Yes	■	■				^	(NM)
<i>Sphaeralcea ambigua</i>	desert globemallow	Yes	■	■			^	-	(AZ), Dry
<i>Machaeranthera pinnatifida</i>	lacy tansyaster	Occasionally	■	■				^	(NM), Dry
<i>Senecio flaccidus</i>	threadleaf ragwort	Yes	■	■			^	^	(NM), Dry?
<i>Coreopsis lanceolata</i>	lancheaf tickseed	Yes	■	■			+	+	(NM)
<i>Melampodium leucanthum</i>	plains blackfoot	Yes	■	■				^	(NM), Dry
<i>Gaillardia</i>	firewheel	Yes	■	■			+	++	(NM)

Recommended Native Perennials								
Species Name	Common Name	Commercially Available	Bloom Season			Self* Seeds	GH** Prop.	Notes***
			Spring	Summer	Fall			
<i>pulchella</i>								
<i>Thelesperma filifolium</i>	stiff greenthread	Yes				+	^	(NM)
<i>Monarda fistulosa</i>	wild bergamot	Yes				^	^	(NM), Weedy?
<i>Penstemon strictus</i>	Rocky Mountain penstemon	Yes					-	(NM)
<i>Scrophularia lanceolata</i>	lanceleaf figwort	Occasionally					-	(NM)
<i>Agastache pallidiflora ssp. neomexicana</i>	Bill Williams Mountain giant hyssop	Occasionally					^	(NM)
<i>Heterotheca camporum</i>	lemonyellow false goldenaster	Yes					^	(MO)
<i>Silphium integrifolium</i>	wholeleaf rosinweed	Yes					^	(NM)
<i>Silphium laciniatum</i>	compassplant	Yes					^	(NM)
<i>Argemone pleiacantha</i>	southwestern pricklypoppy	Occasionally				+	^	(NM)
<i>Eupatorium altissimum</i>	tall thoroughwort	Yes					^	(TX)
<i>Verbena macdougali</i>	MacDougal verbena	Yes					+	(NM)
<i>Verbena stricta</i>	hoary verbena	Yes					+	(NM), Weedy?
<i>Agastache rupestris</i>	threadleaf giant hyssop	Yes					^	(NM)
<i>Oligoneuron rigidum</i>	stiff goldenrod	Yes					^	(NM)
<i>Symphyotrichum ericoides</i>	white heath aster	Yes						(NM)
<i>Scrophularia californica</i>	California figwort	Yes					-	(CA)
<i>Ratibida columnifera</i>	upright prairie coneflower (yellow)	Yes				^	+	(NM), Dry?
<i>Ratibida columnifera</i>	mexican hat (brown)	Yes				+	+	(NM), Dry?
<i>Sphaeralcea laxa</i>	caliche globemallow	Occasionally				^	-	(NM), Dry
<i>Thymophylla</i>	fiveneedle	Occasionally					^	(NM), Hardy?

Recommended Native Perennials								
Species Name	Common Name	Commercially Available	Bloom Season			Self* Seeds	GH** Prop.	Notes***
			Spring	Summer	Fall			
<i>pentachaeta</i>	pricklyleaf							
<i>Helianthus maximiliani</i>	Maximilian sunflower	Yes		■		++	+	(NM), Large!
<i>Solidago petiolaris</i>	downy ragged goldenrod	Yes		■			^	(NM)
<i>Pycnanthemum verticillatum var. pilosum</i>	whorled mountainmint	Yes		■			^	(OK)
<i>Solidago nemoralis</i>	gray goldenrod	Yes		■			^	(NM)
<i>Solidago speciosa</i>	showy goldenrod	Yes		■			^	(NM)
<i>Helenium autumnale</i>	common sneezeweed	Yes			■		+	(NM), Weedy?
<i>Symphotrichum oblongifolium</i>	aromatic aster	Yes			■		^	(NM)

\* Self-seeds: ++ very easily, + easily, ^ occasionally,

\*\* Greenhouse propagation: ++ very easy, + easy, ^ fairly easy, - difficult, -- very difficult

\*\*\*Notes: (native state – NM or closest state), Weedy = probably invasive, Dry = probably suitable for dry land situations, ? = possibly instead of probably, Intro. = some varieties introduced,

Recommended Native Shrubs							
Species Name	Common Name	Seed Commercially Available	Bloom Season			GH* Prop.	Notes**
			Spring	Summer	Fall		
<i>Salix irrorata</i>	dewystem willow	Not Currently	■			^	(NM)
<i>Salix lasiolepis</i>	arroyo willow	Not Currently	■			^	(NM)
<i>Forestiera pubescens var. pubescens</i>	stretchberry (New Mexico olive)	Yes	■			^	(NM), Dry?
<i>Prunus americana</i>	American plum	Yes	■			-	(NM)
<i>Prunus pumila L. var. besseyi</i>	western sandcherry	Yes	■			-	(NM)
<i>Rhus trilobata</i>	skunkbush sumac	Yes	■			-	(NM), Dry?
<i>Lycium torreyi</i>	Torrey wolfberry	Not Currently	■			^	(NM), Dry?
<i>Ribes aureum</i>	golden currant	Yes	■			^	(NM)
<i>Purshia stansburiana</i>	Stansbury cliffrose	Yes	■			-	(NM), Dry
<i>Amorpha canescens</i>	leadplant	Yes	■			^	(NM), Dry?

Recommended Native Shrubs							
Species Name	Common Name	Seed Commercially Available	Bloom Season			GH* Prop.	Notes**
			Spring	Summer	Fall		
<i>Poliomintha incana</i>	frosted mint	Occasionally		■		-	(NM), Dry
<i>Fallugia paradoxa</i>	Apache plume	Yes		■		^	(NM), Dry
<i>Chamaebatiaria millefolium</i>	desert sweet	Yes		■		^	(AZ), Dry?
<i>Parthenium incanum</i>	mariola	Not Currently		■		^	(NM), Dry
<i>Eriogonum corymbosum</i>	crispleaf buckwheat	Occasionally		■		-	(NM), Dry
<i>Ericameria nauseosa</i>	rubber rabbitbrush	Yes			■	+	(NM), Dry, Weedy
<i>Baccharis emoryi</i>	Emory's baccharis (male plant in particular)	Occasionally			■	+	(NM)
<i>Dalea bicolor var. argyrea</i>	silver prairie clover	Occasionally			■	^	(NM), Dry

\*Greenhouse propagation: ++ very easy, + easy, ^ fairly easy, - difficult, -- very difficult

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Recommended Introduced Annuals, Biennials, and Perennials								
Species Name	Common Name	Annual or Perennial	Commercially Available	Bloom Season			Self* Seeds	Notes**
				Spring	Summer	Fall		
<i>Linum perenne</i>	blue flax	Perennial	Yes		■		^	
<i>Salvia officinalis</i>	kitchen sage	Perennial	Yes		■			
<i>Melilotus officinalis</i>	sweetclover	Biennial	Yes		■		+	Weedy
<i>Origanum marjorana</i>	sweet marjoram	Perennial	Yes		■			
<i>Origanum vulgare</i>	oregano	Perennial	Yes		■			
<i>Lavandula angustifolia</i>	English lavender	Shrub	Yes		■			
<i>Anethum graveolens</i>	Dill	Annual	Yes		■		^	
<i>Foeniculum vulgare var. azoricum</i>	sweet fennel	Annual	Yes		■		^	Weedy?

Recommended Introduced Annuals, Biennials, and Perennials								
Species Name	Common Name	Annual or Perennial	Commercially Available	Bloom Season			Self* Seeds	Notes**
				Spring	Summer	Fall		
<i>Scabiosa atropurpurea</i>	mourningbride	Perennial	Yes					
<i>Tithonia rotundifolia</i>	clavel de muerto	Annual	Yes				^	
<i>Cosmos bipinnatus</i>	garden cosmos	Annual	Yes				++	Weedy?
<i>Nepeta cataria</i>	catnip	Perennial	Yes					Weedy?
<i>Ocimum basilicum</i>	basil	Annual	Yes				^	

\* Self-seeds: ++ very easily, + easily, ^occasionally

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