



GUIDELINES FOR THE PURCHASE AND USE OF WILDFLOWER SEED MIXES

Alberta Native Plant Council

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This position paper reflects our current knowledge of wildflower seed mixes. This understanding has been arrived at through experience with germinating the seeds under ordinary, home gardener circumstances, by talking to retailers of these seeds, and from anecdotal evidence provided by gardeners who have used these types of packages.

Introduction

Wildflower mixes are becoming increasingly popular, and can be purchased both off the seed rack and through mail order catalogues. They are very common in souvenir and gift shops. These packets are sold by seed companies eager to capitalize on new product lines and by various non-profit organizations as fundraisers. Greeting cards with embedded seeds are appearing more and more frequently.

Since wildflower seeds are readily available and many people take them at face value, it is incumbent on those of us, who have the preservation of native species as our mandate, to speak out about the hazards of these seed packets.

What is the Issue?

There are three main problems with wildflower mixes. The first is the possible assumption on the part of the purchaser that a packet of "wildflower seeds" contains seeds of wildflowers that are native to the local area. There is absolutely no guarantee that this is true, and in fact is usually **not** the case. Most plants are wild somewhere (unless they are a horticultural development), so calling these "wildflower" seeds is not really a misnomer, but it is misleading to buyers who want to bring some nature back to their gardens. Although buyers may end up with some flowers, these are unlikely to be wildflowers native to the local area.

The second problem is that in most cases, wildflower seed packets do not list the species they contain. There is always the chance that they contain invasive species and possibly even noxious weeds.

Thirdly, purchasers may be fooled by the picture of a field of brilliantly coloured blossoms all abloom at the same time that most packets advertise. Trials done using a number of different seed packets showed that only a few species are likely to germinate.



Some Definitions

- 1) WILDFLOWER: a flower that grows wild, i.e. a flowering plant that is not intentionally seeded or planted.
- 2) NATIVE: naturally occurring in the area; taxa that evolved here and were present in the ecosystems that existed here prior to the onset of European settlement. Includes a species, subspecies, or lower taxon, occurring within its historic range.
- 3) INTRODUCED SPECIES: a plant that is not native to the area; i.e. a plant that has been brought to an area by humans.
- 4) INVASIVE SPECIES: species that out-compete other plants, and displace other plants by competition, lack of predators and pathogens, or direct chemical antagonism. For more information on invasive species visit the Rogue's Gallery at www.anpc.ab.ca.
- 5) NATURALIZED SPECIES: species that have been introduced to an area and that now grow and reproduce wild, without cultivation. Some naturalized species have become such common sights that they are often regarded as native. A good example is the ubiquitous dandelion.

Guidelines

When purchasing seed packets:

- 1) Avoid "Wildflower" mixes. These usually contain species that are "wild" in Europe or other parts of North America, but not in Alberta. A very popular jug of wildflower seeds selling in 2005 was collected in Waco, Texas! Many packets include seeds collected from plants grown in South America.
- 2) Know exactly what is contained in the seed packet. Common names are not good enough. As one example, the common name Bluebells can mean *Campanula rotundifolia* in one region, *Mertensia* spp. in another region and *Hyacinthoides non-scripta* in yet another region. The name "Daisy" is another good example of the confusion that can be caused by common names. There are dozens of species that go by the name Daisy, including species of the following genera: *Aphanostephus*, *Arctotis*, *Bellis*, *Berlandiera*, *Calyptocarpus*, *Dendranthema*, *Engelmannia*, *Erigeron*, *Felicia*, *Gaillardia*, *Gerbera*, *Melampodium*, *Tetraneuris*, *Townsendia*, and *Verbesina*. Some 'Daisies' are nasty weeds such as Scentless chamomile (*Matricaria perforata*) and Ox-eye Daisy (*Chrysanthemum leucanthemum*).
- 3) Even if a packet contains only ONE species of plant you should be aware of the scientific (Latin) name for that species. This will enable you to obtain information on that species anywhere in the world, and will let you purchase with confidence, knowing that you can easily learn the main characteristics of the plant.
- 4) Look for packets that indicate WHERE the seed material was collected. Was it collected in the wild? Was it collected in your area? Was it mass-collected without sorting of seeds? If the latter is true, there is a real possibility that weed seeds will be



present in the mix. Sources of seed that are native to Alberta can be found on the ANPC Native Plant Source list, www.anpc.ab.ca

5) The packet must give CLEAR INSTRUCTIONS as to growing requirements. Do seeds require scarification, hot and cold cycles, or moist cool conditions in order to germinate? Do they like dry, open hillsides or moist, shady nooks? The packet should also give a recommended hardiness zone.

6) AVOID MIXES that have a variety of types of plants. Ask yourself whether packaging annuals, biennials, and perennials together, thus subjecting all seeds to the same treatments and conditions, makes sense? When the biennial sends up its first year rosette will you be able to distinguish it from weeds you will be pulling? Remember that biennials and perennials generally require more than one season to produce a bloom.

When growing out seed packets:

1) If you MUST grow a wildflower seed packet, contain the plants until you know what you've got. This will make it possible for you to eradicate any undesirable plants that appear.

2) There are many advantages to growing native wildflowers in your garden. Should you wish to garden with wild plants, start by learning about the plants of your area. Two excellent Alberta references are:

Go Wild! With Easy to Grow Prairie Wildflowers and Grasses by Cherry Dodd and the Edmonton Naturalization Group. This is available at Nature Centre bookstores in Edmonton and Red Deer and will soon be available, with updates, free of charge at www.eng.fanweb.ca. and

The Prairie Gardener's Sourcebook: A Guide to Finding the Best Plants, Seeds, Products and Information for Your Garden by June Flanagan and Donna Fremont. 2002. Fitzhenry & Whiteside Limited.

3) Should you wish to collect your own native plant seeds, please learn more about the ethics of collecting wild seed. Check the ANPC's "Plant Collection Guideline" series at <http://www.anpc.ab.ca/content/resources.php>.

When discarding unwanted plants:

Even when plants you no longer want are pulled out of your garden, they can re-root or spread by seed, causing even more problems. Be careful where you place your garden waste. Too often we see a gradual invasion of a garden species into natural areas when yard waste gets thrown over the fence, or put into the compost bin. What's the problem with this? While some plants become naturalized and arguably do little harm, there are others that are aggressive and invasive. These can out-compete native species and create a totally changed ecosystem of a single species, the introduced invader. Let's learn from the lessons that Smooth Brome, Tartarian Honeysuckle, Mountain Ash, Cotoneaster, Caragana and so many others have taught us.



CASE STUDY OF A WILDFLOWER SEED MIX PACKET

There is no requirement to name the contents of wildflower seed packets (indeed, 7 out of 11 packets that were surveyed gave no names whatever, merely using terms like "Butterfly mix" or "Prairie mix"). One plant that is not unusual in these mixes is Butter-and-Eggs, also known as Yellow-Toadflax (*Linaria vulgaris*), a serious and aggressive farmland and rangeland weed.

Even when contents are listed, it can be hard to know what species they **really** include. One typical Wildflower seed mix purchased from a Central Alberta retail outlet contained the following list on the package:

Baby's Breath	Coreopsis Tinot.
Candytuft Fairy Mix	Cynoglossum (forget-me-nots)
Bachelor's Buttons	Ozark Sundrop
Catchfly	Purple Coneflower
Clarkia	Shasta Daisy
Columbine	Sweet Williams Dbl.
Coreopsis L.L.	Viola

The comments below are based on what the plants are most likely to be, based on the above given names:

Baby's Breath - is probably *Gypsophila paniculata*. There are patches of Baby's Breath throughout Alberta that in some cases have become large-scale infestations, often invading native rangeland.

Catchfly - is a concern as a weed in cultivated farmland. Catchfly could refer to any number of a group of plants most of which are weedy. These species include Bladder Campion (*Silene cucubalus*), Night-flowering Catchfly (*Silene noctiflora*), White Cockle (*Lychnis alba*), and Cow Cockle (*Vaccaria pyramidata*). Corn Cockle (*Agrostemma githago*), and Cone Catchfly (*Silene conoidea*), are also serious weeds in the United States but are not yet established in Alberta. The catchfly in the list above could be any one of these weedy species.

Cynoglossum - is the genus name for a serious rangeland weed in the foothills known as Hound's Tongue, *Cynoglossum officinale*. This plant is capable of causing poisoning in cattle and especially horses. There is no way of knowing whether the *Cynoglossum* listed on the packet is Hound's Tongue or not but it is very suspicious.

Shasta Daisy - if this is *Chrysanthemum maximum*, which it would be assumed to be, it is virtually indistinguishable from Ox-eye Daisy, except by using a microscope. Ox-eye Daisy is often passed off as Shasta Daisy. Ox-eye Daisy is a severe problem in the foothills of Alberta where it has become a serious invasive weed in rangeland.

Viola - a genus name that could refer to any number of plants, a few of which are good horticultural plants, and a few of which can be serious weeds. There are two *Viola* species that are very difficult to control in Europe. At least one of these, *Viola arvensis*, also commonly called Wild Pansy, is gaining a foothold in Alberta.

If you have any concerns or require further information, please contact the ANPC at www.anpc.ab.ca

