



Medicine Wheel Garden

Gitigaan Mashkiki
(Ojibwe)

PLANT IDENTIFICATION & MAINTENANCE GUIDE

ACKNOWLEDGEMENTS

This garden and its continued success have been made possible through the generosity and dedication of our partners and volunteers.

Special acknowledgement is extended to Four Colours Drum Circle who have become Watershed Champions of the Medicine Wheel Garden (Gitigaan Mashkiki). The success of the garden is a direct result of their continued attention to the garden, ceremonies performed and shared teachings with students, residents and community groups. Educating these groups on maintenance protocols and honouring the garden has provided visitors with a new understanding to the value of Medicine Wheel Garden.

Acknowledgement is also extended to additional groups and individuals listed below who have contributed and/or participate to the on-going continued success of this project.

City of Brampton
Heart Lake Community Action Area Group
Peel Aboriginal Network
Region of Peel

United States Department of Agriculture (USDA),
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Dr. Kathy Absolon
Four Colours Drum Circle
Heart Lake Community Action Area Group

IMAGES PROVIDED BY:

Cook, Alex
Costa, Cidalia
Landry, Louis M., Services Professionnels
en Environnement
Peel Aboriginal Network (PAN)
Smithsonian, Botany Department

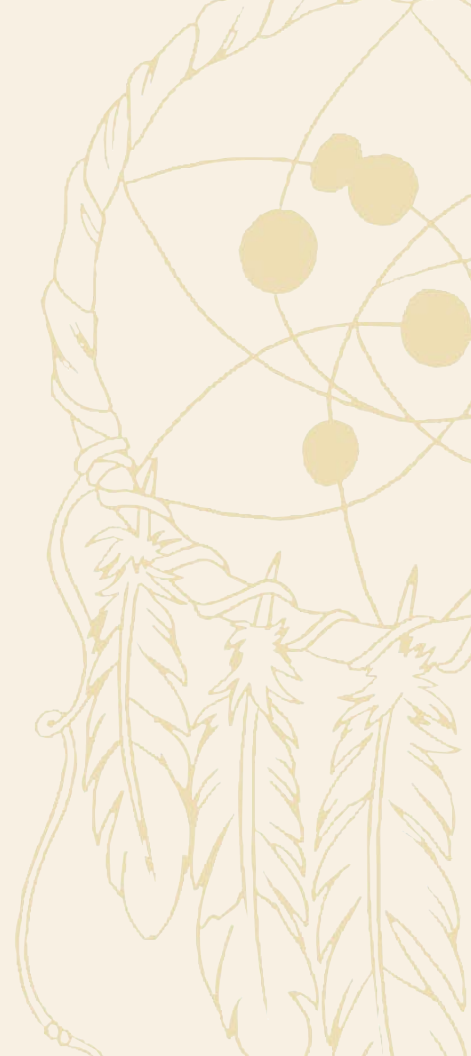
United States Department of Agriculture,
Plant Images Collection

**For more information regarding the Medicine
Wheel Garden (Gitigaan Mashkiki) and
other related activities visit: www.trca.on.ca
or www.peelaboriginalnetwork.org.**



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INTRODUCTION

The concept of this medicine wheel garden came as a vision from a male elder of the Anishnawbe Nation. Working together, Toronto and Region Conservation Authority (TRCA), Peel Aboriginal Network (PAN), Heart Lake Community Action Area Group and the City of Brampton (CoB), created the Medicine Wheel Garden (Gitigaan Mashkiki) at Heart Lake Conservation Area (HLCA), a space for healing, celebration and peace. The official opening was celebrated on May 20, 2010.

The Medicine Wheel Garden concept is rooted in the Aboriginal belief of the sacred medicine wheel and its symbolisms and teachings. It honours Mother Earth's seasonal cycles and illustrates the continuing circle of life. This garden honours the Aboriginal culture and:

- The teachings of the four cardinal directions: east, south, west, north
- The four sacred medicines: sage, sweetgrass, cedar, tobacco
- The sacred colours: yellow, red, black, white
- The four seasons and cycles of life

The garden is also a tool for Seven Grandfather teachings of; honesty, respect, humility, love, wisdom, truth and courage.

The medicine circle also acknowledges Mother Earth, Father Sky and the People. The four cardinal directions have teachings and sub teaching designed to guide and ease life's struggles, to heal and direct on how to tread lightly on Mother Earth and show respect for all that is living. The creation of a wheel symbolically portrays a universe (microcosm) within the universe (macrocosm) and establishes a sacred place of healing.

*"Just bring in the
presence of a wheel,
people will heal"
Author Unknown.*

QUADRANTS OF THE GARDEN AND DIRECTIONAL REPRESENTATION

According to Aboriginal history, the white pine is referred to as The White Pine of Peace. Iroquois leaders appealed to the Mowhawk, Oneida, Onondaga, Cayuga and Seneca nations to cease fighting and band together to form a new confederacy. To honour and celebrate this banding together, weapons from each of the five nations were buried under the roots of a white pine.

The selection of the site for this garden began with the presence of a mature eastern white pine located at the site. The elder then incorporated the four colours/quadrants culminating at the centre of the garden where an eastern white cedar grows. This cedar represents the colour purple and signifies the Creator, prayer and reflection that should be nurtured in daily life. Each quadrant is also represented by four animals – eagle, turtle, buffalo, and bear which are carved into benches placed at each section.

In other tribes there are different animals represented at the four directions along with additional ceremonies and traditions.

The following are examples of animals represented at each of the four quadrants of other Ojibway tribes:

- East – eagle
- South – mouse and/or coyote
- West – black bear
- North – white buffalo

The following outlines characteristics of each quadrant with the corresponding colour, plant and animal.

East Doorway: Eagle - Yellow – Tobacco

Characteristics and Symbolisms:

- New beginning, new day, beginning of the seasons and human life, childhood.
- This direction represents Asian cultures of the earth.
- Eagle flies close to the creator and is the messenger between the creator and people.
- Sunrise ceremony shows respect for new day and all creation.
- Tobacco offered as the sacred medicine of the east.
- Eagle's lessons: honesty, sharing, being kind, open-minded, innocence, joy, hope guidance and leadership.

South Doorway: Grandmother Turtle – Red – Cedar

Characteristics and Symbolisms:

- Middle of the day, summer and the time of adolescence in life.
- This direction represents Aboriginal cultures of the earth.
- Reminder to look to our spirits for guidance - when in balance with oneself, the spirit will guide.
- Turtle is one of the oldest animals on earth, represents truth and is deliberate in its approach to life.
- Cedar is sacred, has vast medicinal qualities including high Vitamin C content and is associated with soothing pain and healing body tissue.
- Grandmother Cedar accepted the request by the Creator to walk with the people and provide healing when they are off-balance or hurting.

West Doorway: Buffalo - Black – Sage

Characteristics and Symbolisms:

- Sunset, autumn, a time of harvest and adulthood.
- This direction represents Black cultures of the earth.
- People have experienced death and/or loss; realize impermanence and everything is governed by time.
- West is the doorway to the spirit world and guarded by the buffalo.
- Buffalo is sacred because of its contribution to human survival through provision of food, shelter, clothing and tools.
- Buffalo lessons: honour, sharing, generosity to others.
- Sage is the medicine of the woman, used as tea, in cleansing ceremonies, to cleanse the spirit and enhances hearing, sight, smell and taste.

North Doorway: Bear – White – Sweetgrass

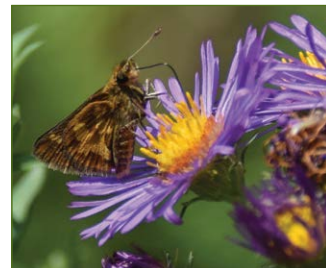
Characteristics and Symbolisms:

- Night and winter season, becoming an elder, grandfather and grandmother.
- This direction represents Caucasian cultures of the earth.
- Time of life and healing, people become elders.
- White bear takes trauma, pain and sorrow to the north.
- Time of peace, to reflect how Mother Earth and her children have been helped
- A time to inspire others from personal experiences.
- Smoke from sweetgrass rises from a fire and prayers rise with it to the Creator. Sweetgrass is representative of the sacred hair of Mother Earth.
- The place where one disconnects from the physical body.
- Bear gives strength and endurance.

MEDICINAL PLANT OVERVIEW

Medicinal plants, both in the wild and cultivated by humans, have been used for the treatment of illness throughout the world for thousands of years. It is estimated there are over 400,000 types of vascular plants with approximately 130,000 of these being used for medicinal purposes by indigenous peoples.¹

Although Canada does not manufacture these plants to the extent of Europe and Asia, it does produce ginseng, Echinacea, ginko biloba, licorice and St. John's wort as a medicinal crop. Due to an increase in natural health products, herbal remedies, homeopathic, traditional medicines and probiotics, the Natural Health Products Regulations went into effect in 2004 by the Food and Drugs Act to ensure the safety of human consumption. **It should be noted that clear identification and confirmation of a plant species should be obtained by a professional before consumption or external use as a medicinal product.** Because a plant is natural does not necessarily mean it is safe. There are risks associated with medications such as interaction with other prescriptions, allergic reaction, misuse of the product and instructions or warnings relating to suitability for specific groups of people.²



¹ "Growing Medicinal Herbs in Ontario." Ministry of Agriculture, Food and Rural Affairs. Province of Ontario, May 2012. Web. 3 Jan. 2017.

² Ibid.

TRADITIONAL ABORIGINAL CEREMONIES FOR PLANTING AND HARVESTING

Aboriginal peoples have great appreciation for all things in the world and in the Anishnawbe tradition medicine plants are given high respect and honour. An elder or traditional medicine person should be consulted to ensure correct steps are taken when working in the Medicine Wheel Garden. The garden is entered from the east and prior to conducting any maintenance, an offering of tobacco is placed on the Grandfather and Grandmother stones at the centre of the garden as a sign of respect. This offering continues to the south, then to the west, ending at the north quadrant. To perform maintenance of the Medicine Wheel Garden or when plants are added or harvested, the spirit of the plant must be addressed and intention for its use be identified. An offering of tobacco is commonly used to honour the spirit of the plant and is placed in the hole dug for the plant.

Aboriginal tradition acknowledges the relationship humans have with the natural world to sustain life. In return, humans must protect plants, animals, water and soil to show gratitude and to ensure continued existence. To this end there are many ceremonies associated with seasonal changes ranging from the giving of thanks to honouring the cycles of life of Mother Earth.

Throughout the year, ceremonies are performed each month some of which are indicated in Table 1 below. Although an exact date cannot be determined, it is done as close to the new moon phase as possible. Examples of additional ceremonies include: naming (spirit name is given by the elder), drum birthing, full moon, solstice, equinox, healing circle and harvest.

The spring ceremony is performed at the first significant sign of thunder which is the sign of awakening after winter. In the fall it is important to ensure plants are properly attended to and prepared for the winter season. For example, in autumn the plant should not be cut or pulled out of the garden but allowed to dry, lie down naturally and return to the earth.



Table #1 – Anishnawabe Ceremony Schedule*

CEREMONY	SEASON	MONTH & DURATION
Wátha - Maple Syrup	- after the first thunders in Spring - sap will start to run	April - 1 day (Latisakayutése - April)
Wátha - Maple Syrup	- when the frost leaves the ground	April - 1 night (Latisakayutése - April)
Kanhe - *Seeds/planting	- when the frost is out of the ground and the ground is ready to plant	May - 1 day (Latiythos – May)
Awhihte - Strawberry	- when the children find the first wild strawberries	June - 1 day (Awhihte - June)
Ohyótsheli - Beans	- when the string beans are ready	July - 1 day (Ohyótsheli – July)
Onastase - Green Corn	- when the indian corn kernels start to grow	August - 1 day (Onstase – August)
Lutékhwayhe - *Harvest	- when the foods are ready to be harvested	October - 3 days (Lutékhwayhe – October)
Ohkiwé - Dead Feast: opens feast season	- after the first frost	October - 1 night (Lutékhwayhe – October)
Tshátekohsélhg - *Midwinter	- 5 days after the first new moon after the shortest day (December 21) of the year	December - 4 days + 1 medicine day (Wahsutés – December/ Teyakohútyaks - January)

* Ceremonies are not limited to those listed in the above table

TRACKING, RECORD KEEPING AND MONITORING

An important part of maintaining a garden is to keep records of steps and progress throughout the year. These records help keep track of growth, successful plants, wildlife observed and tasks related to the overall health of the garden.

TASKS FOR EACH SEASON

Planning along with regular maintenance is an essential element in order to ensure success in the garden. A chart of seasons, tasks to be accomplished and equipment required will set some general guidelines and help keep track of progress (Table 2).



Table #2 – General Seasonal Maintenance: Guidelines

SPRING / LATE SPRING	SUMMER	FALL	WINTER
Notebook & Camera - take notes of all tasks, plant growth - record images of area, new growth (take images; before, during, end of growth period)	Notebook & Camera - note growth, take images of growth stages, flowers emerging, wildlife in area - note plants not established, possibly relocate	Notebook & Camera - progression images of growth, what plants are flowering, wildlife	Review notes - identify areas where too much growth or not successful, plan for alternate or additional plants
Set up list of equipment for season	Remove weeds	Remove weeds	
Prepare area for new seasonal growth	Water as needed - be aware of dry periods	Thin out and maintain diverse colour/variety of plants	
Perform visual site check for wildlife habitat (ie: ground nests)	Cut back aggressive weeds or invasive species	Leave dead growth to act as "blanket" for winter	
Mow area, rake, cut back or pull visible weeds	Monitor crowding, thin out and replant in alternate areas	Allow leaves to remain on garden	
Remove weeds and/or invasive vegetation		Check equipment - repair as necessary	
Put cuttings in compost for future use (making sure weeds or invasive plants are not put in compost)		Establish list of plants to be planted for the following year	
Replenish mulch where necessary			
Divide new growth if plant is overtaking area			
Plant new variety or re-distribute divided plants			
Water new and relocated plants			

MAINTAINING THE MEDICINE WHEEL GARDEN

Maintenance of the garden occurs year round. In the spring a walk-through of the area is conducted to check for nests made by wildlife wintering in the area. New nesting sites may be in the process of being established by wildlife depending on how early spring emergence begins. Gently lift vegetation growth that has fallen over in the garden during the winter to inspect for nests under leaves and plant stems.

The next step is to rake the previous year's dried vegetation and set aside to compost. This will allow the sun to reach plants and encourage new growth to emerge. Plants will require monitoring, thinning and replanting to prevent any one species from becoming dominant. Planting a variety of flowers with a wide colour range that bloom throughout the seasons and interspersed with grasses and sedges will help attract pollinators and assist with weed control. The deep root system of native grasses and sedges will also help prevent encroaching weeds. By persistently hand-pulling new growth of thistles, weeds and invasive species the process of photosynthesis is arrested forcing the plant to use stored energy and over time will deter growth of invasive plants. Weeds and invasive vegetation should not be placed in the composting pile, as seeds have the potential of being reestablished in gardens when using the processed compost. Place invasive plants in garbage bags or smother with a tarp to prevent seed dispersal. Filling in areas with desired native plants will assist with weed control and over time will out-compete invasive vegetation.



Moisture Regime

Newly established plants will require regular watering. In general all watering should be done early in the morning to help establish the root systems. Daytime watering is not effective for plants or seeds due to potentially high temperatures. Watering in the evening is not recommended as it can lead to fungal growth.

Wildflowers do not necessarily require a watering regime once they are established unless there is a drought situation.

The Medicine Wheel Garden and meadow plots at HLCA have been created with a soil mixture that includes a layer of brick sand on top which allows water to drain through to soils below. This allows moisture uptake through root systems of the plant. Brick sand has proved effective in plant success and growth.

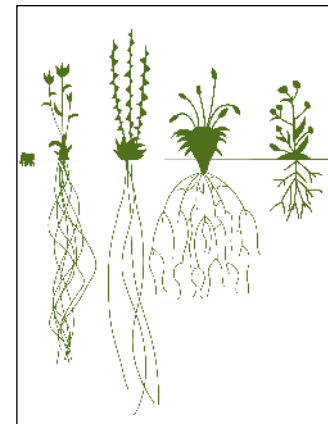
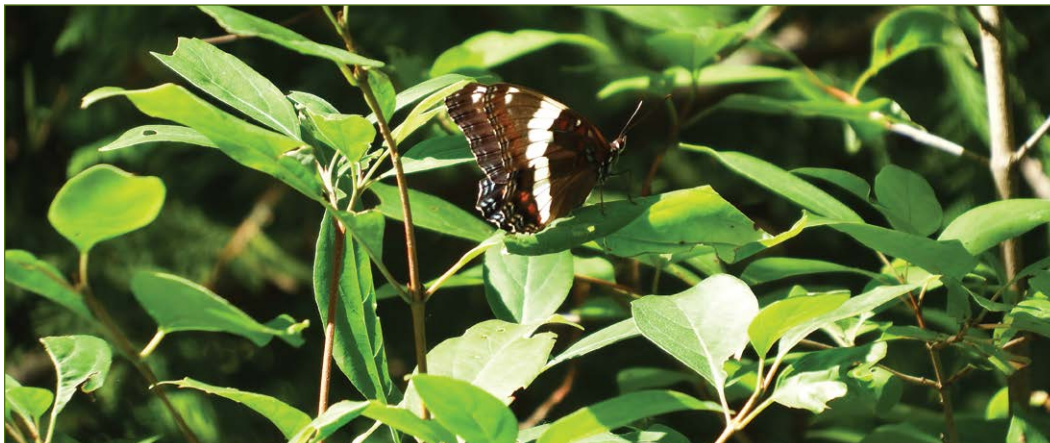


Image of root systems underground



ATTRACTING POLLINATOR SPECIES AND WILDLIFE

The garden is home to many animal and insect species and therefore bird and bee nesting structures have been installed throughout the area. These structures provide educational tools for community and school groups as they participate in monitoring activities such as identifying wildlife and insect populations, their habits and annual migrations.

Bird habitat structure should be created following design instruction templates suitable for the type of birds native to the area or those attempting to be attracted. For example, most bird structures require the opening be positioned in a specific direction and should be placed in an open area. Care should be taken to position the structure to avoid threats from predation. Placing a structure too close to trees may enable predators to more easily access the box when fledglings are present.

The Medicine Wheel Garden (Gitigaan Mashkiki) is located in Heart Lake Conservation Area in Brampton at; 10818 Heart Lake Road. Access to the site is through the main entrance. See link below for details on park hours and fees:
www.trca.ca/parks/heart-lake-conservation-area/



REFERENCE

- ¹ *Agriculture and Agri-Food Canada, 2007. [Canada's Medicinal Plant History](http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1174597176899&lang=eng)*
<http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1174597176899&lang=eng>



LIST OF PLANTS ESTABLISHED IN THE MEDICINE WHEEL GARDEN

Black-eyed Susan	(Rudbeckia hirta)
Blanket Flower	(Gaillardia aristata)
Blazingstar	(Liatris spicata)
Blue-eyed Grass	(Sisyrinchium montanum)
Butterfly Milkweed	(Asclepias tuberosa)
Common Milkweed	(Asclepias syriaca)
Common Yarrow	(Achillea millefolium)
Curlycup Gumweed	(Grindelia squarrosa)
Cut-leaf Anemone	(Anemone multifida)
Ground Plum Milk Vetch	(Astragalus alpines var alpinus)
Hairy False Golden Aster	(Heterotheca villosa)
Helen's Flower (sneezeweed)	(Helenium autumnale)
Indian Grass	(Sorghastrum nutans)
New England Aster	(Symphyotrichum novae-angliae)
Ox-eye Sunflower	(HelianthusDivaricatus)
Pale Purple Coneflower	(Echinacea pallida)
(Eastern) Purple Coneflower	(Echinacea purpurea)
Prairie Coneflower	(Ratibida pinnata)
Prairie (white) Sagebrush	(Artemisia ludoviciana)
Prairie Smoke, 3-Flower Avens	(Geum triflorum)
Pussy Toes	(Antennaria howellii)
Stiff-leaved Goldenrod	(Oligoneuron rigidum)
Sweet Grass	(Hierochloa odorata)
Wild Bergamot	(Monarda fistulosa)
Wild Columbine	(Aquilegia Canadensis)
Wild Mint	(Mentha arvensis)
Wild Strawberry	(Fragaria virginiana)

Natural health

Due to an increase in natural health products, herbal remedies, homeopathic, traditional medicines and probiotics, the Natural Health Products Regulations went into effect in 2004 by the Food and Drugs Act to ensure the safety of human consumption. It should be noted that clear identification and confirmation of a plant species should be obtained by a professional before consumption or external use as a medicinal product. Because a plant is natural does not necessarily mean it is safe.

There are risks associated with medications such as interaction with other prescriptions, allergic reaction, misuse of the product and instructions or warnings relating to suitability for specific groups of people¹.

A QUICK REFERENCE OF FLOWER SHAPES FOR IDENTIFICATION

Bowl-shaped



Campanulate



Funnelform



Labiata



Ligulate



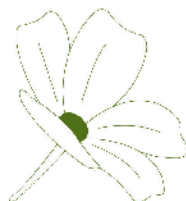
Papilionaceous



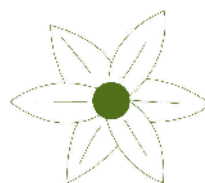
Umbel



Saucer-shaped



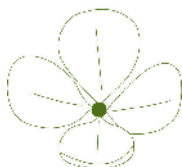
Stellate



Trumpet-shaped



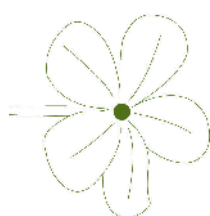
Cruciform



Ray



Salverform



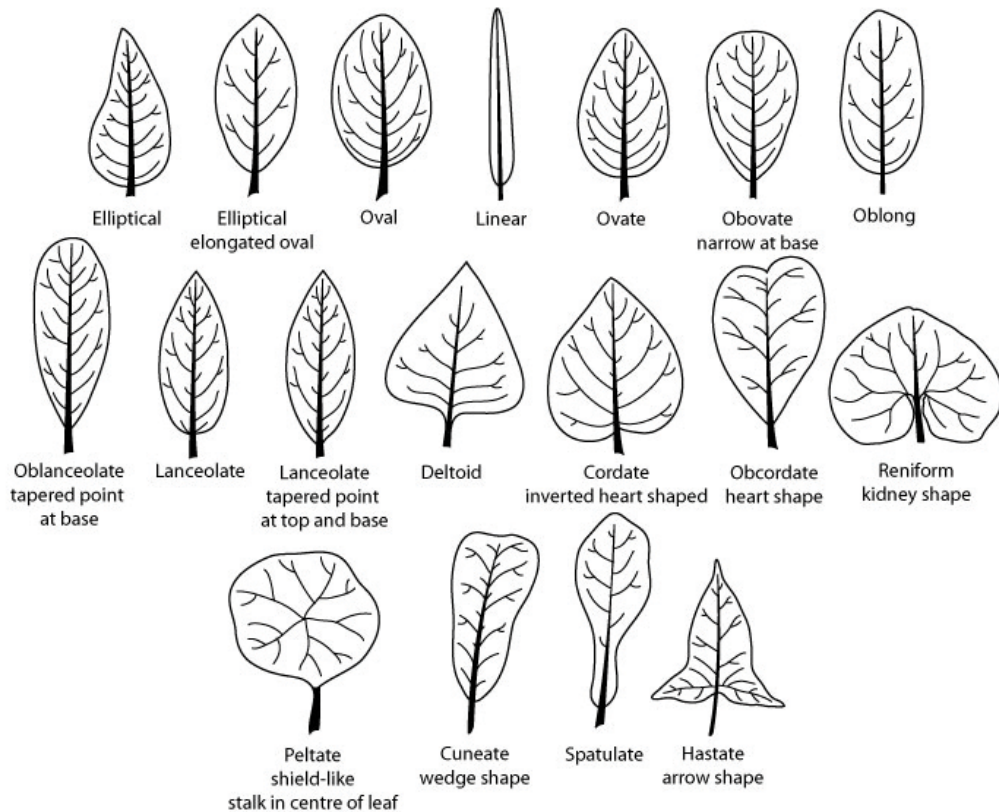
Urceolate



Tubular



Deciduous Leaf Shapes



Black-eyed Susan (*Rudbeckia hirta*) • Family: Aster (*Asteraceae*)



Preferred Planting Conditions:

- Full sun to part shade
- Sand to clay soil
- Drought tolerant

Description & Key Features:

- Height: - 30 to 90 centimeters (1 to 3 feet)
- Bright yellow ray shape flower with dark brown center on tall stalk, oblong shaped leaves
 - Blooms July to September

Maintenance & Care:

- Easily established by seed, will re-seed each year
- Best mixed with other bunch grasses
- Control competing vegetation to prevent decrease in Black-eyed Susan

Habitat Location and Value:

- Used in erosion control, along roadsides, ditches, hillsides, landscaping and gardens
- Food and protection source for several birds
- Attracts butterflies and is deer resistant

Additional Information:

One of the most recognized plants
Very easy to grow

Blanketflower (*Gaillardia aristata*) • Family: Aster (*Asteraceae*)



Preferred Planting Conditions:

- Full sun
- Sand to loam soil
- Dry to medium water regime
- Drought tolerant

Description & Key Features:

- Height: - 30 to 60 centimeters (1 to 2 feet)
- Blooms from June to September, long stout stems from tap root, oblong shaped leaves

Flower: - Bright red “daisy-like” flower with yellow-orange tips

Maintenance & Care:

- Propagate by seed only
- Best results with space between plants

Habitat Location and Value:

- Open, hot fields and plains
- Attracts butterflies, hummingbirds and some song birds, used in cut flower arrangements
- Rarely grazed

Additional Information:

Very resilient to heat and provides flowers throughout the summer

Blazingstar (*Liatris spicata*) • Family: Aster (*Asteraceae*)



Preferred Planting Conditions:

- Full sun
- Dry to moderate soil
- Drought tolerant

Description & Key Features:

Height: - 90 to 120 centimeters (3 to 4 feet)

- Blooms mid-summer to early fall

Leaves: - Grass-like leaves from the stem upwards to base of flower

Flower: - Spike of violet flowers in tuft-like cluster

Maintenance & Care:

- Reproduced from seed
- Allow flower head to become a tan colour, allow stalk to dry indoors, gently shake to loosen seeds
- Store in refrigerated container

- Ground cover requiring minimal water
- Does best when cleaned up in spring

Habitat Location and Value:

- Dry and moist areas, prairies and marsh edges
- Attracts butterflies, song birds and hummingbirds
- Deer resistant

Traditional Use:

- Boiled to ease back and limb pain, stomach ache

Additional Information:

One of the most distinctive wild plants, resembles smoke rising over leaves

Aliases:

Dense gayfeather, Dense blazingstar, Marsh blazingstar

Blue-eyed Grass (*Sisyrinchium montanum*) • Family: Iris (*Iridaceae*)



Photo Credits:
L.M. Landry

Preferred Planting Conditions:

- Sun and part shade
- Medium to moist soil
- Drought intolerant
- Requires high moisture regime

Description & Key Features:

- Height: - 15 to 30 centimeters (0.5 to 1 foot)
- Narrow grass-like branched stems, silvery-blue in early spring, turn a blue-green in summer
- Flowers: - Blue-violet with yellow centre

Maintenance & Care:

- Reproduces by seed or division of roots
- Best to divide in spring

- Requires moisture and will decline if allowed to dry out
- Divide plants every other year

Habitat Location and Value:

- Damp open woods, marsh, stream banks, meadows
- Not used as food for wildlife

Traditional Use:

- Root tea for treatment of diarrhea in children
- Plant tea for stomach aches

Additional Information:

Makes ideal border plant as edge for paths or gardens

Butterfly Milkweed (*Asclepias tuberosa*) • Family: Milkweed (*Asclepiadaceae*)



Preferred Planting Conditions:

- Full sun to part shade
- Sand, loam soil
- Dry, light moisture regime

Description & Key Features:

- Height: - 30 to 90 centimeters (1 to 3 feet)
- Stems erect, woody, hairy, grow in clumps
 - Blooms from May to September
- Leaves: - Leaves lance shape (long, wider in middle)
- Shiny green, velvety underneath
- Flowers: - Showy orange groups with 5 petals

Maintenance & Care:

- Reproduced by seed and rhizome – can be invasive
- Bloom in second year, rarely in first year
- Collect rhizome cutting when plant is dormant and have in ground

- before late fall to allow root development
- Break off stalks in late fall to encourage new spring growth

Habitat Location and Value:

- Grows in clumps along roadsides, fields, pastures, disturbed sites
- Larval food source for the Monarch butterfly

Traditional Use:

- Fiber for cord, cloth, rope - Shoots, flowers boiled as vegetable
- Root for swelling, sore throat, rash

Additional Information:

- Can be toxic if not prepared properly - Believed to be toxic to livestock
- Fibers found in textiles from the pre-historic Arizona/New Mexico

Aliases:

- Orange milkweed, chigger weed

Common Milkweed (*Asclepias syriaca*) • Family: Milkweed (*Asclepiadaceae*)



Preferred Planting Conditions:

- Full sun to part shade
- Sand, clay or rocky soil
- Dry, medium water regime

Description & Key Features:

Height: - 57 cm – 198 cm (1.9 to 6.5 feet)

- Erect, hairy stem
- Blooms from May to September

Leaves: - Leaves broad ovate to elliptic, dense hair below

Flowers: - Small, 5-petal, light pink to rose clusters at top of plant

Maintenance & Care:

- Reproduced by seed and rhizome – can be invasive
- Bloom in second year, rarely in first year
- Collect rhizome cutting when plant is dormant and have in ground before late fall to allow root development

- Break off stalks in late fall to encourage new spring growth

Habitat Location and Value:

- Grows in clumps along roadsides, fields, ponds and waterways
- Larval food source for the Monarch butterfly

Traditional Use:

- Fiber for cord, cloth, rope - Shoots, flowers boiled as vegetable
- Root for swelling, sore throat, rash

Additional Information:

- Flowers can be eaten but sap is poisonous
- Used for fiber, food and medicine
- Stems collected when dry to collect fibers, twisted to make cord

Aliases:

Virginia-silk, algodoncillo, silky swallowwort

Common Yarrow (*Achillea millefolium*) • Family: Aster (*Asteraceae*)



Preferred Planting Conditions:

- Full sun
- Sand or clay soil
- Drought tolerant

Description & Key Features:

Height: - 30 to 90 centimeters (1 to 3 feet)

- Blooms July to August

Leaves: - Fern-like leaves evenly distributed with tiny flowers forming in

Flowers: - Commonly white dome-like, umbels (bunch) at top of plant
- Can be pink, yellow, orange or mauve

Maintenance & Care:

- Spreads quickly through roots (rhizomes), divide plant every two years
- May become invasive (divide to control)
- Plant in well-drained soil, 12 to 18 inches apart

Habitat Location and Value:

- Common in fields, pastures, disturbed areas, roadsides
- Generally unpalatable to livestock but flowers are consumed

Traditional Use:

- Herbal tea made from flowering plant used to treat colds, fever, gastric ailments and indigestion
- Leaves soaked in water used on wounds and for rashes and itching
- Mashed leaves used as poultice for headache and earache

Additional Information:

- Growing plant deters ants, flies and beetles
- Can be burned to repel mosquitoes
- One ingredient of herbal compost activator to speed up bacterial activity
- May cause dermatitis (inflammation of skin)

Aliases:

Bloodwort, carpenter's weed, common yarrow, milfoil, plumajillo

Curlycup Gumweed (*Grindelia squarrosa*) • Family: Aster (*Asteraceae*)



Photo Credits:
L.M. Landry

Preferred Planting Conditions:

- Sun and part shade
- Dry to moderate soil
- Drought tolerant

Description & Key Features:

Height: - 20 to 60 centimeters (7 to 24 inches)

- Erect hairless stem, leaves oblong with small teeth

Flower: - Yellow with 25 to 40 petals – Blooms July to September

Maintenance & Care:

- Reproduced by seed – requires 60 to 90 days of cold moist stratification
- Ground cover requiring minimal water

Habitat Location and Value:

- Prairies, waste areas, open fields
- Bitter taste, not palatable for grazing wildlife

Traditional Use:

- Flowers, leaves used to treat bronchitis and sores – flower heads dried, crushed to powder and used with tobacco for asthma - tea used for stomach ache, kidney ailments, whooping cough, asthma, pneumonia, colds – sappy leaves pounded to treat poison ivy

Additional Information:

- Tough but short-lived plant, biennial
- Can invade overgrazed land

Aliases:

Resin weed, tar weed, sticky heads

Cut-leaved Anemone (*Anemone multifida*) • Family: Buttercup (*Ranunculaceae*)



Preferred Planting Conditions:

- Sun & part shade
- Dry to moderate soil
- Drought tolerant

Description & Key Features:

Height: - 30 to 90 centimeters (1 to 3 feet)

- Blooms June to August

Stems: - 15 to 50 centimetres (6 to 20 inches) with fine hairs

Leaves: - Long, slim

Flower: - Yellow-white inner, pink to purple outer area

Maintenance & Care:

- Ground cover requiring minimal water
- Grown from seed in spring or divide plants in fall

Habitat Location and Value:

Dry gravel areas, open woods

Traditional Use:

- Fresh leaves used to treat neuralgia and rheumatism
- Dried leaves crushed and "smelled to relieve headache

Additional Information:

- Does have poisonous parts
- Sap can cause irritations and inflammation

Aliases:

Pacific anemone, Cut-leaved Anemone

Ground Plum Milk Vetch (*Astragalus alpinus* var *alpinus*) • Family: Pea (Fabaceae)



Photo Credits:
L.M. Landry

Preferred Planting Conditions:

- Full sun
- Sand, loam soils
- Dry, light moisture regime

Description & Key Features:

- Height: - 30 to 90 centimeters (1 to 3 feet)
- Leaves small and multiple
 - Flower: white, lavender, pink-purple

Maintenance & Care:

- Reproduced by seed
- Dry seed requires stratification if planted directly in ground
- Greenhouse: Soak seed in water, allow to swell, germination slow (4 to 9 weeks)
- Plant located outside of garden in surrounding area

Habitat Location and Value:

- Prairie, meadow, fields
- Attracts butterflies and bees

Additional Information:

- Some species are poisonous
- *Crassicaarpus* defined as “thick fruit”

Hairy False Goldenaster (*Heterotheca villosa*) • Family: Aster (*Asteraceae*)



Photo Credit: P.J. Alexander



Photo Credit: J.S. Peterson



Photo Credit: P.J. Alexander

Preferred Planting Conditions:

- Sun and part shade
- Dry to moderate soil
- Drought tolerant

Description & Key Features:

Height: - 10 to 30 centimeters (4 to 12 inches)

Grows in clump with small leaves, rough-haired stems

Flower: - Yellow and in clusters

Maintenance & Care:

- Ground cover requiring minimal water

Habitat Location and Value:

- Abundant in west in dry areas
- Open plains, slopes, cliffs
- Attracts butterflies and bees

Traditional Use:

- Leaves poultice for ant bites, toothaches and nose irritation
- Plant burned to cleanse house of negative spirits
- Tea made of tops to help sleep, relieve chest pain
- Used as ceremonial wash in sweat lodge

Additional Information:

Different species can be distinguished by hair on stems

Helen's Flower (Sneezeweed) (*Helenium autumnale*) • Family: Aster (*Asteraceae*)



Preferred Planting Conditions:

- Full sun
- Medium to moist sand/clay soil
- Drought intolerant
- Requires high moisture regime

Description & Key Features:

Height: - 121 to 152 centimeters (4 to 5 feet)

- Blooms August to September, slender, erect stem smooth to rough

Leaves: - Alternate, slender 5 to 10 centimeters (2 to 4 inches), grey and hairy when young, turning green and smooth

Flower: - Yellow, sunflower-like petals

Maintenance & Care:

- Reproduces by seed only
- Plant in a firm weed-free bed, place seeds 6 to 12 millimeters ($\frac{1}{4}$ to $\frac{1}{2}$ inch) into soil
- Excessive growth of other species may crowd out Helen's Flower

Habitat Location and Value:

- Found in marshes and wet areas
- Attracts butterflies
- Poisonous to wildlife

Traditional Use:

- Dried mature flower heads ground down to powder, used as snuff for colds and headaches
- Made into tea to treat intestinal worms
- Infusion of stems as wash for treating fevers

Additional Information:

Contains helenalin which is an insecticide property toxic to fish and worms

Aliases:

- Staggerwort, swamp sunflower, bitterweed, false sunflower

Indian Grass (*Sorghastrum nutans*) • Family: Grass (Poaceae / Gramineae)



Preferred Planting Conditions:

- Full sun
- Tolerant to range of soils, clays, sand
- Dry to medium moisture requirements

Description & Key Features:

- Height: - 90 to 160 centimeters (3 to 5 feet)
May to October
- Leaves: - Leaf narrows where attached to stem
- Seed: Light with attached awn (stiff bristle)
- Thin stem

Maintenance & Care:

- Reproduced by seed
- Can be divided in spring

Habitat Location and Value:

- Prefers medium soils, good drainage, sun or part shade
- Provides habitat and food for wildlife
- Good for erosion control

Additional Information:

Provides source of protein and vitamin A for livestock in summer when leaves are green

New England Aster (*Symphotrichum novae-angliae*) • Family: Aster (*Asteraceae*)



Preferred Planting Conditions:

- Full sun, part shade
- Sand to clay soils
- Medium to moist water requirement

Description & Key Features:

- Height: - 90 to 180 centimeters (3 to 6 feet)
- Pink to deep purple ray flower on individual stalk, 40 or more petals and yellow-orange centre
 - Tall hairy leaves and stems – thin leaves up to 10 cm (4 inches) long with pointed tips
 - Blooms August to October

Maintenance & Care:

- Reproduced by seed
- Plant seeds in pots, plant in summer
- Plants can be divided in spring or fall

Habitat Location and Value:

- Prairie swales, wet meadows, thickets and along streams
- Attracts butterflies, moths, bees and is deer resistant

Additional Information:

Provides a late-season source of nectar

Aliases:

Aster, starwort, first flower

Ox-eye Sunflower (*Heliopsis helianthoides*) • Family: Aster (Asteraceae)



Preferred Planting Conditions:

- Full sun to part shade
- Sand, clay soil
- Dry to medium water regime

Description & Key Features:

- Height: - 60 to 150 centimeters (2 to 5 feet)
 - Yellow flower with 10 or more rays – center is yellow-orange
 - Leaves alternate and serrated, pointed at tip, broad base, dark green on top, lighter underneath
 - Blooms June to August

Maintenance & Care:

- Reproduced through seed, spring planting recommended
- Remove dead flowers to extend flowering period
- Plant seeds in March or April, 1 metre apart in weed free soil

Habitat Location and Value:

- Tall grass prairies, edge of woods, good for garden border
- Attracts butterflies, livestock and wildlife will graze

Additional Information:

No serious disease or insect problems – livestock and deer will sometimes graze this plant

Aliases:

False sunflower, ox-eye daisy, Loraine sunshine, smooth ox-eye, sweet ox-eye.

Pale Purple Coneflower (*Echinacea pallida*) • Family: Aster (*Asteraceae*)



Preferred Planting Conditions:

- Full sun to part shade
- Sand to clay soil
- Drought tolerant

Description & Key Features:

Height: - 90 to 152 centimeters (3 to 5 feet)

- Blooms June and July, stout stems with coarse bristly hairs

Leaves: - Long, narrow, lance shaped, toothless leaves; rough texture, approximately 18 centimeters (7 inches) long

Flower: - Pale purple, drooping petals

Maintenance & Care:

- Does not require fertilizer for seed planting in normal conditions
- Propagate by seed only
- Cultivate weeds between plant rows
- Remove dead plant material in spring

Habitat Location and Value:

- Wildlife planting along roads and restoration areas
- Food and cover for wildlife
- Attracts butterflies, song birds
- Used in cut flower arrangements
- Deer resistant

Traditional Use:

- Believe to be the most widely used plant for medicinal purposes
- Root chewed or boiled in tea for snake bite, spider bite, cancer, toothache, burns, colds, flu, sores

Additional Information:

- Believed to have cortisone-like, insecticidal and bactericidal activity
- Also believed to have a stimulant effect on immune system

(Eastern) Purple Coneflower (*Echinacea purpurea*) • Family: Aster (*Asteraceae*)



Preferred Planting Conditions:

- Full sun to part shade
- Sand to clay soil
- Dry to medium moisture regime

Description & Key Features:

Height: - 60 to 152 centimeters (2 to 5 feet)

- Stout stems with coarse bristly hairs
- Blooms from June to September

Leaves: - Broad lance shape lower leaves, irregular toothed

Flower: - Ray shape flower with slightly drooping purple petals
- Bright reddish-orange tips on spiny centre

Maintenance & Care:

- Germinate seeds in flats
- Plant when second set of leaves has appeared, weed and water
- Plant in late spring or early summer in well prepared, weed-free soil, 1 – 2 feet apart

Habitat Location and Value:

- Introduced to Ontario
- Rocky prairie areas, wooded areas
- Favorite seed of songbirds, especially Goldfinch, gophers and moles eat roots, attracts butterflies, deer resistant

Traditional Use:

- Pain relief, toothaches, colds, reduce inflammation, snake bites and treatment for infections

Additional Information:

- Takes 3 to 4 years for roots to reach harvestable size

Aliases:

- Snakeroot, scurvy root, Indian head, comb flower, hedgehog and Eastern purple coneflower

Prairie Coneflower (*Ratibida pinnata*) • Family: Aster (*Asteraceae*)



Preferred Planting Conditions:

- Full sun
- Clay to sandy soil
- Moist, medium dry soils
- Survives flood, drought and snow

Description & Key Features:

Height: - 90 to 180 centimeters (3 to 6 feet)

- Blooms July to September, woody based stem with numerous alternate, pinnate leaves

Flower: - Yellow or reddish-brown, 5 to 8 drooping petals grow from column-shaped centre

Maintenance & Care:

- Propagate by seed only in sunny location, best planted in early spring

- Plant in a firm weed-free bed, place seeds 6 to 12 millimeters ($\frac{1}{4}$ to $\frac{1}{2}$ inch) into soil
- Excessive growth of other species may crowd out the Prairie Coneflower

Traditional Use:

- Cones and leaves boiled for tea
- Roots used for toothache

Additional Information:

When cone of flower is crushed an anise smell is emitted
Different species can be distinguished by hair on stems

Aliases:

Pinnate prairie coneflower, grey-headed prairie coneflower, drooping coneflower.

Prairie (White) Sagebrush (*Artemisia ludoviciana*) • Family: Aster (*Asteraceae*)



Photo Credit: L.M. Landry



Photo Credit: L.M. Landry

Preferred Planting Conditions:

- Best with some shade but can tolerate full sun exposure
- Dry well-drained soil
- Drought tolerant

Description & Key Features:

Height: - 30 to 90 centimeters (1 to 3 feet)

- Blooms from June to October

Leaves: - Silvery-green foliage

- Leaves (smooth edge) from rhizomes

Flowers: - White or yellowish - from June to October.

Maintenance & Care:

- Does not dominate area and dies back at end of season
- New shoots formed from existing shoots
- Stalks connected by underground stems
- Reproduces both vegetatively and by seed

Habitat Location and Value:

- Grows in fields, roadsides, disturbed sites
- Attracts butterflies
- Food source for white-tail and mule deer, elk and grasshoppers

Traditional Use:

- Smudge for cleansing purification and ceremonies
- Used as weak tea for stomach ache, digestion and menstrual disorders
- Poultice used for rashes, itches, swellings, boils and sores
- Crushed leaves used to treat headaches, sinuses and nosebleeds

Additional Information:

- Plant can be burned to repel mosquitoes
- Leaves placed in shoes act as foot deodorizer

Aliases:

Silver wormwood, white sagebrush, wild sage, pasture sage, wormwood, white mugwort, western mugwort, Louisiana sage, dark-leaf mugwort, Mexican sagewort, Chihuahua sagewort, Garfield tea, lobed cudweed, man sage

Prairie Smoke, 3 Flower Avens (*Geum triflorum*) • Family: Rose (*Rosaceae*)



Preferred Planting Conditions:

- Full sun to part shade
- Sand or loam soil
- Dry to medium water requirement

Description & Key Features:

Height: - 20 centimeters (less than 1 foot)

- Blooms in early spring, small group of 3 flowers
- Open to feathery-like pink seed heads

Leaves: - Blue-green with hairs

Flower: - Red-purple bell shape in group of 3

Maintenance & Care:

- Spreads by rhizomes producing mat-like ground cover
- Requires well drained soil

Habitat Location and Value:

- Tallgrass prairies and rocky soils
- Not palatable to wildlife and is deer resistant

Traditional Use:

- Roots used to make weak “sassafras-like” tea treating colic & digestive disorders
- Used as body wash in traditional sweat-lodge to relieve aches
- Crushed ripe seeds used as perfume

Additional Information:

One of the most distinctive wild plants, resembles smoke rising over leaves

Aliases:

- Old Man’s Whiskers, torch flower, lion’s beard, purple avens, Johnny smokers

Pussy Toes (Small-leaf Pussytoes) (*Antennaria howellii* ssp *Canadensis*) • Family: Aster (Asteraceae)



Preferred Planting Conditions:

- Preferred Planting Conditions:
- Sun and part shade
- Dry to moderate soil
- Drought tolerant

Description & Key Features:

- Height: - Stems 3 to 15 centimeters (1.2 to 6 inches)
- Low ground cover with erect fairly leafless stalk
- Flower: - Whitish from June to September

Maintenance & Care:

- Grows rapidly forming mat-like cover
- Reproduces both vegetatively and by seed
- Plant located outside of garden in surrounding area

Habitat Location and Value:

- Open forests, pastures, meadows, roadsides, grows well on gentle slopes
- Not palatable for grazing animals
- Attracts butterflies and moths

Traditional Use:

- To reduce swelling
- Greens used for food, medicine and smoke
- Historically used for totem protection

Aliases:

Nuttall's, small-leaved, little-leaf and silver pussy toes

Stiff-leaved Goldenrod (*Oligoneuron rigidum*) • Family: Aster (*Asteraceae*)



Preferred Planting Conditions:

- Full sun
- Dry to medium sand, loam soil

Description & Key Features:

Height: - 30 to 90 centimeters (1 to 3 feet)

- Blooms September to October, slender, erect stem smooth to rough

Leaves: - Alternate, slender rough

- Upper leaves are lance shape, lower are oblong

Flower: - Flat top, yellow miniature aster flowers

Maintenance & Care:

- Reproduces by seed
- Plant 6 millimeters (1/4 inch) into soil
- Will produce transplants in one season
- Plants largely cross-pollinated

Habitat Location and Value:

- Found in prairies and woods
- Used for roadside plantings
- Attracts butterflies
- Palatable to wildlife but not preferred grazing

Traditional Use:

- Lotion made to treat bee stings
- Tea made to soothe sore throats

Additional Information:

- Species can become invasive
- Young plants are grazed, older plants spread quickly

Aliases:

- Rigid goldenrod, showy goldenrod

Sweet Grass (*Hierochloa odorata* aka *Anthoxanthum monticola*) • Family: Grass (*Poaceae*)



Preferred Planting Conditions:

- Sun and part shade
- Sand to clay soil
- Medium to moist water regime
- Not drought intolerant

Description & Key Features:

- Height: - 30 to 60 centimeters (1 to 2 feet)
- Blooms July to October, slender, semi-erect stems from slender creeping rhizomes
- Leaves: - Few and rough-edged
- Fruit: - Typical grass seed

Maintenance & Care:

- Reproduces by rhizome (root), producing by seed is slow
- Plant newly separated plants in container, place in shade for 2 to 3 weeks for best results

Habitat Location and Value:

- Rodents and small mammals browse on sweet grass

Traditional Use:

- Dried and braided stems burned at ceremonies
- Used for purification and to carry prayers to Great Spirits
- Dried and carried in pouches for perfume
- Infused plant used as wash for hair and body
- Tea used for multiple purposes: cleansing, coughs, sore throat
- As incense or smudge: prior to hunting, ceremony, spiritual medicine
- Braided and coiled to make mats, containers, bowls and baskets

Additional Information:

- Useful for wetland restoration and erosion control

Aliases:

Alpine Sweetgrass, vanilla grass, holy grass, seneca grass

Wild Bergamot (*Monarda fistulosa*) • Family: Mint (*Lamiaceae*)



Preferred Planting Conditions:

- Full sun to part shade
- Sand to clay soil
- Dry to medium water regime

Description & Key Features:

Height: - 90 to 152 centimeters (3 to 5 feet)

- Blooms from July to September, square stem

Leaves: - Lanceolate shaped leaf arrangement

Flower: - Lavender to pinkish colour clusters

Maintenance & Care:

- Mow down after hardest frost or in early spring, this controls 'woody' and dead plants
- Spreads by rhizomes
- To control aggressive growth dig up and divide clump in March
- Add leaf mold and compost to soil

Habitat Location and Value:

- Dry and moist areas, prairies and marsh edges
- Attracts butterflies, song birds and hummingbirds
- Deer resistant

Traditional Use:

- Used for cooking with meat or dried flowers make a minty tea
- Ojibwa chewed the leaves and placed in nostrils to relieve headaches
- Leaves placed in warm water for bathing babies
- Leaves and flowers boiled for abdominal pain, headache
- Leaves boiled as treatment for acne

Additional Information:

Very fragrant flower

Aliases:

Bee balm

Wild Columbine (*Aquilegia Canadensis*) • Family: Buttercup (*Ranunculaceae*)



Preferred Planting Conditions:

- Full sun to full shade
- Sand to clay soil
- Dry to medium moisture regime

Description & Key Features:

Height: - 30 to 90 centimeters (1 to 3 feet)

- Flower faces down funnel-shape, outer petals are spur-like red with yellow tips – illusion of two flowers
- Compound leaves divided to obovate (egg shape) leaflets, narrow end at base
- Blooms May and June

Maintenance & Care:

- Reproduces by seed
- Germinate seeds in trays with even moisture for 3 to 4 weeks – seedlings transplanted to pots for root growth – expose plants to frost-free outdoors before placing in garden
- Does not usually flower in first year

Habitat Location and Value:

- Wide range: Found in low woods, along clearings of forests, black-oak savannas, cedar glades, mixed conifer hardwood forests, ledges, banks, gravelly shorelines and quarries
- Sometimes browsed by deer, unpalatable to livestock
- Favoured by bees and humming birds

Aliases:

Red columbine, wild honeysuckle, meeting-houses, red-bell, Canada columbine, American columbine, rock-lily, jack-in-trousers, cluckies

Wild Mint (*Mentha arvensis*) • Family: Mint (*Lamiaceae*)



Photo Credit: L.M. Landry

Photo Credit: L.M. Landry

Preferred Planting Conditions:

- Full sun and part shade
- Sand to clay soil
- Dry moisture regime

Description & Key Features:

Height: - 10 to 81 centimeters (4 to 32 inches)

- Blooms July to September, erect, square-shaped stem

Leaves: - Opposite toothed dark green leaves tapering to point

Flowers:- White to pink, cluster

Maintenance & Care:

- Reproduced by seed
- Germinate in pots, plant in spring

Habitat Location and Value:

- Wet meadows, shores, marshes, along streams, Prairies, woods, meadows

Traditional Use:

- Tea of leaves and tops used for treating fevers
- Flavoring in salads or cooked foods
- Aids in digestion

Additional Information:

- Used as insect repellent
- Rats, rodents do not like smell
- Known to be used in granaries to repel rodents

Wild Strawberry (*Fragaria virginiana*) • Family: Rose (*Rosaceae*)



Preferred Planting Conditions:

- Full sun to part shade
- Sand or clay soil
- Medium to moist water requirement

Description & Key Features:

Height: - 1 to 12 centimeters (0.4 to 4 inches)

- Flowers are white 5-petals with yellow centre and the fruit is a small strawberry with a more intense flavor than commercial varieties
- 3-toothed thin leaves growing close to the ground
- Blooms May, June

Maintenance & Care:

- Spreads by rhizomes and seed
- Runners of plantlets can be dug, planted in pots covering both roots and stems with soil, keep moist, plant in late winter to early spring in loose soil with full sun
- Prune each year and divide every 3 to 4 years

Habitat Location and Value:

- Dry open woodlands and clearings
- Attracts butterflies, song birds and numerous wildlife will feed on the berries

Additional Information:

- Distribution of this plant is wide-spread over all of North America including northern regions

Aliases: Mountain strawberry, Virginia strawberry



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