



Edmonton Horticultural Society Fundraiser Seed Sale 2006, www.seedcentre.com/ehs

TIPS FROM LEONA FOR GROWING PLANTS FROM SEED*

***Leona Van Buskirk is an experienced gardener who has good success growing all types of plants from seed. Leona and her husband Colin have won many prizes in the Edmonton Horticultural Society Garden Competition. Leona's tips are based on her experience and research. Additional sources of information are noted at the end of the article.**

ANNUALS

CACTUS

Cacti are easy to care for. They require full sun and fast-draining planting soil mix. Use basic potting mixture with a double quantity of sand. Cacti may be grown in pots or rock gardens. Newly planted cacti require very little water. Cactus is equipped with a water-storing capacity, therefore they are able to withstand long, dry intervals between watering. Their thick skin reduces evaporation and is able to store water when it becomes dry. During hotter periods, requires more water. If over watered their roots will begin to rot before they actively begin to grow. In 4 – 6 weeks when their roots begin to actively grow, water thoroughly. Be sure the soil is dry before watering again. Fertilize in spring and summer during hot weather. Cacti benefit by placing outdoors in the summer, harden off first. In the fall reduce watering to allow the cacti to go dormant. Not all cacti are tender plants.

CARNATION

Start carnation seeds indoors approximately 10 – 12 weeks before ready to plant outdoors (approximately Jan. 1st). Plant seeds in a light, fast-draining soil, 1/8 inch deep, cover lightly and keep warm (21 °C). Harden off before transplanting. Transplant outdoors in early spring after the last frost. Plant outdoors in a sunny location about 6 – 8 inches apart. Add lime to soil if soil is acidic. Carnations enjoy cool conditions. Deadhead regularly for continuous blooms and avoid over watering. They are frost tolerant and will continue to bloom until freeze up.

DUSTY MILLER

Dusty millers are easy to grow and are very low maintenance plants. Plant seeds approximately 8 – 10 weeks before last frost date. Press seeds into soil, but do not cover. Light is required for germination. Provide good drainage. Keep soil temperature about 21 – 24 °C. When seedlings emerge, keep warm in a bright location. Plant approximately 8 inches apart outdoors as soon as the soil is warm and the plant has true leaves. Seedlings should be

hardened off first. Plant in full sun. Grows best in an open sunny location, as it needs full sun all day. Will tolerate part shade. Dusty miller is an excellent plant for hanging baskets or container planting. It requires well-drained soil. If soil is clay, work in a least one-inch of coarse sand. Plant may succumb to root or stem rot when planted in heavy clay soil. They are drought resistant and heat tolerant. To keep plant low and bushy, pinch back the tips by an inch or two several times during the growing season. Remove yellow blooms as soon as they appear to discourage flowering as they spoil the look of the plant. Prune if plant gets to large. Leave plants in ground even after frost; well look good until snow falls.

GODETIA

Godetia seeds may be started indoors 4 – 6 weeks before last frost. Sow under glass at 20 °C. Keep soil moist from seedling to flowering. Because seedlings are difficult to transplant, stronger plants result from direct sowing outdoors in the spring after last frost, once the soil has warmed up to 18 – 20 °C. Cover seed lightly and place glass over seeds until seedlings appear. If planting indoors, plant in peat pots that can be sunk into the ground without damaging the roots, harden off seedlings before transplanting. Best planted in a sunny location, in hotter areas plant in light shade. Plant in sandy soil, however is very tolerant of poor soil. Water regularly, do not over fertilize. Godetia enjoys cool nights. They are good for cutting and keep well.

LOBELIAS

Lobelias are easy to grow. If starting indoors, sow seeds 8 – 10 weeks before time to plant outside after last frost. Use approximately 4 inches of potting soil; add water to make soil damp. Press seeds into soil but do not cover, as they need light to germinate. Water thoroughly. Place in a morning sun location, turning plant occasionally and keep warm 21-24 °C, until seeds sprout. If started from seeds, they take about two months to reach planting out size. Water from below and watch for damping off. Harden off seedling first. Transplant outdoors one week after last frost. Plant 4 – 6 inches apart in full sun in cooler areas, to partial shade in hotter areas. . Requires average to humus-rich soil that must be well drained, it cannot be soggy. Never allow plant to dry out. Shade newly planted seedlings for the first few days. Diluted fish fertilizer helps plants grow quickly after they have been transplanted. Do not over fertilize. If planting in container or hanging baskets plant at least 4 inches from edge of container, too keep roots further away from the heat absorbed by the container. May be planted close to edge if other plants shade their roots. Look attractive as border plants. Deadhead plants for a longer blooming time. May be cut back by 1/3, to about 3 inches after first flush of blooms for bushier growth and more flowers. They are a dependable plant that trail about 1 - 1½ feet and bloom from summer to frost. Diseases or pests seldom bother lobelias. All parts of the plant are poisonous.

NICOTANIA

If planting outdoors, when soil is warmed, sow seeds on surface and cover lightly. Plant requires rich well-drained soil. Indoors sow seeds 6 – 8 weeks before last frost. Settle the soil with a spray of water. Cover the pots with clear plastic. Keep the pots evenly moist by misting periodically. Provide light and a constant temperature of 21 - 23 °C. Heating mats beneath are beneficial. Thin if over crowded. Pinch back to encourage side branching. Harden off and transplant after last frost in a full sun or part shade location. Requires 8 – 12 inches between plants. Keep plant moist during dry periods, but not over wet or plants will begin to turn yellow. Mulch roots to preserve moisture. Do not allow plants to dry out, give them plenty of fertilizer every two weeks. Should be deadheaded regularly to promote more blooms and

avoid self-seeding. Nicotiana is great for beds, borders and cut flowers. All parts of the Nicotianas are poisonous.

PANSY

Sow seeds 8 – 10 weeks before planting outdoors. Plant 2 – 3 seeds per pot; cover lightly about 1/8 in deep in moist potting soil. Provide total darkness by covering with a damp folded newspaper and keep at a slightly lower room temperature. Seeds should germinate in 10 – 12 days. Water when soil feels dry. Remove the newspaper when seeds sprout, water and feed with a liquid fertilizer every week. Harden off, thin and transplant in early spring into a part shade location. Where areas are cooler can be planted in full sun. Pansies prefer cool moist conditions. Requires rich, well-drained soil, mulching is helpful. Plants may suffer from stem and root rot if not planted in well-drained soil. For all season blooms, deadhead regularly and cut plant back to stimulate growth. Pansies are hardy, frost tolerant and self-seed. Collect seeds when pods form, pick when dry, and store in a paper bag in a dry spot.

PETUNIA

For indoor planting, start seeds 8 -10 weeks before intended date of transplanting outdoors. Plant in humus rich soil but they do not need very good soil and can grow well in soil that is sandy and dry. Do not cover the seeds, as they need light to aid in germination. Provide light and constant warmth, best to use a bottom heat source for best results, place on top of refrigerator. Germinate best at 24 ° C, in 5 – 15 days. Grow plants to budding stage at 12 ° C. If grown above that temperature, they will grow tall and spindly. When 3 – 4 leaves sprout, the plant is ready for transplanting. Harden off by bringing seedlings out during the day and bring them in at night for the first few days. Best to transplant on cloudy days or later in the evening. When transplanting, keep plant at the same depth they were in their original containers and plant 20 – 30 cm (8 – 12 inches) apart. Once transplanted keep plant in a cool sheltered area for a few days. Milk cartons or cans work great. If in pots or containers keep in a shaded area away from the sun, wind and rain for a few days. Avoid planting under large trees and shady locations. Petunias like heat and prefer to be planted in full sun. They will tolerate light shade but blooming will be greatly reduced. Regular petunias plant 6 – 8 inches apart, wave 12 – 24 inches apart and tidal wave 6 – 10 inches apart. To prevent them from becoming to leggy, cut back the flowering stem by at least ½ in early to mid summer. Fertilize every 2 weeks with 10-52-17 and seaweed fertilizer. Pinch off old flowers, if not self-cleaning to encourage more blooms, and to encourage more compact growth, pinch established plants back half way. Petunias may be planted in borders, beds, planters and baskets. They are low bushy spreading plants that have sticky leaves. They are one of the most popular annual plants.

SNAPDRAGON

Start seeds indoors 8 - 10 weeks before last frost date for earlier blooms. Firm the potting soil with hands; scatter the seeds thinly over the soil. Press seeds into soil, but do not cover, as they need light to germinate. Mist them, cover with a clear jar or plastic wrap to retain moisture. Keep at cooler temperature of about 13 ° C. After seedlings appear remove the plastic wrap or jar and put in a sunny location. If overcrowded thin the seedlings once they are about 1 inch tall. Harden off by setting seedlings outdoors for a few hours a day away from the hot sun, wind or rain. To promote bushier plants, pinch out the center point by 1 inch. They are frost tolerant and can be transplanted outdoors 1 – 2 weeks before last frost date. Plant in full sun to light shade in hotter areas, approximately 6 – 12 inches apart, in well drained, fertile soil. Allow good air circulation as they are susceptible to rust (reddish, brown

spots on under side of leaves). Deadhead, water and fertilize regularly. Avoid wetting the foliage. Snapdragons are great for beds, borders and cut flowers.

STOCK – EVENING SCENTED

For best results evening scented stock should be planted directly outdoors in a sunny location around the first week of May or after last frost. The soil should be warm. Cover seeds lightly and press down. Keep seed moist until seed sprout, Provide well drained, slightly acidic, fertile soil and plant in a sunny location 10 – 12 inches apart, as they need good air circulation. In very hot areas provide midday shade. Stocks prefer moist and fertile soil. Must be watered and fertilized regularly. If planting indoors plant in flats 2 weeks before last expected frost. Moisten soil and spread seeds thinly. Press seeds into soil, do not cover. Seeds germinate best at 21 ° C, usually in 7 – 10 days. Place under grow lights or in a sunny window. Harden off seedlings and transplant seedlings. Fertilize every 2 weeks with 10-52-17 and liquid seaweed for strong healthy plants. Plant outdoors 25 cm (10inches) apart will survive moderate frost.

STOCK

Start seeds indoors 6 weeks before outdoor transplant date. Moisten soil and spread seeds on top of soil but do not cover, as they need light to germinate. Provide light and keep cool approximately 13 – 18 ° C. Thin, harden off seedlings and transplant outdoors in spring when weather turns warm. Require full sun to part shade. . Stocks prefer slightly alkaline, well-drained, moist and fertile soil. Water and fertilize regularly. They need good air circulation. Stocks can withstand frost more easily than heat.

VIOLA

Start seeds indoors 8 weeks before planting outdoors. Lightly cover seeds and keep in total darkness at room temperature. It usually takes about 10 – 20 days for seeds to germinate. Harden off seedlings. Transplant outdoors in early spring in a shady location in warmer areas in cooler areas plant in full sun, they do best in light shade. Prefer rich, moist, well-drained soil. Mulching is helpful. Requires regular watering. For blooms all summer deadhead flowers and some foliage. Viola is very frost tolerant and prefer cool, moist conditions. Viola spread and self-seed readily.

HERBS

Herb gardening has become very popular in the last few years. Besides using herbs in the kitchen some herbs provide decorative, colorful and fragrant plants to the garden. If planting indoors, harden off seedlings before planting outside. When planting herbs, good humus loam, slightly acidic, well-drained fertile soil should be used and worked to a depth of 30 cm (12 inches). Flavor is best when herbs are grown in soil that is not too rich. Containers or raised flowerbed provide good drainage. Do not mulch. Most herbs require a sunny to little shade location. Avoid light frequent watering, but water regularly, water only when the top 1 inch of the soil is dry. Apply fertilizer at least one week prior to planting herbs to prevent roots being burned. And do not like fertilizer high in nitrogen. Most herbs are disease and pest resistant, but are not immune to pests and diseases, they are less susceptible because of the high concentration of aromatic acid. Pests that attack herbs are cutworms, aphids, whiteflies and spider mites. Some herbs may become invasive, shear to control growth.

ANISE

It is best to seed anise directly outdoors in the spring when danger of frost has passed, as it does not transplant well because of they have taproots. Although seeds may be started indoors, a good idea is to plant in peat pots and sink the peat pots in the ground, without disturbing the roots. Harden off seedlings if started indoors. If transplanting is necessary, do so when seedlings are very young. Anise grows quickly in warm weather, but it takes four months from the time planted to grow to a mature plant. Plant seeds ½ inch deep in light well drained soil. Plants look best when planted in groups, this also aids in keeping plants upright with each other support. Anise thrives in poor, light, well-drained soil in a sheltered location. Once the flower heads, become heavy and seeds turn brown, harvest. Dry seeds, remove from husks and store in a dry place.

BASIL

Seeds may be started indoors or outdoors. When planting outdoors, sow in early spring after danger of frost has passed. Plant 1/8 inch deep and 10 – 12 inches apart as it can grow to 2 feet tall and 1 foot wide. Basil prefers moist, well-drained soil with pH of 6. Prefers mid-day watering rather than in the evening. Do not allow to dry out. Grow in full sun as it must have warm conditions, but not very hot. Fertilize once during the growing season. Start seeds indoors in late spring. Seedlings are delicate and slow growing and should be hardened off before planting outdoors. Do not over water seedlings to prevent mildew. Thin seedlings to 1 foot apart. It can be grown in containers and moved indoors in the fall as Basil is susceptible to frost and cold. Best harvest is from young stems before the plant flowers. Basil leaves can be harvested every week. Pinch out flower spikes to prolong leaf production. Pinch off any developing seed heads regularly. Harvest before leaves turn yellow. Keep harvested leaves separated so they will dry quickly and not mold.

BORAGE

Plant borage directly outdoors in early spring after danger of frost is past. Because it has deep taproots, it does not transplant easily. If seeds started indoors and transplanting is necessary do so when seedling are very young. Harden off seedlings before transplanting outdoors. Remove unwanted plants while still young, as their roots are still shallow. Borage can be planted on a hillside and the roots are a good soil binder. Plant seeds 1/8 inch deep and 12 inches apart. Depending on the conditions one borage plant can grow to approximately 2 feet

tall and 1 – 1½ foot wide or bigger. Planting in clumps will provide support as their tops are heavy and the foliage is quite thin, or provide extra support by staking. Borage will tolerate poor, dry soil but prefers will cultivate, moist soil, with a moderate water supply. Plant in full sun to partial shade. Borage blooms all summer and self seeds readily. Pick leaves in the spring and summer when flowering begins. The blue flowers are used to dress salads. Borage has a cucumber like flavor. Some people are skin-sensitive to the leaves.

CARAWAY

Start seeds in place outdoor in early spring as the plant has a long taproot and dislikes transplanting. Seeds may be started in early spring indoors. When planting indoors plant in peat pots that can be sunk into the ground when frost has passed without disturbing the roots. Be sure to harden off plants before transplanting outdoors. Sow seeds 1/8 inch deep outdoors when the soil has warmed up. Plant in full sun in a sheltered location. Caraway prefers light and dry, well-drained soil with regular watering, do not allow soil to dry out, thin seedlings when 3 inches high and space 6 inches apart. Do not over prune. Harvest fresh leaves when plant is young. When seeds turn brown in late summer pick seeds

CHIVES

Chives are a perennial in Zone 3 – 3a. Start seeds indoors in early spring. Chives prefer well-drained sandy soil with plenty of organic matter. Plant ½ inch deep in pots. Germination is very slow. Seed require warm temperature, darkness and constant moisture. Seedlings may be transplanted outdoors when they are four weeks old. Do not harvest until leaves are 6 inches tall. To produce more new leaves, cut the leaves no closer than 2 inches from the ground. Chives self seed and can become invasive. Chive clumps should be divided every 3 years. The leaves have a mild garlic flavor to them. Chives are used in salads and cooked dishes.

CORIANDER

Coriander is Chinese parsley. Plant seeds outdoors directly in garden in early spring after danger of frost has pasted. Plant seeds ½ inch deep, 5 to 8 inches apart, in well drained soil. In hotter areas plant in light shade in cooler areas plant in full sun. Mulching is important in the early spring. Coriander transplants poorly because of its long taproot. If planting indoors, plant in peat pots so they can be sunk into the ground in early spring with out the roots being disturbed. Be sure to harden seedlings off before planting outdoors. Coriander grows quickly. Do not over fertilize, too much nitrogen will affect the flavor of the plant. For best flavor harvest fresh, small immature leaves. Harvest before seeds start to fall, hang to dry and store. Leaves can be frozen.

CRESS

Cress is sometimes called peppergrass. It is easy to grow in cooler weather. Plant seeds outdoors as soon as the weather is warm in rich, moist soil. If seeds planted indoors, be sure to harden off plants before planting outdoors. Will tolerate full sun or partial shade. Plant 3 inches apart. It matures fast; it sprouts in a few days and can be harvested in 2 – 3 weeks. Plant every two weeks up to mid May for a fresh crop. Cress may be planted in pots and taken indoors and placed in a sunny window.

LAVENDER

Lavender is a perennial in warmer zones, with protection it can over winter in our climate. Lavender makes a good indoor container plant in winter when placed in a sunny window. Start seeds indoors in early spring, as seeds are slow to germinate. Refrigerate seeds 4 – 6

weeks in refrigerator before planting indoors. Using bottom heat will speed up the growing process. Place flats on top of refrigerator. Plant in well drained, sandy soil, fertilizing is not necessary. Thin to 2 inches apart and transplant outdoor in spring when the root system is well established and danger of frost has passed. Be sure to harden off seedlings before transplants outdoors. Plant slightly above ground level. Provide mulching around the plant by using pea gravel or sand, avoid mulches that retain moisture such as bark chips Water thoroughly for a few weeks until the roots are established. Do not add compost or peat moss to soil, lavender likes thin, gritty soil. When planting outdoors add some sand at the bottom of the hole. Lavender enjoys warmth and full sun, but will thrive in cool, dry summer climates if they receive direct sunlight. Keep soil moist until plant is well established. Lavender needs good air circulation to prevent mold. In spring when plant starts to actively grow, prune back to about half it's size and remove all dead stems Looks most attractive when planted in groups, too keep plant neat and compact cut back 1/3 to 1/2. Pick flower stalks before last flower on the spike has opened. Pick in morning. Harvest by hanging in bunches upside down in a shady airy place.

OREGANO

Sow seeds indoors in early April, 1/8 inch deep. Do not cover seeds, as they need light to germinate. Keep at a temperature of 20 °C. Harden off seedlings before planting outdoors. Plant in full sun to light shade in well-drained average soil when seedlings are 3 inches tall. Does best with six hours of direct sunlight. Best flavor when grows in average to poor soil and just before flowering. Plant in clumps and do not over water. Over watering will cause leaves to turn yellow and stems to rot. Spreads. Spider mites are pests that attack rosemary. Days from seed to harvest are 60 – 80 days. Harvest by hanging stems with flower heads upside down in a cool place with good air circulation.

PARSLEY

Parsley is mostly grown as an annual. Seeds can be planted indoors in late winter around April 1st or outdoors in early spring around May 15th. Soak seeds in warm or boiling water for 24 hours before planting. Seeds may be frozen for a short time to break dormancy before planting. From seed to harvest is approximately 70 – 90 days. Harden off seedlings before planting outdoors. Plant in full sun to part shade in warm, moist soil with pH of 5.0 – 7.0. Plant approximately 6 inches apart. Harvest all summer long. Leaves may be dried and stored for winter use.

ROSEMARY

Sow rosemary indoors 1/8 inch deep and transplant out doors when danger of frost has pasted. Germination is slow, days from seed to harvest is 70 – 90. Harden off seedlings before planting outdoors. Plant outdoors in spring 2 feet apart when plants are 3 inches tall. Rosemary thrives best in bright direct sun. Rosemary grows well in very hot, windy, salty locations and poor alkaline soil if watered moderately. Grows best in sandy soil, but will tolerate light or heavy soil. Good drainage is important, poor drainage causes plants to turn yellow and wilt. Add fine gravel to soil to prevent root rot or plant in raised flowerbeds .Do not over water or over feed. Remove side branches to control growth of plant. Harvest as needed but do not remove more than twenty percent of the plant at any one time. Harvest before plant flowers, hang upside down in an airy location. Remove leaves from branches when dry and store.

SAGE

Seed sage directly into garden in late spring. Plant 1/8 inch deep, thin to 2 feet apart when seedlings are 4 inches tall. Prefers full sun, grows in hot, extremely dry beds, however good circulation is required to prevent mildew and other diseases. Tolerates drought. Grows best in poor, acidic and alkaline soil. Remedy heavy soil with organic matter to provide good drainage, Water regularly during dry spells and deep water at least once a month. Prune to shape plant during the growing season. Pinch the top shoots and prune back no more than 1/3 of the plant. If plant is pruned too early, blooming will be delayed. Remove flowers to encourage a second set of blooms. Sage is relatively pest free, however white flies can be a problem. Can plant indoor around April 10th, about 4 – 6 weeks before last frost date. Be sure to harden off seedlings before transplanting outdoors. Keep soil moist when seedlings are young. When plants are about 2- 3 inches tall and have developed their second set of leaves, transplant outdoors. Days from seed to harvest are 80 – 85. Plants should be pruned to prevent from seed developing. Harvest plants before they flower. Harvest bunches and hang upside down in a cool airy place away from sunlight. Remove leaves from branches and store in a dry place. After about 3 years plants become woody and produce less, therefore should be replaced.

SAVORY

Savory has a strong pepper flavor; its leaves have a strong mint scent. Savory grows to about 6 inches high and spreads to about 3 feet wide. Seeds may be started indoors in early spring, but be sure to harden off seedlings before transplanting outdoors. Plant savory outdoors around May 10th. Scatter seed directly over the ground or cover about 1/8 inch deep. Plant prefers part shade but will tolerate full sun in cooler areas. It grows best in rich, moist soil but tolerates drought and wet condition, average soil is best. Water regularly. Savory seed germinate quickly and can be seeded from mid spring to mid summer. Days from seed to harvest are approximately 60 – 65. It does not transplant well but does self-seed. Thin plants to about 10 inches apart. Harvest when plant gets 6 inches tall, before it flowers. Hang in bunches upside down in an airy place. Removes leaves from stems and store.

SORREL

Sorrell is a perennial, also known as sour grass. It has a sour lemon flavor. Plant seeds indoors around May 1st. Thin, harden off seedlings and transplant outdoors to 8 inches apart. Plant sorrel outdoors around May 15th. Sorrel prefers full sun, is heat tolerant and needs reasonably good soil. Sorrel produces during the growing season, therefore requires regular watering. Days from seed to harvest are 60 – 90 depending on the conditions. Remove flower stems to encourage leaf production. Harvest tender leave. Replace plants every 3 – 4 years.

TARRAGON

Tarragon has a mild, bitter anise flavor. Start seeds indoors around April 10th. In spring, harden off seedlings and plant outdoors in full sun to part shade. It requires little to moderate watering, but needs good drainage. Days from seed to harvest are 85 – 90. Harvest in early summer. Harvest fresh leaves or dry and can be used in salads and cooked dishes. Plants should be divided every 3 – 4 years.

THYME

Perennial. Start seeds indoors around April 1st. Spread seeds above ground, do not cover seed. Thin plants to about 6 inches. Transplant outdoors when danger of frost has passed, once seedlings have been hardened off. Plant in a warm sunny location or partial shade, in hotter areas plant in light shade. Prefers light, dry, well-drained soil. Thyme is a great ground cover, planted in herb, rock gardens, small spaces and in areas between stepping-stones where traffic is light. Keep young plants moist and water moderately. Older plants require less watering and little fertilizer. Plants can be invasive; too control growth and keep plants neat shear established plants. Thyme is generally disease resistant, however a lack of good air circulation and sunlight can cause leaves to turn brown. If grown in partial shade is more prone to diseases. Mulch with sand around plant, to prevent root rot when soil is not well drained Plant in raised beds to prevent root rot. Harvest the leaves before plant starts to bloom in summer. The blooms are fragrant and the plant is more decorative than flavorful.

PERENNIALS

BLACK-EYED SUSAN

For earlier blooms, start seeds indoors 10 – 12 weeks before last frost date. Press seed into surface. Give seeds a cold treatment (2 – 4 ° C) for 1 – 2 weeks, put moist tray in a sealed plastic bag and put in refrigerator. Germinate at 21 ° C; it takes approximately 10 – 15 days. Seedlings should be grown cool and given a lot of light. Transplant outdoors in early spring when danger of frost has past, once seedlings have been hardened off. Black-eyed Susan prefers full sun to part shade. They are tough, drought tolerant and grow well in poor soil, average to moist soil is best, but require well-drained soil. Insects, diseases and deer rarely bother these plants. They grow to a height of 18 – 30 inches (45 – 75 cm) and spread 24 inches (60 cm), Blooms appear the first year from seeds sown in spring. The plants should be divided every 3 – 4 years, when they become overcrowded. Cuttings encourage plant to bloom again later in the fall. They are tough, short-lived perennials and self seed freely.

BLUE FLAX

Blue Flax grows to a height of 18 in (30cm) and spreads 12 – 18 inches (30 – 45cm) Usually equally spreads to its height. Plants are easy to grow from seed and are hardy to Zone2. Seeds may be planted directly outdoors or started indoors in Feb – March indoors. Seeds germinated in 8 – 12 days. Plants do not divide well as they have long taproots. When planting indoors, its best to plant in peat pot so they can be sunk into the ground with out disturbing the roots. Do not divide flax plants. If transplanting is necessary, do so when plants are young and the roots are small. Harden off seedlings before planting outdoors in the spring when all danger of frost has passed. Plant in full sun to partial shade in hotter areas, flowers will not open in the shade. Plants needs light, sandy to average, moist, but well-drained soil, but grow well in poor soil. Blooms last longest when grown in moist soil. Blooms appear in the second year and bloom profusely with clusters of light blue flowers that close in shade and late in the day. Prune plants by 2/3 after flowering to keep plant in compact form. They are short-lived perennials, two to three years, therefore allow seed heads to form and self-seed. Picked stems can be hung un-side down in bunches to dry.

CAMPANULA

Zone 2 perennials. Campanula are easy grown from seed in the spring. Seeds may be planted outdoors 1/8 inch deep and 1/2 inch apart in early spring. Thin if necessary. Start plant seeds indoors 8 – 10 weeks before last frost. Sow on surface; provide light, warmth (21 ° C), and moisture. Seeds germinate in 6 – 21 days, depending on the variety. Harden off seedlings and transplant outside in early spring. Plant in full sun (in cooler areas) to filtered shade (in hotter areas), 12 inches apart. Campanula grow in almost any soil but enjoy lime soil, (may be necessary to add lime to soil), moist, but well-drained, rich humus soil They need adequate moisture and should be kept will watered during dry periods, they do not like to dry out. Watch for spider mites in hot and dry weather and for slugs in damp weather. Campanula bloom from July to freeze up and should be deadheaded on a regular basis for reblooming. They self-seed can be invasive and should be divided every 3 – 4 years in the spring.

CATNIP

Catnip can be planted directly outdoors after danger of frost has pasted or started indoors for earlier blooms. It grows 2 – 3 feet high and spreads 2 –3 feet as well. Should be planted in full sun or partial shade in hot, humid areas. Plant in light, sandy to average or any well drained soil. Water moderately. Catnip is a vigorous plant and is easy to grow. Cut flowers back, after faded by one-half to encourage bushier plant and carry blooming well into the fall. Removing spent flowers will encourage more blooms. It self seeds readily

COLUMBINE

When planting seeds for Columbine, seeds should be purchased from a commercial grower. Seeds from a mother plant which have been collected or self-seeded will not produce a desirable plant. They are Zone 2 – 3a plants, therefore seeds can be planted in fall or very early spring outdoors. Seeds sown in the late summer or early fall will produce flowers the following year. Seeds can be planted inside 8 – 10 weeks before planting out. Seeds should be pre-chilled in a refrigerator for five days before planting. Take seeds out of refrigerator and seeds on the surface. Put in light and keep warm to 24 ° C. Germination is slow, approximately 14 days. Plant outdoors when danger of frost has passed, 16 – 18 inches apart. Transplant when first true leaves appear. Seedlings are very delicate, water with caution. Plant in partial to half shade; well tolerate full sun in cooler areas. Plant in any soil, but prefers light, rich, humus, moist as long as it is well drained, they need constant moisture. Plant columbine in a slight mound, and seedlings should be mulched. Columbines bloom very early in the season, in spring and early summer, therefore should be planted next to plants whose foliage will cover the bare areas. Cut back old stems for a second crop of flowers later in the summer. Spray for leaf miner and other pests. Raid sprayed on foliage shortly after leaves come out in the spring and throughout the growing season seen to control pests destroying the leaves of the plant. Deadhead regularly to promote more blooms and to keep the plant looking tidy. They are not long-lived plants and should be replaced every 3 – 4 years. Do not ingest, Columbines are poisonous plants.

COREPOSIS

Coreopsis may be direct seeded outdoors in the spring, by scattering the seeds lightly over the area. Do not cover the seeds, as they require sunlight to germinate. Once planted moisten the area with a fine spray. Seeds may also be planted in-doors 6 – 8 weeks before last frost. Sprinkle the seeds over the surface and do not cover, put in a well-lit area and keep at a cool to warm temperature (13 –24 ° C) until seeds sprout usually 2 – 3 weeks. Thin and decrease

watering. Harden off seedlings and transplant after last frost into a full sun, will tolerate little shade only in early morning or very late evening. Plant 12 inches apart in average, poor, dry soil but it must be well drained. They do not thrive in very moist soil; they can withstand heat and dry soil better than most flowers. Deadhead flowers to prevent seed heads from forming and spreading seeds.

DELPHINIUM

Delphinium plants grow to a height of 3 – 9 feet (90 - 225cm) and spread 3 – 4 feet (90 – 120 cm). New shorter varieties and colors are now available. They bloom in late spring to mid summer, however if they are cut back once they have finished blooming, they may bloom again in the fall. Seeds may be planted outdoors in August or September, usually self-seed from earlier blooms in the season, just leave spent blooms on plants until they are fully dried and drop. It's a good idea to scratch the hard shell of the seed and soak seeds for at least 24 hours prior to sowing. Plant seeds indoors in 8 – 10 weeks before planting outdoors, 1/8 inches deep and refrigerate. Seeds will germinate in 7 – 10 days or as long as 14 – 18 days. When plants have two sets of leaves, harden off seedlings and as soon as the soil can be worked, plant outdoors. Work the soil deep and add compost with rotted manure or peat moss, they prefer fertile, sandy, rich, porous, slightly alkaline, well-drained soil. Lime should be added to acidic soil. Delphiniums are heavy feeders, add bone meal in spring and fertilize regularly until mid summer. Transplant 24 – 36 inches (60 – 90 cm) apart into a locations that receives sun for at least half a day or partial shade and avoid hot and windy areas, they prefer a warm sunny site. Where summers are hot plant in partial shade. When transplanting work a small amount of super phosphate into soil around root ball, but do not cover root crown with soil. Mulch roots away from the crown in the summer. Keep the soil moist, water well as they do not like to dry out, but protect from slugs. Taller plants may need staking. Plants need good circulation or mildew will develop on the leaves. After flowers fade, cut spikes below the lowest flower, when new shoots are about 6 inches tall, cut old stalks to the ground. This will encourage reblooming. Plants need to be divided every 3 – 4 years or they will lose their vigor and die out. They should be replaced with young seedlings. Regular division can extend their life to about 10 years. Seeds can be harvested, dried and stored in airtight containers Fungal diseases, slugs and other pests can devour young plants, use horticultural diatomaceous. Raid sprayed on the leaves around the middle of May helps to control pests.

GYPSOPHILIA

(Perennial Baby's Breath)

Gypsophilia seeds are easy to grow. They can be direct seeded outdoor in early spring. Start seeds indoors in peat pots 8 weeks before planting outdoors. Cover the seeds; provide light and warmth (21 ° C). Seeds will germinate in 10 – 15 days. Transplant into garden in early spring after hardening off. Sink peat pot into soil, without disturbing the seedlings. Plant has long taproots and dislikes being moved. Plant 24 inches apart in direct sun, for entire day is best, but will bloom in as little as four hours of sun per day. Prefers well-drained soil, stem rot develops if water stands under plant. Prefers neutral to alkaline soil, (pH 6.5 – 7.5) add lime to soil if very acidic and do not over fertilize. Water well. When plant is 5 – 8 inches tall stake and the foliage will grow and cover the supports, to protect plant from slugs, place a ring of crushed eggshells ash around the plant. After blooming, in June and July, trim to keep tidy and encourage more blooms. Baby's Breath dislikes being moved. Add a few drops of bleach to cut blooms to prevent stems from rotting.

HOLLYHOCK

Hollyhocks can be direct seeded outdoors, as soon as the soil is workable or after last frost or may be planted in early fall for blooms the following year. When planting outdoors, plant thinly, water well and thin if necessary to approximately 18 - 24 inches apart. For earlier flowering start seeds indoors 6 - 9 weeks before last frost, in peat pots so as not to disturb roots when planting outside. Cover seed to their thickness and keep moist, watering from the bottom, and never allow to dry out. Place in a warm location (17 - 20 ° C), bottom heating speeds germination, top of refrigerator is ideal. Seeds are easy to germinate and germinate in 10 – 14 days. After seed sprout, place in a lot of light, avoid over watering and drafts. Thin if necessary. After four leaves develop set seedlings outdoors in a protected area for a few hours a day for about 2- 3 day to harden off seedlings. Transplant two weeks after last frost into good garden soil with plenty of sun or light shade and water. Plants need plenty of good air circulation to prevent mildew. Blooming time is in late summer, August to September. Cut back after first bloom to encourage reblooming. Leave some blooms to dry and fall for self-seeding. Do not more established plants.

ICELAND POPPY

Iceland poppies grow to a height of 12 – 24 inches (30 – 60 cm) and spread 12 inches. They are short-lived perennials, only live 2 – 3 years, but self-seed readily. They do not like to be transplanted, best planted directly outdoors once the soil has warmed to 21 ° C in early spring. For earlier blooms, seeds may be started indoors 6 - 8 weeks before last frost date. Plant in peat pots and sink into ground with out disturbing the roots in the spring for best results. Plant seeds, cover lightly and provide dark, cool conditions (13 ° C). Transplant after hardening off seedlings in spring after last frost. Plant in a full sun location 8 -10 inches apart, will grow in part shade with less flowering. Needs well-drained soil, regular watering and do not fertilize. Deadhead after blooming to prevent self-seeding. They come in a large variety of colors, flower the first year and bloom all summer. Iceland poppies will bloom until frost if spent blooms are removed, They make good cut flowers, just run cut end over a candle flame to stop the sap from running.

POPPY

Poppies grow to a height of 24 – 48 inches (60 – 120cm) and spread 18 – 24 inches. Keep seeds away from heat and moisture as these conditions severely reduce germination.

Place poppy seed in freezer for 48 hours prior to seeding in order to break dormancy. Poppies dislike being transplanted, best to directly seed outdoors about two weeks before the last frost or soil warms to approximately 20 ° C. Start seeds indoors 4 – 6 weeks before last expected frost. Plant seeds in peat pots and sink into ground in spring after danger of frost has passed to avoid disturbing the root. Plant 1/8 inch deep, seeds need darkness and temperature of 20 - 24 ° C to germinate, they germinate best in cool soil. Keep seedlings evenly moist. It takes 7 – 12 days for seeds to germinate. After hardening off seedlings, plant in full sun where summers are cool, they grow poorly in hot, humid conditions. Plant 15 – 18 inches apart in humus rich soil. Larger varieties need staking. Requires well-drained soil, do not allow to stand in water, do not over water or over fertilize. Feed with all-purpose fertilizer for best blooms. Poppies bloom from June to frost and will self-seed if pods are left on plant, dried and left to reseed. Deadheading prolongs blooming time. To keep plants healthy, they should be divided in late summer after flowers finished blooming and the foliage has turned yellow. Shear off the dead foliage to about 4 – 6 inches above the ground, to cover the bare area plant spreading plants beside the poppies. Once sheared fertilize plant with 20-20-20, new foliage will grow and

plant will rebloom in the fall at the same time sending energy to the roots. Seedlings develop around the roots of the mother plant, a good time to transplant when the seedlings are young. Poppies make great cut flowers, to avoid sap from running, run cut edge over candle flame before placing in water.

VEGETABLES

PEPPERS

Peppers need a warm growing season. Start seeds indoors 8 – 10 weeks before the last frost date. Place seedling in a hole, and pat soil firmly. Sprinkle 1 tsp of epsom salt around the base to help the plant grow strong stems. Keep warm, around 20 ° C in a sunny location. Harden off plants before transplanting outdoors. Transplant outdoors when the soil is warm and night temperatures remain consistently about 13 ° C. Plant in full sun, protect from wind in a well-drained location. Transplant peppers 1 ½ to 2 feet apart. Once plant is established, before plant starts to blossom, fertilize. Feed with fish fertilizer weekly until plants begin to bloom. Fertilize with a low nitrogen fertilizer, too much nitrogen can cause the plant to produce an abundance of leaves with fewer peppers. Mulch plants with straw or pine barks. Peppers grow better in the ground than they do in containers. Pick the first set of peppers when they are green and let the next set ripen to their mature color and size. This causes the plant to produce more. Harvest when fruit reaches its mature color rather than allowing it to age on the plant. Allow 60 – 95 days from seeding plant until harvest

TOMATOES

Tomatoes are the most popular vegetable grown from seed. They are easy to grow. Plant seeds indoors 8 – 10 weeks before last frost. Sow seeds in flats with light soil. Cover the seeds ½ inch deep with fine soil, firm with hand. Keep the soil moist. Place in a sunny window where temperatures are approximately 21 ° C. When seedlings grow to 2 inches tall, transplant into 3 – 4 inch individual pots. Continue to keep in a sunny window until ready to transplant outdoors. To encourage transplants to grow deep, remove all flowers and fruits that have grown. Plant in a sunny location, the more sun light the better, chose a warm south-west location near a building, but away from large paved areas and away from the wind. Tomatoes grow best with at least six hours of direct sunlight per day. They need good air circulation. Rich soil is essential for growing large tomatoes. Add peat moss, loam, vermiculite and well-rotten manure to the soil. Tomatoes prefer neutral to slightly acidic soil or sulfur to alkaline soil, but soil must be well drained. Space plants 1 ½ - 3 feet apart. Tomatoes roots grow deep, when planting the hole should be extra deep and worked well. Plant the tomatoes plant so the lowest leaves are just above the soil level. Remove little shoots in the leaf axle. Pinch out top of plant once it has grown four flower branches, this will help the fruit to grow, rather than growing branches. Roots will form on the buried stem and will develop the root system stronger. Fertilize with 20-20-20 or 15-15-30 fertilizer. Avoid heavy application of nitrogen or plant will produce too many leaves and not many flowers. Apply a lot of phosphate when the plants are young to encourage strong roots and apply potassium after fruit is set to ensure high quality of fruit. Hot caps or plastic covers can be used to protect plant when planted earlier outdoors for a quicker harvest. Tomato roots are deep rooted, therefore water heavy each time you water. A good way to water is place a bottomless can next to the plant, and add water inside the can. The soil should be always kept moist. The greater the root system of the plant, the bigger the tomato. Prune some of the leaves so the energy goes towards producing big, healthy fruit. Blossom end rot, turns the fruit bottoms brown, it is caused by a calcium deficiency and moisture fluctuation. Blight destroys plants in wet weather; do not plant tomatoes in the same spot where blight was a problem in previous years.

STARTING SEEDS INDOORS

1. First determine which seeds need to be started indoors. Some seeds may be better planted directly outdoors after dangers of frost have passed. Always check seed packages for growing instructions.
2. Planting time is important. If planted too soon before plants are ready to go outside, the seedlings will outgrow their pots, will grow too tall and spindly and will result in a weak plant. If planted too late winter will arrive before the plant blooms or vegetables are ready to harvest.
3. Proper lighting is needed for growing strong healthy plants. Plants require approximately sixteen hours of good light per day. Natural light, south facing windows preferred or artificial light is required.
4. Good premixed medium is preferred. Soil less medium made up of peat, perlite (improves drainage) and vermiculite (used for water retention) is best. This medium is usually free of pests, weeds and diseases. Peat pellets work well. Simply place the peat pellet into a container without holes, soak with warm water until they are one inch tall, drain off excess water and plant seed following planting instructions. When pellets start to turn light brown, water. Garden soil will work, but if allowed to dry out will harden and the seed will have a hard time to sprout. Adding peat, perlite and vermiculite is helpful. Holes in the bottom of the container will allow for good drainage.
5. Our hardiness Zone in Edmonton is 3a. Buy seeds that are meant for our zone. Always buy good quality seeds and follow plantings instructions on the seed packages. Some seeds need to soak prior to seeding, others have to be scratched to break their outer shell and some require cooling or freezing.
6. Proper watering is important. Not enough water may cause a delay in germination, to dry out once it has sprouted or cause the seedling to die. Over watering may cause the seedling to rot, turn the leaves yellow or cause the plant to die. Newly seeded plants are best watered from the bottom or spray misted from the top. Seeds left on top of the soil, delicate and tiny seeds benefit by being misted, the seeds do not get disturbed this way. Room temperature water is best. Soil moisture is required to help soften the seed and to stimulate root development.
7. Some seeds benefit from being covered with a jar or clear plastic. Poke a few small holes for ventilation. Bought pastry containers work great. Once seeds are planted, water and close the lid. Remember moisture develops and the lids must be lifted for approximately two hours a day to allow the moisture to dry out. Once seedlings sprout, after they develop 2 sets of leaves, remove the plastic, move into a bright light and water well.
8. Temperature control is important. Most seeds sprout best at temperatures of 18 – 24 ° C. Temperature is also important in the initial germination of the seeds. For seeds that require warmth, it's best to keep them in the warmest room of the house, the furnace room or on top of the refrigerator

9. Remember that all seeds planted do not germinate. It's better to over seed and then thin out later. After germination seedlings can be separated and transplanted into larger containers or outdoors. If all seedlings are not needed. When thinning it's best to snip the seedlings at ground level with scissors. Pulling the seedlings may disturb the plant you want to keep. If you have room, it's best to plant seeds that will germinate and grow in the same container until planted outdoors, this reduces transplanting problems. Start fertilizing even before plants are transplanted outdoors, start with half strength for the first few feeding. A good choice is 20-20-20- or 15-30-15.

10. Hardening off plants is very important in the spring before plants are moved outdoors. Soil outdoors should be about 18 °C. For the first few days move the seedlings into a garage (in a window or leave the garage door opened), or a well-protected shaded area so the plants can get used to the cooler temperatures for a few hours per day. The next few days take outdoor, weather permitting, in a well-protected area, away from direct sun, wind and rain for a few hours, each day extend the time outdoors by an hour. Gradually increase the time outdoors until the temperature is warm enough and the plants are ready to be transplanted outdoors.

11. When transplanting plants outdoors be sure the weather is suitable, usually when the soil temperature reaches 18 °C. Some seeds such as sweet peas, peas and lettuce can be planted as soon as the ground can be worked. It's best to wait until after the risk of frost period is up, however if you are prepared to cover or protect plants on cooler days, planting can be done much sooner. Know the locations where you want the plants, so you do not have to transplant them more than once. Know what area the plants would do best in, example, full sun, semi-shade or shade areas. Try and transplant on an overcast day or in the evening. Avoid transplanting in the heat of the day. To transplant peat pots or peat pellets, dig a hole deep enough to cover, leaving the base of the plant uncovered. Gently firm the soil around the peat pot or peat pellet. Water well. Keep plants out of direct sunlight for the first few days. If possible provide protection for the seedlings, milk cartons, grocery cans with the both ends opened or old shingles work great. Protect the plant until it is well established. When seeding directly outdoors and you have no instructions as to how deep to plant, remember the fingertip method. Poke a hole in the soil to the depth of your first knuckle from the tip of your finger for smaller seeds and to the second knuckle for large seeds.

12. Fertilizing is important. Slow release or regular, (liquid or granular) fertilizer can be used.

HAPPY GARDENING!

SOURCES OF INFORMATION

1. Verseys Planting Guide
Published by Verseys Seeds Ltd.
2004

2. Lois Holes's Perennial Favorites
by Lois Hole
Lone Star Publishing Company
1995

3. The Old Farmers Almanac 2000
Gardener's Companion
2000 Canadian Edition
Yankee Publishing Inc. Dublin N.H.
03444

4. Gardening Made Easy
3 editions
International Masters Publishers AB
AB/IMP Inc.
MCMXCV (1995)

5. Western Garden Book
Sunset Publishing Corporation
Menlo, California
2001