Seed Saving

Bean - *Phaseolus vulgaris*

PLANT: Although, ideally, different varieties should be separated by 150 feet or another crop flowering at the same time, we rarely observe cross-pollination even when two varieties are grown next to each other.

FLOWER: Beans produce perfect, self-pollinating flowers. Cross pollination by insects is possible but rare as pollination occurs before the flower opens. Because the anthers are pushed up against the stigma, automatic pollination is assured when the anthers open.

SELECTION TRAITS: Most commercial breeders favor bush varieties which can be mechanically harvested and fibrous bean pods which hold up during harvest and shipment. Pole varieties are more suited to small, home gardens because they produce more beans in a smaller space. Because vines are off the ground beans are easier to pick and away from the settling cold air of unexpected frosts. Plant growth: Pole type growth, D; Bush, r. Pod edibility: Little or no fiber, r; Stringless, r . Seed color: White seeded varieties are better for canning because seed color doesn't affect canning liquid, r; Colored, D. Pod, foliage and flower color: Purple, D.

HARVEST: Allow pods to dry brown before harvesting, about six weeks after eating stage. If frost threatens, pull entire plant, root first, and hang in cool, dry location until pods are brown.

PROCESS: Small amounts of pods can be opened by hand. Flail larger amounts. Remove large chaff by hand or fork. Winnow remaining particles.

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Lettuce - *Lactuca sativa*

PLANT: Separate varieties flowering at the same time by at least 20 feet to ensure purity.

FLOWER: Lettuce produces perfect, self-pollinating flowers. Each flower produces one seed. Flowers are grouped in little heads of 10-25 flowers all of which open at once for as little as 30 minutes. Anthers are fused together into a little cone that completely surrounds stigma and style. Style is pushed up through anther cone and is coated with its own pollen. Note: Mature head lettuce may need a slit (two or three inches deep) across the top to encourage flowering.

SELECTION TRAITS: Leaf color: red, D. Leaf color is controlled by at least two genes with a number of variations possible. Generally, hybrids produced by crossing red and green varieties result in red offspring. Leaf shape: no lobes, D; oak leaved, r. Seed stalk formation : bolt resistance, r;

Seed color: white seeds, r; black seeds, D.

HARVEST: Some outside leaves can be harvested for eating without harming seed production. Allow seed heads to dry 2-3 weeks after flowering. Individual heads will ripen at different times making the harvest of large amounts of seed at one time nearly impossible. Wait until half the flowers on each plant has gone to seed. Cut entire top of plant and allow to dry upside down in an open paper bag.

PROCESS: Small amounts of seed can be shaken daily from individual flowering heads. Rub with hands to remove remaining seeds. If necessary, separate seeds from chaff with screens.

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Peas - *Pisum sativum*

PLANT: Ideally, different varieties need to be separated 50 feet or with another crop flowering at the same time. However, in the cool regions of the Rocky Moun tains, we rarely observe cross-pollination even when two varieties are grown next to each other.

FLOWER: Peas produce perfect, self-pollinating flowers. Cross-pollination by insects is possible but rare because pollination occurs before the flower opens. Because the stigma does open before pollen is ready crosses theoretically could occur.

SELECTION TRAITS: Most commercial breeders prefer bush varieties with pods that ripen simultaneously in order to facilitate commercial harvesting. Tall varieties produce more peas in small, home gardens. Plant Growth : tall, D; bush, r. Seed Shape: Round seeds germinate better in cold weather, D; w rinkled seeds, r. Pod Edibility: lack of fibers on the inside of the pod, r. Pod shape: round, D;

flat, r.

HARVEST: Allow pods to dry brown before harvesting, about four weeks after eating stage. If frost threatens, pull entire plant, root first, and hang in cool, dry location until pods are brown.

PROCESS: Small amounts of pods can be opened by hand. Flail larger amounts. Remove large chaff by hand or fork. Winnow remaining particles.

Pepper - *Capsicum annuum*

PLANT: Most home gardeners will get satisfactory results if different varieties are separated by 50 feet and another tall, flowering crop. New studies from New Mexico State University show more crossing than was previously thought. We recommend at least 400 feet between varieties to ensure absolute purity.

FLOWER: Peppers produce perfect, mostly self-pollinating flowers. Solitary bees will pollinate if a more desirable pollen is not available in the area.

SELECTION TRAITS: Flavor: Hot, D

HARVEST: Harvest mature, fully-ripe peppers for seed. (Most bell peppers turn red when fully mature.) If frost threatens before peppers mature, pull entire plant and hang in cool, dry location until peppers mature.

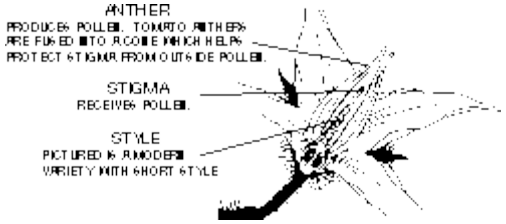
PROCESS: There are two methods, dry and wet, to process pepper seeds. The dry method is adequate for small amounts. Cut the bottom off the fruit and carefully reach in to strip the seeds surrounding central cone. In many cases, seeds need no further cleaning. To process the seed from large amounts of peppers, cut off the tops just under the stem, fill a blender with peppers and water and carefully blend until good seeds are separated and sink to bottom. Pepper debris and immature seeds will float to the top where they can be rinsed away. Spread clean seeds on paper towel and dry in cool location until seed is dry enough to break when folded.

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Tomato - *Lycopersicon esculentum*

PLANT: Separate varieties with short styles (most modern varieties) by at least 10 feet. Varieties with long styles (heirlooms and older varieties) need at least 100 feet to ensure purity. If solitary bees are prevalent, separate all varieties at least 100 feet and place another flowering crop between.

FLOWER: Tomatoes produce perfect, self-pollinating flowers. Anthers are fused together into a little cone that rarely opens until pollen has been shed and the stigma pollinated. (Older varieties with wild tomatoes or *L. pimpinellifolium* in their genetic ancestry may have stigmas that stick out beyond the cone containing the anthers. Varieties with this trait can be identified by looking closely at mature flowers and need to be treated accordingly.)



SELECTION TRAITS: Tomato is the most popular vegetable in America and hundreds of the genes have been mapped. Those of immediate importance for home gardeners include: Plant size: Determinate varieties, r; b ush varieties, r; dwarf varieties, r. Leaf Shape : Potato-type leaves, r. Disease resistance : Leaf mold resistance, r; fusarium wilt, race 1 and race 2, D; verticillium wilt, D; alternaria, D; tobacco mosaic, D; nematodes, D. Ripening : prevents green shoulders, r; prevents ripening and is found in Longkeeper, r; produces parthenocarpic fruits which do not need to be pollinated. Tomatoes without seeds can be produced in weather too-cold for pollination to take place, r. Fruit color - produced by the

combination of flesh and skin colors:
red: pink flesh, r covered by a yellow skin, r
pink: pink flesh, r and colorless skin, r
crimson: bright, purplish-red flesh, r and yellow skin, r
purple: bright, purplish-red flesh, r and colorless skin, r;
yellow: yellowish flesh, r and yellow skin, r
white: yellowish flesh, r and colorless skin, r
orange: reddish-orange flesh, D and yellow skin, r

HARVEST: If possible, allow tomatoes to completely ripen before harvesting for seed production. Unripe fruits, saved from the first frost, will ripen slowly if kept in a cool, dry location. Seeds from green, unripe fruits will be most viable if extracted after allowing the fruits to turn color.

PROCESS: Cut the tomato into halves at its equator, opening the vertical cavities that contain the seeds. Gently squeeze out from the cavities the jelly-like substance that contains the seeds. If done carefully, the tomato itself can still be eaten or saved for canning, sun-drying or dehydrating.

Place the jelly and seeds into a small jar or glass. (Add a little water if you are processing only one or two small tomatoes.) Loosely cover the container and place in a warm location, 60-75° F. for about three days. Stir once a day.

A layer of fungus will begin to appear on the top of the mixture after a couple of days. This fungus not only eats the gelatinous coat that surrounds each seed and prevents germination, it also produces antibiotics that help to control seed-borne diseases like bacterial spot, canker and speck.

After three days fill the seed container with warm water. Let the contents settle and begin pouring out the water along with pieces of tomato pulp and immature seeds floating on top. Note: Viable seeds are heavier and settle to the bottom of the jar. Repeat this process until water being poured out is almost clear and clean seeds line the bottom of the container. Pour these clean seeds into a strainer that has holes smaller than the seeds. Let the excess water drip out and invert the strainer onto paper towel or piece of newspaper. Allow the seeds to dry completely (usually a day or two). Break up the clumps into individual seeds, label and store in a packet or plastic bag.

Beet/Swiss Chard - *Beta vulgaris*

PLANT: Grow seed for only one variety of beet or Swiss chard at any one time. Seed to seed: Mulch first year crop in the fall to ensure winter survival. The following spring, thin to 18" spacing. Root to seed : Harvest roots in fall. Select desirable roots and trim tops 1-2" above root. Store at 40° F. in humid location. Replant in early spring at 18" intervals with tops just showing above the soil.

FLOWER: Beets and Swiss chard produce perfect flowers. Pollen is light and can be carried for miles by the wind.

INBREEDING DEPRESSION: Save seed from at least 6 different beets to ensure genetic diversity and vigor.

SELECTION TRAITS: Root color: red, red with white stripes, pink, gold, and yellow. Root shape: round, cylindrical.

HARVEST: Cut 4' tall tops just above the root when majority flowering clusters have turned brown. Tops can be stored in cool, dry locations for 2-3 weeks to encourage further seed ripening.

PROCESS: Small quantities of seed can be stripped by hand as seed matures. Large numbers of tops can be put into a cloth bag and stomped or pounded. Chaff can be winnowed.

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Cabbage Family - *Brassica oleracea*

Includes broccoli, brussels sprout, cauliflower, cabbage and kale.

PLANT: All vegetables and varieties in this large species will cross with each other. Separate different varieties at least 1000 feet for satisfactory results or at least 1 mile for purity. Caging with introduced pollinators or alternate day caging is also recommended in small gardens. Plants to be left for seed production should be mulched in the fall or carefully dug, trimmed and stored for the winter in humid area with temperatures between 35-40° F. Flowering plants can reach 4' in height and need at least 2' spacing for good seed production.

FLOWER: Members of the *B. oleracea* species, with the exception of a few early -season broccolis and cauliflowers, require vernalization (cold, winter-like tempera tures for several weeks) before flowering occurs. Flowers are perfect, most of which cannot be self-pollinated. Necessary cross-pollination is performed by bees. The stigma becomes receptive before the flower opens, and pollen is shed hours after the flower opens.

INBREEDING DEPRESSION: Plant at least 6 different plants to protect vigor and ensure a reasonable amount of genetic diversity.

SELECTION TRAITS: Plant characteristics: t all, D; side buds, D. Plant color: purple, green, magenta. Leaf shape: wide, entire, smooth, hairy.

HARVEST: Broccoli, cauliflower, cabbage and kohlrabi heads grown for seed should not be trimmed for consumption. Brussels sprouts, collards and kale can be lightly trimmed for eating without affecting quality seed production. If small amounts of seeds are wanted, allow individual pods to dry to a light brown color before picking and opening by hand. Lower pods dry first followed by those progressively higher on the plant. For larger amounts of seeds pull entire plant after a majority of pods have dried. Green pods rarely produce viable seeds even if allowed to dry after the plant is pulled.

PROCESS: Smash unopened pods in cloth bag with mallet or by walking on them. Chaff can be winnowed.

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Carrot - *Daucus carota*

PLANT: Separate different varieties at least 1/2 mile to ensure purity. (Queen Anne's Lace or wild carrot will cross with garden carrot.) Alternate day caging or caging with introduced pollinators allows two or more varieties to be grown for seed in small gardens. Seed to seed: Plant seeds in mid-summer. Finger-sized carrots are more winter hardy than full-grown carrots. Mulch in late-fall to ensure winter survival. Thin to 30" spacing in the spring. Root to seed: Harvest eating-sized roots in fall for replanting in fall or early spring. Mulch if planted in fall. Clip tops to 1 -2" and store at 35-40° F. in humid location or layered in sawdust or sand. Replant roots with desirable characteristics 30" apart with soil just covering shoulders.

FLOWER: Carrots produce perfect flowers that are cross-pollinated by a number of insects. Flowers are arranged in round, flat groups called umbels. Carrots require vernalization (cold, winter-like temperatures for several weeks) before flowering occurs.

INBREEDING DEPRESSION: Carrots can exhibit severe inbreeding depression. Save and mix seed from as many different carrots as possible.

SELECTION TRAITS: Root color: white, D; black, orange, purple, red, yellow, r. Root shape : tapered, triangular, round, stubby.

HARVEST: For small amounts, hand pick each umbel as it dries brown. Large amounts of seed can be harvested by cutting entire flowering top as umbels begin to dry. Allow to mature in cool, dry location for an additional 2-3 weeks.

PROCESS: Clean small amounts by rubbing between hands. Larger amounts can be beaten from stalks and umbels. Screen and winnow to clean. Carrot seed is naturally hairy or "bearded". Debearding in the cleaning process does not affect germination.

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Escarole/Frissee - *Chichorium endivia*

PLANT: Separate different varieties at least 1/2 mile to ensure purity. Caging with introduced pollinators allows two or more varieties to be grown for seed in small gardens. Cages must be left on for entire flowering season. Although *C. endivia* is a biennial, cold, short days during the first spring will sometimes cause bolting. See: radicchio/Belgian endive.

FLOWER: Perfect, mostly-self-pollinating flowers. Pollen from *C. endivia* will pollinate *C. intybus* (radicchio), however *C. endivia* will not be pollinated by *C. intybus* .

HARVEST: A few outside leaves can be harvested for eating without harming seed production. Allow plants to dry completely after most of the flowers have set pods. Pry open pods to release dry, hard seeds.

PROCESS: Small amounts of seed can be left in pods and replanted. Some thinning will be required. Crush large amounts of pods in cloth bag with wooden mallet. Screen and winnow to remove debris.

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Onion - *Allium sp.*

Varieties within each onion species will cross with each other. Crosses between species although not common, are possible.
Allium schoenoprasum: Common chives
Allium tuberosum: Garlic chives
Allium fistulosum: Japanese bunching onions (Occasional crossing between *A. fistulosum* and *A. cepa* has been observed.)
Allium cepa comprised of three groups: Aggregatum includes shallots, multiplier onions and potato onions; Cepa our biennial, common storage and slicing onions; Proliferum includes the Egyptian or walking onions.

PLANT: Separate from other flowering *Alliums* of the same species at least 1000 feet for satisfactory results or at least 1 mile for purity. Caging with introduced pollinators or alternate day caging is also recommended in small gardens. Seed to seed: Plant seeds in late-spring or early-summer. Immature onions are more winter hardy than larger, full-grown bulbs. Mulch in late-fall to ensure winter survival. Thin to 12" spacing in the spring. Root to seed : Harvest in the fall and select the largest bulbs which produce more seed. Clip tops to 6" and store at 35-40° F. in dry, airy location. Replant in early spring with 12" spacing. Cover bulbs with 1/2" soil.

FLOWER: The *Alliums* produce perfect flowers, most of which are cross-polli nated because stigmas in each flower become receptive only after pollen in that flower is shed. Flowers in an individual umbel open and shed pollen at different times so crosses can and do occur on the same plant. Cross-pollination is performed mostly by bees. Many onions require vernalization (cold, winter-like temperatures for several weeks) before flowering occurs. Store for at least two weeks in a refrigerator.

INBREEDING DEPRESSION: Onions display a fair amount of inbreeding depression after two or three generations of self-pollination. Save and mix the seeds from at least two different plants.

SELECTION TRAITS: Bulb color: white, D; buff, red, yellow, r.

HARVEST: Clip umbels as soon as majority of flowers have dried. Seeds will start dropping from some flowers at this time so check often. Allow to dry in cool, dry location for up to 2-3 weeks.

PROCESS: Fully dried flowers will drop clean seeds naturally. For small amounts, rub remaining flowers to free seeds. For larger amounts, rub heads over screens. Winnow to remove remaining debris.

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Radicchio/Belgian Endive - *Cichorium intybus*

PLANT: Isolate different varieties by 1/2 mile to ensure purity. Pollen from escarole and frisee, *C. endivia*, will contaminate *C. intybus* and must also be isolated. Wild chicory will cross and should be eliminated. Seed to seed: Mulch in late-fall to insure winter survival. Thin to 18" spacing in the spring. Root to seed: Harvest in the fall and select the best roots. Clip tops to 2" and store at 35-40° F. in humid location for up to 3 months. Replant in early spring with 18" spacing.

FLOWER: Although chicory flowers are perfect, they do not self-pollinate. Insects perform cross-pollination.

HARVEST: A few outside leaves can be harvested for eating without harming seed production. Allow plants to dry completely after most of the flowers have set pods. Pry open pods to release dry, hard seeds.

PROCESS: Radicchio seed is difficult to remove from the pods. The entire pod can be planted without removing the seeds, but some of the numerous seedlings emerging in each location will need to be thinned. Crush large amounts of pods in cloth bag with wooden mallet. Screen and winnow to remove debris.

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Turnip/Chinese Cabbage - *Brassica campestris*

Formerly *B. rapa. B. campestris* varieties, divided below into five separate groups because of similar features, will cross with each other.)
Rapifera: root turnips
Ruvo: flower-stalk turnips including Italian turnips, rapa and broccoli raab
Chinensis: nonheading varieties of Chinese mustard including pak choi and celery mustard
Pekinensis: heading varieties of Chinese cabbage
Perviridis: spinach mustards
PLANT: Separate *B. campestris* varieties at least 1000 feet for satisfactory results or at least 1/2 mile for purity. Caging with introduced pollinators or alternate day caging is also recommended in small gardens. Seed to seed : Plants left for seed production should be mulched in the fall. Flowering plants can grow 3' tall and need at least 2' spacing for good seed production. Root to seed: Carefully dig roots in the fall, trim tops to 2" and store for the winter in humid location (layered in sand or sawdust) with temperatures 35-40° F. Replant best roots in early spring with 2' spacing.

FLOWER: The *B. campestris* species produces perfect flowers, most of which cannot be self-pollinated. Cross-pollination is performed mostly by bees. The stigma becomes receptive before the flower opens. Pollen is shed hours after the flower opens. *B. campestris* varieties require vernalization (cold, winter-like temperatures for several weeks) before flowering occurs. Store for at least four weeks in a refrigerator.

INBREEDING DEPRESSION: Plant at least 6 different plants to ensure a reasonable amount of genetic diversity.

HARVEST: Turnips grown for seed should not be trimmed for eating. Chinese cabbage can be lightly trimmed for eating without affecting quality seed production. If small amounts of seeds are wanted, allow individual pods to dry to a light brown color before picking and opening by hand. Lower pods dry first followed by those progressively higher on the plant. For larger amounts of seeds pull entire plant after a majority of pods have dried. Green pods rarely produce viable seeds even if allowed to dry after the plant is pulled.

PROCESS: Smash unopened pods in a cloth bag with mallet or by walking on them. Chaff can be winnowed.

Corn, Cucumber, Muskmelon, Radish, Spinach, Squash/Pumpkin.
The experienced seed saver's vegetables produce seed the season they are planted but require separation to keep unwanted cross-pollination from taking place.

Corn - *Zea mays*

PLANT: Female corn flowers are pollinated predominately by the wind, rarely by insects. Pollen is light and can be carried great distances. For purity, separate two varieties pollinating at the same time by at least 1 mile. Reasonable results are obtained with separation of 1000 feet.

FLOWER: Corn is monecious, producing separate male and female flowers on each plant. Male flowers appear as tassels on the top of corn stalks and female flowers are pollinated via the silk emerging from each ear.

INBREEDING DEPRESSION: Corn is susceptible to intense inbreeding depres sion. If seed is saved from too few plants, subsequent plants may be short, mature late and produce few ears. Grow at least 200 plants and save the seeds from at least 100 of the best.

SELECTION TRAITS: Although corn genetics have been extensively studied, most meaningful traits are controlled by numerous genes and exact explanations are complicated. The following are general predictions: kernel sweetness:
(su) sweet flavor (wrinkled seed), r
(sh2) shrunken, extreme sweetness (wrinkled seed), r
(se) supersweet, (delays starch formation), r
kernel color: black, D (results in black or blue); c olored, D (over white); white, r. kernel starch : flint, D; sweet corn, r.

HARVEST: Corn seed is usually ready to be harvested 4-6 weeks after eating stage. If growing season is not long enough, pick ears after husks turn brown. Pull back husks and complete drying in cool, dry location.

PROCESS: Process all but very large amounts of seed by gripping dried ears by hand and twisting allowing kernels to fall into container. Any remaining silk and chaff can be winnowed.

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Cucumber - *Cucumis sativus*

(All cucumbers except Armenian cucumbers)

PLANT: Separate two different cucumber varieties by at least 1/2 mile to ensure purity. Experienced, home, seed savers can grow more than one variety at a time in a single garden by using hand pollinating techniques. (See page 36.)

FLOWER: Cucumbers are mostly monoecious with separate male and female flowers on each plant. Female flowers can be identified by locating the ovary (a small looking cucumber) at the base of the flower. Cucumber vines will produce the greatest amount of female flowers when day length shortens to approximately 11 hours per day. Fruits will be aborted during dry spells and very hot weather.

INBREEDING DEPRESSION: Although inbreeding depression is not usually noticeable in cucumbers, seeds should be saved from at least 6 cucumbers on 6 different plants.

HARVEST: Cucumbers raised for seed cannot be eaten. They should be left to ripen at least 5 weeks after eating stage until they have turned a golden color. First, light frost of the season will blacken vines and make cucumbers easier to find. Undamaged fruits can be stored in cool, dry place for several weeks to finish ripening.

PROCESS: Slice fruit lengthwise and scrape seeds out with spoon. Allow seeds and jelly-like liquid to sit in jar at room temperature for 3 or 4 days. Fungus will start to form on top. Stir daily. Jelly will dissolve and good seeds will sink to bottom while remaining debris and immature seeds can be rinsed away. Spread seeds on a paper towel or screen until dry. (See instructions for tomato.)

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Muskmelon - *Cucumis melo*

Divided below into seven separate groups because of similar features. All *C. melos* varieties in all groups will cross with each other. They will not cross with watermelons which are *Citrullus vulgaris.*
Indorus: honeydew, crenshaw, casaba
Conomon: Asian, pickling melons
Dundaim: pocket melon
Cantalupensis: true cantelopes (without netted skin)

Flexuosus: Armenian cucumbers
Reticulatus: Persian melons, muskmelons with netted skin and orange flesh
Chito: orange melon, garden lemon melon

PLANT: Separate two different muskmelons by at least 1/2 mile to ensure purity. Experienced, home, seed savers grow more than one variety at a time in a single garden by using hand pollinating techniques. (See page 36.) Muskmelon flowers are small and relatively difficult to hand pollinate.

FLOWER: Muskmelons are mostly monoecious with separate male and female flowers on each plant. (Some female flowers have stamens.) Female flowers can be identified by locating the ovary (a small looking melon) at the base of the flower. The early flowers are the most likely to be successfully pollinated and eventually produce seeds.

INBREEDING DEPRESSION: Not usually a problem with muskmelons.

HARVEST: Muskmelon seed is mature and can be harvested from ripe and ready to eat muskmelons.

PROCESS: Simply rinse seeds clean, dry with towel and spread on board or cookie sheet to complete drying.

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Radish - *Raphanus sativus*

PLANT: Separate different varieties being grown for seed at the same time by at least 1/2 mile to ensure purity. Satisfactory results for home gardeners require no more that 250 feet of separation. As radishes cannot self-pollinate, pollen must be carried by insects from plant to plant. Seed to seed: Mulch in the fall to insure winter survival. The following spring, thin to 9" spacing, leaving those roots that showed no sign of bolting. Root to seed: Harvest roots in fall. Select desirable roots and trim tops to within an inch of the roots leaving small, new leaves. Store at 40° F. in humid location. Replant in early spring at 9" intervals and cover with 1" of soil. Note: Garden varieties of radish will cross with all wild varieties.

FLOWER: Radishes produce annual flowers which require pollination by insects, primarily bees.

HARVEST: Harvest 3' tall stalks containing seeds pods when pods have dried brown. Pull entire plant and hang in cool, dry place if all pods are not dried at the end of the growing season.

PROCESS: Open pods by hand for small amounts of seed. Pods that do not open when rubbed between hands can be pounded with hammer or mallet. Winnow to remove remaining chaff.

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Spinach - *Spinacia oleracae*

PLANT: It is probably best to grow seeds for only one variety of spinach at a time. Commercial seed crops are separated 5 miles or more. Plant early in the spring to allow enough time for seed production which can take 4-6 weeks more than the time required to reach eating stage. Remove plants which bolt first, and thin remaining plants to 8" for seed production. Leave one male plant for each two females to ensure pollination.

FLOWER: Spinach is "dioecious", with male and female flowers on separate plants. Flowers are wind pollinated by spinach's dust-like, powdery pollen which can be carried for miles.

SELECTION TRAITS: Seed shape: prickly, s mooth. Leaf texture: flat, wrinkled.

HARVEST: Some outside leaves can be harvested for eating without harming seed production. If possible, wait until all plants have dried brown. Pull entire plant and hang in cool, dry place if necessary at the end of the growing season.

PROCESS: Strip seeds in upward motion and let them fall into container. Chaff can be winnowed. Use gloves for prickly-seeded types.

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Squash/Pumpkin -

Cucurbita maxima varieties with large, hairy leaves, long vines and soft, hairy stems and include: banana squashes, buttercups, hubbards and marrows

Cucurbita mixta varieties with large, hairy leaves, long vines and hard, hairy stems and include the cushaws

Cucurbita moschata varieties similar to *C. mixta* with flaring stems at the fruit and large, green sepals surrounding the flowers and include: butternuts

Cucurbita pepo varieties with prickly stems and leaves with a hard, five-angled stem and include: acorn squashes, cocozelles, pumpkins, crooknecks, scallops, spaghetti squashes and zucchinis

PLANT: Squashes from different species (see above) can be grown next to each other. Separate different squash varieties in the same species by at least 1/2 mile to ensure purity. (Some crossing between *C. mixta* and *C. moschata* has been reported recently. We know of none from our own experience and have concluded that this is a rare event.) Experienced, home, seed savers grow more than one variety in a single garden by using hand pollinating techniques. Squash flowers are large and relatively easy to hand pollinate.

FLOWER: Squashes are monoecious with male flowers and female flowers on each plant. Female flowers can be identified by locating the ovary (a small looking squash) at the base of the flower. (Some female flowers have stamens.)

INBREEDING DEPRESSION: Not usually noticed in squash and pumpkins.

HARVEST: Squash must be fully mature before harvested for seed production. This means that summer squashes must be left on the vine until outer shell hardens. Allow to cure 3-4 additional weeks after harvest to encourage further seed ripening.

PROCESS: Chop open hard-shelled fruits and scoop out seeds. Rinse clean in wire strainer with warm, running water. Dry with towel and spread on board or cookie sheet to complete drying.