

SOLANACEAE: NIGHTSHADE or TOBACCO FAMILY

Tomato, eggplant, bell pepper, chili pepper, tobacco, and potato.

Description: Alternate leaves; simple, lobed, or biternate; often pubescent; characteristic odor. Flower with connivent anthers (come to a point); 5 petals; fruit is a berry. Many perennial, grown as annuals.

Cultural Characteristics: Many common diseases and pests: tobacco mosaic, verticillium and fusarium fungi, and nematodes. Prefers rich, damp soil, lots of organic matter.

**FABACEAE (LEGUMINOSAE) PEA or BEAN FAMILY**

Peas, green/string beans, fava beans, hyacinth bean, cowpea, peanut.

Large family of economic importance. *Rhizobium spp.* bacteria form nodules on roots to fix N from the air.

Description: Alternate, compound leaves, either pinnate or trifoliate. Fruit a legume: splits open, seeds along one side. Subfamilies according to flower type:

Papilionoideae: Bilaterally symmetric flowers. Pea flower: banner, wings and keel. Most fix N. Vegetables & cover crops.

Mimosoideae: Numerous stamens. *Acacia, albizzia spp.*, many N fixing trees.

Caesalpinioideae: 10 or fewer stamens, slightly radially asymmetric, 5 petals, few fix N.

Cultural Characteristics: High protein leaves and seeds. Avoid adding too much N, use small amounts of well rotted compost. Some long day flowering beans. Transplanting reduces N fixing ability.

**CUCURBITACEAE: GOURD FAMILY**

Cucumbers, melons, watermelon, winter squash, zucchini, gourds, luffa.

Description: Usually annual; climbing or prostrate; often bristly haired; with tendrils; large, alternate, simple, palmately lobed leaves. Flowers usually unisexual, plants usually monoecious.

Cultural Characteristics: Very fast growing, need to be kept moist, not wet, use lots of compost. Does not transplant well unless less than three weeks old. Grow on trellis. Subject to mildews and blights. Cucumber & flea beetles cause problems.

MALVACEAE: HIBISCUS or MALLOW FAMILY

Okra, roselle, cotton, hibiscus.

Description: Palmately lobed or veined leaves. Often hairy; dehiscent capsule fruits; many carpels; large flowers with staminate spray in center. Stamens united by filaments in tube around pistil.

Cultural Characteristics: Need sun and heat, drought tolerant. Does not transplant well. Very susceptible to flea beetles, but grows anyway. Sometimes aphids.

**ALLIACEAE: ONION FAMILY (also Liliaceae or Amaryllidaceae)**

Onion, garlic, leek, and chive.

Description: Monocots, push up leaves from base, long thin leaves, flowers in racemes, store nourishment in swollen bulbs (underground shoots), long life cycle, mostly biennial or perennial.

Cultural Characteristics: Cool weather for leaves, hot, dry weather for bulbs. Very shallow roots. Bolt, if flower stems are not removed. Best in loamy soils. Need weeding and thinning, adequate water.

POACEAE/GRAMINAE:GRASSES/GRAINS

Corn, rice, wheat, lemon grass, sugar cane.

Description

Monocots, strap-shaped leaves with sheaths. Fibrous roots, rhizomes or stolons. Huge family, most important economic crops. Alternate, simple leaves. Tiny, wind-pollinated, often unisexual flowers.



Cultural Characteristics

Heavy feeders, need lots of N: organic matter or fertilizer. Plants add organic matter to soil via fibrous roots. Plant in blocks to ensure pollination. Some perennial, mostly annuals.

ASTERACEAE/COMPOSITAE:SUNFLOWER or ASTER FAMILY

Lettuce, artichoke, calendula, zinnia, marigold, sunflower.

Description

Composite flowers: flower head made up of many tiny ray and disk flowers. Alternate simple or compound leaves, often with wide central vein. Watery or milky sap. Attracts pollinators.



Cultural Characteristics

Fast growing, shallow roots, grow lettuces in cool season or shade with larger plants. Does not do well in heavy clay. Add plenty of organic matter. Few pests, attract beneficial insects.

BRASSICACEAE or CRUCIFERAE:MUSTARD FAMILY

Broccoli, cabbage, cauliflower, kale, mustard, Pak choi, radish.

Description

Alternate, simple leaves with waxy cuticle or hairs. Crucifer: 4 petalled flower, 4 + 2 stamens, mostly biennial. Plants have characteristic sulfur odor.



Cultural Characteristics

Usually cool season crop. Can make do with very little water because of waxy cuticle. Shallow rooted. Does not do well in acid soil; add plenty of organic matter to mitigate soil pH. Cabbage moth larvae eat leaves & hearts, so tie it closed. Club root can be a problem if not rotated.

CHENOPODIACEAE: GOOSEFOOT FAMILY

Beet, chard, spinach.

Description: Annual or biennial (beet). Alternate, large, simple leaves with continuous leaf surface. Tiny green flowers, easily confused with amaranths. Seed in tiny fruits. Several seeds/fruit (what you plant are fruits).

Cultural Characteristics: Very deep rooted (up to 3 meters). Breaks up soil, recycles nutrients, good to precede carrots. Cool season vegetables. Need well-drained soil, well rotted compost. Do not do well in acid soil. Need to be watered deeply. Leafminer pests.

AMARANTHACEAE: AMARANTH or PIGWEED FAMILY

Amaranths, celosias.

Description: Simple, alternate or opposite leaves; often pubescent flowers, usually in spikes or racemes. Weeds and vegetables.

Cultural Characteristics: Very hardy, drought tolerant, lots of sun, long harvest period, likes manure. Pinch off flowers to maintain leaf production.

APIACEAE or UMBELLIFERAE: PARSLEY FAMILY

Carrot, parsley, coriander, fennel, celery.

Description: Usually cooler season crop. Needs water. Sandy or loamy, well drained soil. (not heavy clay). No fresh manure, add rock phosphate/ashes. Pests: carrot fly and larvae. Very slow germinating seed. Easily cross-pollinate.

**LAMIACEAE or LABIATAE: MINT FAMILY**

Mints, basil, rosemary, thyme, oregano, sage.



Description: Aromatic herbs, many perennial, sometimes shrubs, four-sided stems, opposite or whorled leaves, bilabiate flowers.

Cultural Characteristics: Drought tolerant, tolerate poor soils. Extensive, invasive roots, perennials spread easily. Large, thick, canopy.

References

Knott's Handbook for Vegetable Growers. 1997. D.N. Maynard and G.J. Hochmuth.

Tropical Crops: Dicotyledons. 1987. J.W. Purseglove.

Vascular Plant Families. 1977. J.P. Smith.