



# Index

## Kentucky Master Gardener Manual

**Note:** Kentucky Extension booklet ID-128, *Home Vegetable Gardening in Kentucky*, serves as chapter 22 of the Master Gardener Manual. Topics covered in chapter 22 (ID-128) are currently NOT included in this index.

**2,4-D:** 141, 297, 298

**abscisic acid:** 29

**abscission:** 24  
growth-affecting compounds: 29

**acephate:** 141

**adelgids**  
controlling with horticultural oil: 140

**adhesive**  
for pest traps: 133, 134

**adventitious bud:** 10

**African daisy:** 182

**African violet:** 199, 201

**ageratum:** 182

**aggregate fruit:** 16

**alar:** 29

**alfalfa**  
as insect-attracting plant: 137

**allelopathy:** 28  
in weeds: 293

**alyssum**  
as insect-attracting plant: 137

**amaranthus:** 182

**ammonium:** 26, 59

**angelica**  
as insect-attracting plant: 137

**anise**  
as insect-attracting plant: 137

**annual bluegrass (weed):** 28

**annuals, defined:** 1

**anther:** 14  
defined: 2

**ants**  
sticky barriers: 133

**aphids:** 130, 206  
controlling with *Beauveria bassiana*: 139  
controlling with horticultural oil: 140  
controlling with row covers: 132  
controlling with soap: 139  
controlling with sulfur: 140  
on houseplants: 203  
on tree fruits: 241  
predators of: 136  
spraying with water: 132

**apical dominance:** 162  
defined: 2

**apple:** 232  
anthracnose: 231  
bitter pit: 236  
container growing: 232  
disease resistance: 231  
fertilizing: 172  
insects and diseases: 240, 241  
pollination: 235  
powdery mildew: 231  
pruning: 7, 168, 169, 170, 171, 172, 242  
rootstock: 232  
scab: 231, 241  
spacing: 236  
thinning: 237, 238  
tree height: 232  
varieties: 232  
vigor ratings: 232

**apricot**  
insects and diseases: 240, 241  
pruning: 242  
varieties: 234

**arctotis:** 182

**asexual propagation**  
cuttings: 7, 8  
stolons: 7

**asparagus beetles**  
hand picking: 131

**aster:** 182

**auxin:** 29

**axil**  
defined: 2

**axillary bud:** 10

**azadirachtin:** 140

**bachelor button:** 182

**bacillus thuringiensis:** 138

**baits**  
for slugs: 134

**balsam:** 182

**barriers, insect:** 132

**basil**  
ornamental: 182

**bats**  
as pest control: 135, 139

**beauveria bassiana:** 139

**beer**  
as slug bait: 134

**bees**  
and pesticides: 137  
and pollination: 135

**beetles:** 205, 206  
controlling with parasitic nematodes:  
138  
hand picking: 131  
sticky barriers: 133

**begonia**  
in pots: 201

**beneficial insects:** 205  
attracting: 137  
parasitoids: 135, 137, 138  
pollinators: 135  
predators: 135, 137, 138  
releasing: 138

**biennials**  
defined: 2

**big-eyed bugs:** 136  
plants to attract: 137

**bindweed, field**  
illustrated: 291

**birds**  
as pest control: 135, 139

**bishop's weed**  
as insect-attracting plant: 137

**bittercress, little**  
illustrated: 290

**bitter pit**  
on apple and pear: 236

**black spot**  
fungicide for: 140  
on rose: 133

**blazing star**  
as insect-attracting plant: 137

**blight**  
pruning out: 163

**bluegrass (weed):** 28

**blue lace**  
as insect-attracting plant: 137

**bolting:** 2, 23

**boron**  
excess, deficiency: 27  
for tree fruits: 237

- botanical insecticide:** 140
- brachonids:** 136
- bract:** 11
- broadleaf weeds:** 298, 299
- broccoli**  
as insect-attracting plant: 137
- browallia:** 182
- brown rot**  
on tree fruits: 241
- buckwheat**  
as insect-attracting plant: 137
- buds**  
adventitious: 9  
as food: 10  
cold damage: 9  
defined and types: 9, 10  
dormancy: 9
- bug zappers:** 135
- bulbs**  
bloom color: 184  
bloom season: 184  
defined and types: 7, 8  
removing foliage: 8
- bumblebees:** 135
- cabbage, flowering:** 182
- cabbage worms, loopers**  
controlling with B.t.: 138  
controlling with row covers: 132  
predators of: 136
- cacti**  
potting soil: 201  
watering: 197
- cages, for plants:** 132
- calcium**  
excess, deficiency: 26
- calendula:** 182
- calyx:** 14
- cambium:** 2, 6
- candytuft:** 182  
as insect-attracting plant: 137
- cane borers**  
pruning out: 132
- cankers**  
pruning out: 132, 163
- captan:** 141
- caraway**  
as insect-attracting plant: 137
- carbaryl:** 141
- carbon dioxide:** 20
- carrot, wild**  
as insect-attracting plant: 137
- castor bean:** 182
- caterpillars:** 204, 206  
controlling with horticultural oil: 140  
controlling with soap: 139  
hand picking: 131  
sticky barriers: 133
- centipedes:** 135, 205
- cephalaria**  
as insect-attracting plant: 137
- chalcids:** 136
- chamomile**  
as insect-attracting plant: 137
- cherry**  
pollination: 235  
pruning: 7, 174  
rootstock: 234  
varieties: 234
- chervil**  
as insect-attracting plant: 137
- chickweed**  
illustrated: 291
- chlorine**  
excess, deficiency: 27  
injury to houseplants: 198
- chlorophyll:** 18  
defined: 2
- chloroplast:** 11, 18  
defined: 2
- chlorothalonil:** 141
- chlorpyrifos:** 141
- Christmas cactus**  
forcing bloom: 23
- chrysanthemum:** 182  
forcing bloom: 23  
staking: 189
- cilantro**  
as insect-attracting plant: 137
- cineraria:** 182
- clarkia:** 182
- classification**  
plants: 14
- clay:** 53
- cleanup (sanitation):** 158
- climate**  
landscaping considerations: 247, 249, 251, 252
- clover**  
as insect-attracting plant: 137
- cockscomb:** 182
- codling moths:** 240, 241  
on apple: 238  
trapping: 134
- coleus:** 182
- collars:** 132
- Colorado potato beetles**  
controlling with B.t.: 138  
predators of: 136
- companion planting:** 131
- complete flower:** 14
- compost**  
making: 156
- compound leaf:** 12
- conifers**  
needle problems: 85, 86
- conserving water:** 157
- container gardening**  
plant roots: 5
- containers**  
for houseplants: 197, 200
- copper**  
excess, deficiency: 27  
fungicide: 140
- copper barriers**  
for slugs and snails: 133
- coreopsis**  
as insect-attracting plant: 137
- coriander**  
as insect-attracting plant: 137
- corms**  
defined and types: 8
- corn earworms**  
predators of: 136
- cornflower:** 182
- corolla:** 14
- cortex**  
defined: 2
- cosmos:** 182  
as insect-attracting plant: 137
- cotyledon:** 11, 17  
defined: 2
- cover crops**  
as weed control: 296  
benefits: 156
- crabgrass:** 299
- crocus:** 184

**crop rotation**

as disease control: 131, 158  
as weed control: 293

**cross-pollination:** 15

**croch angle:** 162, 168, 169

**crown rot**

on tree fruits: 237

**cucumber beetles**

controlling with row covers: 132

**cultivar**

defined: 33

**cultural methods of pest control:** 129, 130, 131

**cuticle**

defined: 2  
leaf: 11

**cuttings (propagation)**

stem: 8

**cutworms:** 130

controlling with collars: 132  
controlling with parasitic nematodes: 138  
predators of: 136

**cyclamen mites:** 204

**cyme:** 15

**cytokinin:** 29

**dahlia**

staking: 189

**damping-off:** 201

**damsel bugs:** 135

**day-neutral plant:** 22, 23

**decks:** 249

**deer:** 236

**delphinium**

staking: 189

**desiccation:** 24

**diatomaceous earth:** 133

**diazinon:** 141

**dicamba:** 298

**dichlobenil:** 141, 297, 300

**dicot**

defined: 1, 2, 6  
leaf venation: 11, 14  
weeds: 289

**dill**

as insect-attracting plant: 137

**dioecious:** 15

**dipsacus**

as insect-attracting plant: 137

**disease**

control: 140, 158, 159, 158, 163  
cultural methods of control: 129, 130, 131  
fungi: 166  
integrated pest management: 128, 129, 130, 131, 132, 133, 134, 135, 137, 138, 139, 140, 141  
monitoring: 128  
on houseplants: 203  
on tree fruits: 237, 240, 241  
pruning out: 132

**dolomitic lime:** 26

**dormancy**

buds: 9  
seeds: 17

**dormant oil:** 140

tree fruit pest control: 241

**drainage:** 155

for houseplants: 202

**drip irrigation:** 295, 300

**dripline:** 5

**dusty miller:** 182

**earwigs:** 130

trapping: 134

**ecolawns:** 295, 299

**economic threshold:** 240

**elm leaf beetles**

controlling with B.t.: 138

**embryo:** 16

**endosperm:** 16

**epidermis**

defined: 2  
leaf: 10  
root: 4

**epsom salts**

as source of magnesium: 26

**erosion:** 153, 155, 156

**espalier:** 167, 168

**ethylene:** 29

**etiolation:** 6

**European craneflies**

controlling with parasitic nematodes: 138

**family**

defined: 32

**feeder roots:** 5

**fennel**

as insect-attracting plant: 137

**ferns:** 197

**fertilization (pollen and egg):** 15

**fertilizer**

leaching: 155  
runoff: 153

**fertilizing:** 130

apple: 172  
foliar feeding: 27  
houseplants: 198, 199  
lawns: 299  
tree fruits: 236, 237  
trees and shrubs: 156

**fibrous roots:** 5

**fiddleneck**

as insect-attracting plant: 137

**field bindweed**

illustrated: 291

**flea beetles:** 130, 205

controlling with row covers: 132

**flower garden**

weed control: 295, 300

**flowering**

effect of light: 22, 23  
effect of temperature: 23

**flowering trees and shrubs**

pruning: 163

**fluazifop:** 299

**fluoride**

and houseplants: 198, 199

**foliar fertilization:** 27

**forcing bloom**

Christmas cactus: 23  
chrysanthemum: 23

**forget-me-not:** 182

**form**

defined: 32

**form, plant:** 253

**four o'clock:** 182

**frogs**

as pest control: 135

**front yard**

landscaping: 249

**frost:** 252

**frost damage**

buds: 9  
woody plants: 24

- fruit**  
storing: 238  
structure: 15  
types: 15, 16
- fuchsia**  
in pots: 201
- fungi**  
pruning wounds: 166
- fungicides**  
inorganic: 140
- fungus gnats**  
controlling with B.t.: 138
- gaillardia**: 182
- genus**  
defined: 32
- geotropism**: 29
- geranium**  
in pots: 201
- germination**: 17, 18  
temperature requirement: 23
- gibberellic acid**: 29
- gloxinia**: 199, 201
- glyphosate**: 141, 297, 298, 300
- gnats**: 204
- golden marguerite**  
as insect-attracting plant: 137
- goldenrod**  
as insect-attracting plant: 137
- gomphrena**: 182
- grading**: 246
- grape ivy**: 203
- grasshoppers**  
predators of: 136
- grass weeds**  
control: 299
- greenhouse**  
integrated pest management: 138  
replenishing carbon dioxide: 20
- green lacewings**: 136  
plants to attract: 137  
releasing: 138
- groundcovers**  
as weed control: 295  
pruning: 179  
uses: 254
- growth regulators**: 29, 30
- grubs**: 206
- guard cell**: 11  
defined: 2
- hand picking insects**: 131
- hardiness**: 24
- hardiness zones**: 251
- heading cuts**: 165
- hedges**  
pruning: 176, 177  
rejuvenating: 177  
tools for pruning: 177
- heliotrope**: 182
- herbaceous ornamentals**: 182  
annuals: 182  
bloom season: 184  
defined: 2  
flowers: 184  
height and color: 182, 184  
in containers: 201  
perennials: 184  
pollination: 15  
selecting: 184  
selecting plants: 182, 184  
staking: 189  
structure: 14  
types: 14, 15  
weed control: 295, 300
- herbicides**: 141  
absorption by plants: 297, 298  
contact (nonsystemic): 297  
drift: 297  
foliar-active: 297  
interaction with temperature: 297  
labels: 296  
nonselective: 296  
postemergent: 297  
preemergent: 297  
runoff: 297  
selective: 296  
soil-active: 297  
systemic: 297  
types: 296, 297, 298, 299  
weed-and-feed: 299
- home security**  
landscaping for: 249, 258
- honeybees**: 135  
and pesticides: 137
- honeydew**  
aphids: 203
- hormone, plant**: 29, 30
- hornworms**  
predators of: 136
- horsetail**: 293
- horticultural oil**  
on tree fruits: 241  
pests controlled: 140  
types: 140
- houseplants**  
chlorine injury: 198  
containers: 197, 200  
disease: 203  
drainage: 202  
fertilizing: 198, 199  
fluoride: 199  
humidity: 199  
light: 199  
natural gas: 199  
pesticides: 207  
pests: 199, 202, 203, 204, 205, 206, 207  
    control: 206, 207  
    prevention: 206  
potting: 198, 202  
potting soil: 197, 198, 200, 201, 206  
preferred environment: 195  
problems: 199, 202, 203, 204, 205, 206, 207  
propagation: 200, 202  
soluble salts: 198, 199  
temperature: 196, 199  
watering: 197, 198, 199, 202
- hover flies**: 136  
plants to attract: 137
- humidity**  
and houseplants: 199  
effect on plant processes: 25
- hybrid**  
defined: 32
- hymenoptera parasites**: 136
- hypocotyl**: 17
- ichneumonids**: 136
- identification**  
insects: 128
- impatiens**: 182
- incomplete flower**: 14
- indoleacetic acid**: 29
- inflorescence**  
types: 15
- insectary plants**: 137
- insecticidal soap**: 139, 207
- insecticides**: 141

**insects**

barriers: 132  
 beneficial: 135, 137, 138, 205  
 cultural methods of control: 129, 130, 131  
 hand picking: 131  
 identification: 128  
 integrated pest management: 128, 129, 130, 131, 132, 133, 134, 135, 137, 138, 139, 140, 141  
 management: 158, 159  
 monitoring: 128  
 on houseplants: 203, 204, 205, 206  
 on tree fruits: 240, 241  
 pruning out: 132  
 spraying with water: 132

**integrated pest management:** 158, 159

biological methods: 135, 137, 138, 139  
   beneficial insects: 137  
 chemical methods: 139, 140, 141  
 cultural methods: 129, 130, 131  
 defined: 127  
 evaluating results: 129  
 for tree fruits: 240  
 monitoring: 128  
 physical methods: 131, 133, 135  
 tolerance level: 129

**internode:** 6

defined: 2

**interplanting:** 131**iron**

excess, deficiency: 27

**ivy**

houseplant: 197, 201

**Johnsongrass:** 7**key**

planting map: 258

**labeling**

pesticides: 139

**lacebugs**

controlling with horticultural oil: 140  
 spraying with water: 132

**lacewings:** 136

plants to attract: 137  
 releasing: 138

**lady beetles:** 136

plants to attract: 137  
 releasing: 138

**landscape fabric:** 295, 300**landscaping**

and home security: 249, 258  
 children's play area: 249  
 climate considerations: 247, 249, 251, 252  
 decks and patios: 249  
 drawing a plan: 255, 257, 258  
 front yard: 249  
 maintenance considerations: 248  
 microclimates: 246, 252  
 natural features: 246  
 parts of a landscape: 248, 249, 250  
 planning: 246, 247, 249  
 planting key: 258  
 plant selection: 251, 252, 253, 254  
 privacy: 249  
 private use area: 248, 249  
 public area: 250  
 renovation: 258  
 service and work areas: 250  
 site analysis: 246, 251  
 soil considerations: 252  
 sun and shade: 247, 253, 258  
 sustainability: 154, 245, 259  
 symbols: 256, 257  
 use areas: 256, 258  
 year-round interest: 249, 253

**larkspur:** 182**lateral roots:** 5**lawns**

blends: 295, 299  
 European craneflies: 138  
 fertilizing: 299  
 moss: 299  
 mowing: 156, 299  
 renovation: 299  
 watering: 157  
 weeds: 28, 295, 298, 299

**leaching:** 155

nitrogen: 154, 155  
 pesticides: 153

**leafhoppers:** 130, 205

controlling with horticultural oil: 140  
 controlling with soap: 139  
 predators of: 136

**leafminers:** 204, 206

controlling with row covers: 132  
 hand picking: 131

**leaf tiers**

predators of: 136

**leaves**

arrangement: 13  
 as food: 13  
 dropping in fall: 24  
 function and structure: 10  
 types: 11, 13  
 venation: 11

**light**

effect on flowering: 22, 23  
 effect on growth: 6, 20, 22, 23  
 for houseplants: 199  
 increasing: 22  
 photoperiod: 22, 23  
 phototropism: 29  
 wavelength: 22

**lights**

for growing plants: 22

**light traps:** 135**lily**

staking: 189  
 winter rest requirement: 24

**limb orientation:** 169**limb spreading:** 168, 170**lime, dolomitic:** 26**linnaeus:** 14**lobelia:** 182**long-day plant:** 22, 23**lovage**

as insect-attracting plant: 137

**low maintenance**

landscapes: 248

**lupine:** 182**lygus bugs:** 130

predators of: 136

**macronutrients:** 25, 26, 27**magnesium**

excess, deficiency: 26  
 sources of: 26

**maintenance**

landscape: 248

**malathion:** 141**manganese**

excess, deficiency: 27

**map**

drawing for landscape: 255, 257, 258  
 hardiness zones: 251

**marigold:** 182

as insect-attracting plant: 137

**mealybugs:** 204, 206

controlling with horticultural oil: 140  
 spraying with water: 132

**media**

for cacti and succulents: 201

**meristem:** 3, 4

defined: 2

**mesophyll:** 11, 18

defined: 2

- metal barriers**  
for slugs and snails: 133
- metaldehyde:** 141
- Mexican sunflower**  
as insect-attracting plant: 137
- microclimate:** 246, 252
- micronutrients:** 26, 27
- millipedes:** 205
- minute pirate bugs:** 136  
plants to attract: 137
- mites:** 204  
on tree fruits: 241  
spraying with water: 132
- moles**  
as pest control: 135
- molluscicides:** 141
- molybdenum**  
excess, deficiency: 27
- monitoring pests:** 128
- monocot**  
defined: 1, 2, 6  
leaf venation: 11, 14  
weeds: 289
- monoecious:** 15
- morningglory (weed)**  
illustrated: 291
- mosquitoes**  
controlling with B.t.: 138
- moss**  
in lawns: 299
- mowing:** 156, 299
- mulch**  
for disease control: 133  
for weed control: 294, 300  
plastic: 294  
types: 294
- multiple fruit:** 16
- mustard**  
as insect-attracting plant: 137
- mycorrhizae:** 4
- naphthalene acetic acid:** 29
- narcissus**  
forcing bloom: 24
- natural gas**  
and houseplants: 199
- nectarine**  
insects and diseases: , 241, 173  
pruning: , 173  
varieties: 234
- needle-leaf evergreens**  
diagnosing problems: 85, 86
- neem extract:** 140
- nematodes**  
beneficial parasites: 138
- nicotine sulfate:** 140
- nitrate:** 26, 59  
leaching: 154, 156
- nitrogen**  
excess: 26  
leaching: 154, 156
- nitrogen cycle:** 59, 154
- node:** 6  
defined: 2
- nonpoint source pollution:** 153
- nontunicate bulb:** 8
- nutrients**  
absorption: 27  
macronutrients: 25, 26, 27  
micronutrients: 25, 26, 27  
primary: 25, 26, 27  
secondary: 25, 26, 27  
signs of excess and deficiency: 26
- oil, horticultural**  
on tree fruits: 241
- orchard mason bees:** 135
- organic matter**  
benefits: 130, 156
- oryzalin:** 298, 300
- ovary:** 14  
defined: 2
- parasitic nematodes:** 138
- pasteurizing soil:** 201
- patios:** 249
- peach**  
diseases: 173  
pruning: , 173  
rootstock: 235  
thinning: 237, 238  
varieties: 234  
winter rest requirement: 24
- peach leaf curl:** 241
- pear**  
insects and diseases: 240, 241  
pollination: 235  
pruning: 7, 172, 242  
rootstock: 235  
thinning: 237, 238  
varieties: 234
- peony**  
staking: 189
- perfect flower:** 14
- pesticide**  
and bees: 137  
botanical insecticides: 140  
for houseplants: 207  
labels: 139  
leaching: 153  
plant damage: 207  
runoff: 297  
toxicity: 139
- petiole:** 10  
defined: 2
- pH**  
for azalea and rhododendron: 130  
for blueberry: 130
- pheromone trap:** 134, 240
- philodendron:** 201
- phloem:** 6, 11  
defined: 2
- phosphate:** 26
- phosphorus**  
excess, deficiency: 26
- photoperiod**  
effect on flowering: 22, 23
- photosynthate:** 18  
defined: 2
- photosynthesis:** 18, 20, 21  
defined: 2  
effect of temperature: 24
- phototropism:** 29
- pillbugs**  
trapping: 134
- pincusion flower**  
as insect-attracting plant: 137
- pistil:** 14  
defined: 2
- planning**  
landscapes: 246, 247, 249
- plant collars:** 132
- plant hardiness zones:** 251
- plant hormones:** 29, 30
- plant selection:** 155, 251, 252, 253, 254  
aesthetic considerations: 253  
insect- and disease-resistance: 251  
plant form: 253  
plant size: 253  
plant texture: 254

- plastic mulch:** 294
- play areas:** 249
- plum**  
pruning: , 242, 174  
rootstock: 235
- poinsettia**  
forcing bloom: 23
- point source pollution:** 153
- pole pruners:** 164
- pollination:** 15  
in tree fruits: 235
- pollinators:** 135
- poppy**  
California: 182
- potassium**  
excess, deficiency: 26
- potato**  
seed pieces: 7
- potting houseplants:** 198, 202
- potting soil**  
for cacti and succulents: 201  
for houseplants: 197, 198, 200, 206  
sterilizing: 201
- powdery mildew**  
fungicide for: 140
- praying mantids:** 135  
releasing: 138
- primary nutrients:** 25, 26, 27
- primary roots:** 5
- private use area:** 248, 249
- propagation**  
asexual: 7, 8  
houseplants: 200, 202
- prune trees**  
pruning: 174
- pruning**  
angle of cuts: 165  
apical dominance: 162  
apple: 7, 170, 171, 172, 168, 169  
apricot: 242  
at transplanting: 161  
branch collar: 166  
cherry: , 174  
crotch angle: 162, 168, 169  
diseased branches: 163  
first growing season: 161  
flowering trees and shrubs: 163  
for insect and disease control: 132  
groundcovers: 179  
heading cuts: 165  
hedges: 176, 177  
limb spreading: 168, 170  
maintaining plant health: 163  
nectarine: , 173  
nut trees: 242  
painting wounds: 166  
peach: , 173  
pear: 7, 172, 242  
plum: , 242, 174  
preventing water sprouts: 168  
prune trees: 174  
purposes: 161  
quince: 242  
restricting growth: 163  
roots: 166, 167  
rose: 177, 178  
selecting scaffolds: 162, 169, 170  
shade trees: 162, 168  
shrubs: 175  
sterilizing tools: 163  
terminology: 162  
thick, heavy branches: 166  
thinning cuts: 165, 170  
to improve production: 163  
tools: 163, 164, 177  
training plants: 161  
tree fruits: , 172, 173, 174, 175, 168, 169, 170, 171  
twigs and small branches: 165  
vines: 179  
walnut: 242  
where to cut: 6, 7
- public area**  
landscaping: 250
- quince**  
pruning: 242
- raceme:** 15
- radicle:** 17
- rain:** 252
- raspberry**  
borers: 132
- relative humidity:** 25
- renovation**  
landscape: 258  
lawn: 299
- resistance:** 129
- respiration:** 21  
defined: 2  
effect of temperature: 24
- rhizome**  
defined and types: 7
- root maggots**  
controlling with collars: 133  
controlling with row covers: 132
- roots**  
as food: 5  
feeder: 5  
growth and development: 5  
pruning: 166, 167  
structure: 4  
trimming when repotting: 202  
types: 5  
winter injury: 24
- rootstock:** 231, 232  
apple: 232  
cherry: 234  
peach: 235  
pear: 235  
plum: 235
- root weevils**  
controlling with parasitic nematodes: 138  
sticky barriers: 133
- rose**  
black spot: 133  
borers: 132  
pruning: 177, 178
- rotating crops**  
for disease control: 131, 158  
for weed control: 293
- rotenone:** 140
- rototilling**  
for pest control: 133
- row covers**  
for pest control: 132
- rubber plant:** 201
- runoff:** 153, 154, 155, 156  
herbicides: 297
- salt, soluble:** 198, 199
- sand:** 53

- sanitation:** 130  
garden cleanup: 158  
sterilizing tools: 130, 163
- saws:** 164
- scab**  
fungicide for: 140  
on apple: 231
- scabiosa**  
as insect-attracting plant: 137
- scaffold:** 162, 169, 170
- scale insects:** 203, 206  
controlling with horticultural oil: 140  
hand picking: 131  
on tree fruits: 241  
predators of: 136
- scales**  
controlling with soap: 139
- scarification:** 17
- secondary nutrient:** 25, 26, 27
- secondary root:** 5
- security, home**  
landscaping for: 249, 258
- seed coat:** 16, 17
- seed leaf:** 11, 17
- seeds**  
breaking dormancy: 17  
germination: 17, 18  
parts: 16  
production and development: 15  
scarification: 17  
starting: 18  
stratification: 18  
viability: 18
- sepal:** 14
- service areas**  
landscaping: 250
- sessile leaf:** 10
- shade pattern:** 28, 247, 253, 258
- shade trees**  
pruning: 162, 168
- shears:** 163, 164
- short-day plant:** 22, 23
- Siberian squill:** 184
- signal words:** 139
- silt:** 53
- simple fruit:** 15
- simple leaf:** 12
- site analysis**  
landscape: 246, 251
- slope**  
landscaping: 246
- slugs:** 158, 205, 206  
copper barriers: 133  
diatomaceous earth: 133  
eliminating hiding places: 130  
hand picking: 131  
trapping: 134
- snails:** 205  
copper barriers: 133  
diatomaceous earth: 133  
eliminating hiding places: 130  
hand picking: 131
- snakeflies:** 135
- snakes**  
as pest control: 135
- soap, insecticidal:** 139, 207
- soil**  
clay: 53  
drainage: 155  
erosion: 153, 155, 157  
nitrogen cycle: 59, 154  
organic matter: 156  
pasteurizing: 200  
sand: 53  
sterilizing: 201
- soil moisture**  
testing: 237
- soil testing:** 155
- solitary bees:** 135
- soluble salts:** 198, 199
- sooty mold:** 203
- sowbugs**  
trapping: 134
- species**  
defined: 32
- specific epithet**  
defined: 32
- spider mites:** 204  
controlling with horticultural oil: 140  
controlling with soap: 139  
in greenhouses: 138  
predators of: 136  
vacuuming: 133
- spider plant**  
propagation: 7
- spiders:** 135
- spittlebugs**  
controlling with soap: 139  
hand picking: 131  
spraying with water: 132
- springtails:** 205
- spur, defined and illustrated:** 7
- squash**  
ripening: 23
- staking flowers:** 189
- stamen:** 14  
defined: 2
- stems**  
as food: 9  
internodes: 6  
nodes: 6  
structure: 6  
terminology: 6  
types: 7, 8
- sterilizing**  
soil: 200, 201  
tools: 130, 163
- sticky barriers and traps:** 133
- sticky traps:** 134
- stigma:** 14  
defined: 2
- stolon**  
defined and examples: 7
- stoma:** 11, 25
- stoma, stomates, stomata**  
defined: 2
- stratification:** 18
- strawberry**  
propagation: 7
- style:** 14  
defined: 2
- succession:** 28
- succulents**  
potting soil: 201  
watering: 197
- sulfur**  
excess, deficiency: 26  
fungicide: 140
- summer annual, defined:** 1
- summer oil:** 140
- sunflower**  
as insect-attracting plant: 137
- sunflower, Mexican**  
as insect-attracting plant: 137



**sunlight**

effect on flowering: 22, 23  
 exposure: 253  
 moving plants to: 11

**sunscauld:** 11

on tree fruits: 236

**sustainability**

in landscapes: 245, 259

**tachinids:** 136

plants to attract: 137

**tansy**

as insect-attracting plant: 137

**taproot:** 5**temperature**

effect on flowering: 23  
 effect on germination and growth: 23, 24  
 effect on herbicides: 297  
 effect on plant growth: 20  
 for houseplants: 196, 199

**tent caterpillars**

pruning out: 132

**terminal bud:** 10**thermoperiod:** 24**thinning**

tree fruits: 237, 238

**thinning cuts:** 165**thrips:** 130, 205

controlling with *Beauveria bassiana*: 139  
 controlling with soap: 139  
 controlling with sulfur: 140  
 in greenhouses: 138

**tillage**

effect on weeds: 294  
 for pest control: 133

**toads**

as pest control: 135

**tolerance:** 129**tools**

maintenance: 164  
 pruning: 163, 164, 177  
 sterilizing: 130, 163

**tortrix moths**

predators of: 136

**totipotency:** 3**training**

fruit trees: 161, 168, 169, 170, 174

**transpiration:** 21, 25

defined: 2

**transplanting**

annuals: 295  
 pruning shrubs and trees: 161  
 selecting plants: 130

**trapping**

codling moths: 134  
 insects: 133, 135  
 slugs: 134

**tree fruits**

anthracnose: 241  
 aphids: 241  
 boron: 237  
 brown-rot blossom blight: 241  
 canker diseases: 241  
 cankers: 132  
 crotch angle: 161, 168, 169, 170  
 crown rot: 237  
 dead bud disease: 241  
 deer: 236  
 espalier: 167  
 fertilizing: 236, 237  
 harvest: 238  
 insects and diseases: 240, 241  
 integrated pest management: 240  
 mites: 241  
 planting: 236, 237  
 powdery mildew: 241  
 pruning: 168, 169, 170, 171, 172, 173,  
 174, 175, 242  
 scab: 241  
 scale insects: 241  
 spacing: 236  
 sticky barriers: 133  
 storing: 238  
 sunscald: 236  
 thinning crops: 237  
 watering: 237

**trees**

crotch angle: 162, 168, 169  
 forms: 253  
 limb orientation: 169  
 limb spreading: 168, 170  
 scaffolds: 162  
 transplanting: 166  
 watering: 157

**trifluralin:** 298, 300**triforine:** 141**tunicate bulb:** 8**turgor:** 25

defined: 2

**tussock moths**

predators of: 136

**ultrafine oil:** 140**USDA plant hardiness zones:** 251**vacuuming for pest control:** 133**variety**

defined: 32

**vascular system:** 4, 6, 11**vascular tissue**

defined: 2

**vegetable garden**

weed control: 295, 300

**vegetables**

growing in containers: 201

**venation, leaves:** 11**vetch**

as insect-attracting plant: 137

**vines**

pruning: 179  
 types: 9

**violet**

African: 201, 202

**walnut**

allelopathy: 28  
 pruning: 242

**wasps**

beneficial: 135, 138  
 plants to attract: 137

**water**

conserving: 157  
 role in plant growth: 25

**watering:** 130

as weed control: 295  
 cacti and succulents: 197  
 drip irrigation: 295  
 houseplants: 197, 198, 199, 202  
 lawns: 157  
 testing soil moisture: 237  
 tree fruits: 237  
 trees and shrubs: 157

**water sprout:** 168**webworms**

pruning out: 132

**weed-and-feed:** 299

**weeds**

allelopathy: 293  
and insect pests: 130  
annuals: 290  
biennials: 291  
broadleaves: 298, 299  
competition with garden plants: 292, 293  
control: 293, 294, 295, 296, 297, 298, 299, 300  
crabgrass: 299  
effect on vegetable yields: 292  
grass weeds: 28, 299  
identification: 288, 289, 290  
in annual gardens: 295, 300  
in lawns: 295, 298, 299  
in vegetable gardens: 295, 300  
in woody landscape plantings: 295, 300  
life cycle: 289, 290, 291  
managing: 293, 295, 297, 298, 299, 300  
methods of spread: 288  
non-native: 288  
noxious: 288  
origins of: 288  
perennials: 291  
prevention: 293  
reasons for: 288  
seeds: 292, 293

**whiteflies:** 203

controlling with horticultural oil: 140  
controlling with row covers: 132  
controlling with soap: 139  
in greenhouses: 138  
vacuuming: 133

**white lace flower**

as insect-attracting plant: 137

**wild carrot**

as insect-attracting plant: 137

**wildflowers:** 28**wildlife**

attracting: 139

**wildlife, attracting:** 249**wind**

effect on plants: 25  
herbicide drift: 297

**winter**

hardiness: 24  
plants for interest: 249, 253

**winter annual, defined:** 1**winter injury**

on buds: 9  
on woody plants: 24

**woody landscapes**

weed control: 295, 300

**woody plants**

cankers: 132  
fertilizing: 156  
forms: 253  
hardiness: 24  
planting: 175  
pruning: 164, 175  
sticky barriers: 133  
watering: 157  
weed control: 295

**work areas**

landscaping: 250

**xylem:** 6, 11

defined: 2

**yarrow**

as insect-attracting plant: 137

**zinc**

excess, deficiency: 27

**zone of elongation, root:** 4**zone of maturation, root:** 4