ATTRACT BUTTERFLIES

- Achillea
- Ajuga
- Alcea
- Alchemilla
- Aquilegia
- Aster
- Astrantia
- Bergenia
- Centaurea
- Chelone
- Coreopsis
- Delphinium
- Dianthus
- Echinacea
- Eupatorium
- Gaillardia
- Helenium
- Hemerocallis
- Heuchera
- Knautia
- Lavendula
- Liatris
- Ligularia
- Lupinus
- Nepata
- Phlox
- Rudbeckia
- Salvia
- Scabiosa
- Sidalcea
- Solidago
- Tradescantia
- Veronica

DROUGHT TOLERANT

- Achillea
- Aquilegia
- Aster
- Coreopsis
- Echinacea
- Gaillardia
- Hemerocallis
- Hosta
- Iris
- Lavender
- Monarda
- Papaver
- Rudbeckia
- Russian Sage
- Sedum
- Shasta Daisy

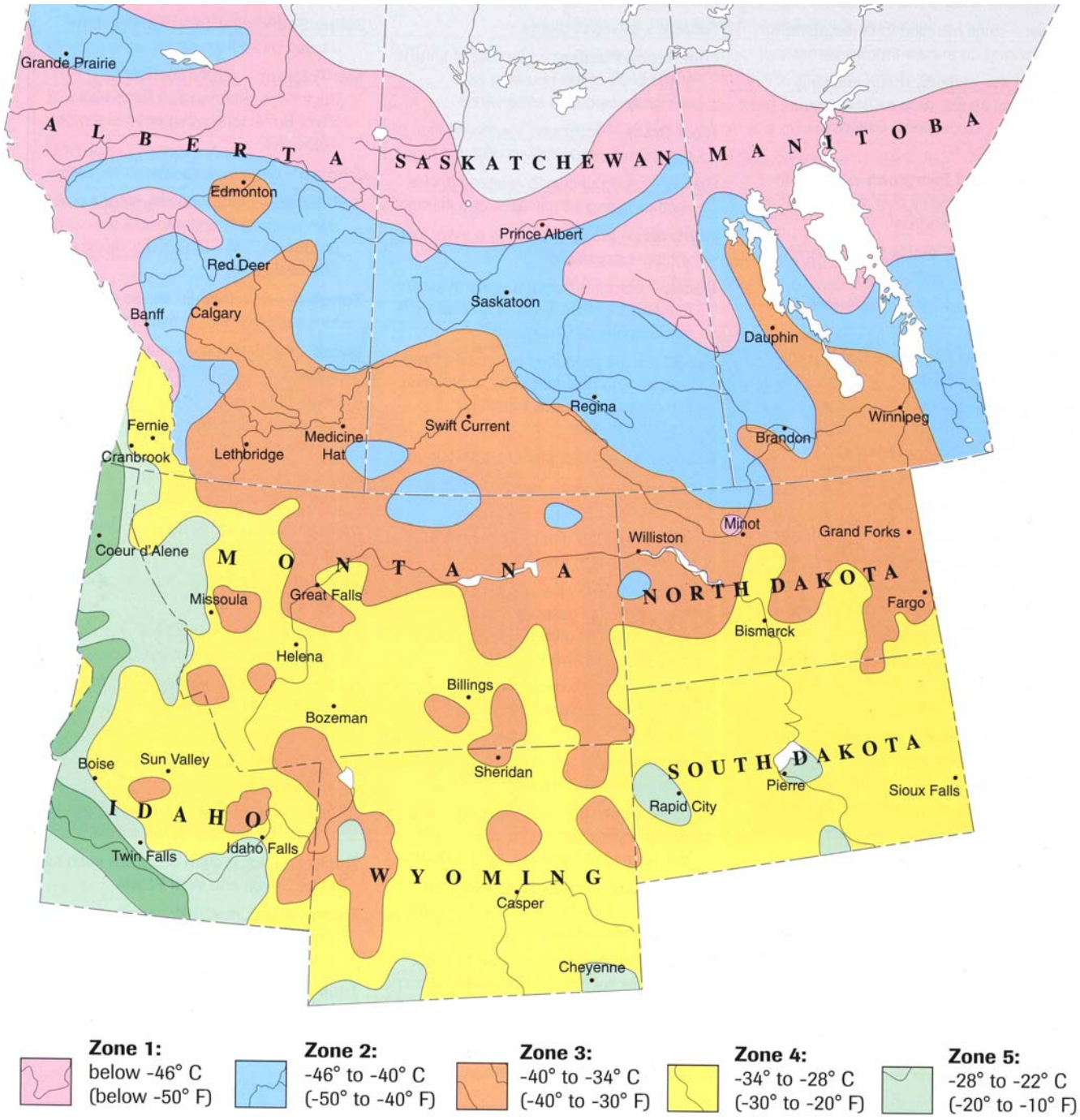
SHADE TOLERANT

- Aconitum
- Aegopodium
- Ajuga
- Anemone
- Astilbe
- Bergenia
- Convallaria
- Dicentra
- Filipendula
- Heuchera
- Hosta
- Lamium
- Ligularia
- Polygonatum
- Primula
- Pulmonaria

DEER RESISTANT

- Achillea
- Aconitum
- Agastache
- Ajuga
- Alchemilla
- Anemone
- Aquilegia
- Artemesia
- Astilbe
- Bergenia
- Brunnera
- Campanula
- Centaurea
- Chelone
- Convallaria
- Coreopsis
- Delphinium
- Dianthus
- Dicentra
- Digitalis
- Echinacea
- Geum
- Helenium
- Heuchera
- Iris
- Lavandula
- Liatris
- Lilium
- Monarda
- Nepata
- Papaver
- Pulmonaria
- Salvia
- Sedum
- Sempervivum
- Tiarella
- Veronica
- Vinca

HARDINESS ZONE MAP



A zone rating is an attempt to match a plant's survival with a set of environmental conditions. These conditions include minimum winter temperature, frost free period, snow cover, and wind speed. Most zone maps include a list of indicator plant species whose survival depends on certain climatic variables.

Remember that zone ratings are only a guideline for plant selection. Plant survival is also impacted by bodies of water, wind protection, snow cover and urban heat islands. For this reason there will always be trees and shrubs that defy the odds and thrive under conditions very different from their zone rating. Nevertheless, there are limits to this flexibility and in most cases ignoring a plant's zone rating is an invitation for winter damage.

Typical winter damage on woody ornamentals includes winter browning, root injury, tip kill and bole cracking. The absence of snow combined with cold temperatures can have lethal effects on the roots of certain species. It is for this reason that rootstock must be carefully selected even when bud grafting hardy varieties. Ideally, seedling rootstock should be sourced from the harshest conditions in the region where the finished plant will be marketed.

Tip kill and bole cracking are not only related to winter conditions but, more importantly, the onset of those conditions in the fall. Woody plants need adequate time and suitable conditions to set buds and enter dormancy prior to facing extreme cold. For example, an extreme September frost may be more damaging to a Silver Maple than a bitter cold spell in January.

An informed gardener will take note of plant hardiness when making plant selections. However, one should not hesitate to stretch the limits of ornamental species in the landscape through: 1) proper plant placement to take advantage of snow cover and shelter, and 2) careful application of fertilizer so as to allow proper fall shutdown.

UNDERSTANDING CROSS-POLLINATION

Cross pollination refers to the transfer of pollen between flowers of genetically-distinct plants.

For cross-pollinated species at least two different cultivars from the same group must be planted in relatively close proximity for successful pollination and fruit production.

Insects will cross pollinate a fruit tree when other suitable pollinator trees are growing within 450 feet. However, cross pollination may be hampered by cool, rainy weather or the lack of pollinating insects.

FRUIT TREE POLLINATION

Most hardy fruit trees require cross pollination by another cultivar from the same group.

1. APPLE: Require cross pollination for fruit set. All apples, crabapples and applecrabs are closely related and can be used to cross pollinate each other. Ornamental crabapples pollinate fruiting cultivars.

2. APRICOT: Produce more reliably when pollinated by other apricots or Nanking Cherry.

3. CHERRY PLUM: Require cross pollination by another cherry plum cultivar or Sandcherry.

4. PLUM: Require cross pollination by a compatible plum cultivar or native plum species. Hybrid plums may not be cross pollinated by another hybrid plum. Cultivars such as Brookgold (*Prunus salicina*) and Toka (complex hybrid) can serve as pollinizers for hybrid cultivars such as Brookred and Pembina.

5. PEAR: Require cross pollination by another pear cultivar or Ussurian Pear seedling.

SMALL FRUIT POLLINATION

Most hardy fruit shrubs are self-fertile and do not require cross pollination by another cultivar.

1. BLUEBERRY: Many are self-pollinating, however planting multiple cultivars often results in larger berries and better yields.

2. CHERRY: Self pollinating; only one variety required for fruit production.

3. CURRANT & GOOSEBERRY: Self pollinating; only one variety required for fruit production. If currants are grown near gooseberries yields can be even greater.

4. GRAPE: Many are self-pollinating, however some hybrids (e.g. Minnesota78) have non-viable pollen and require a pollinator for fruit production.

5. HONEYBERRY: Require cross pollination by another cultivar or by Sweetberry Honeysuckle.

6. RASPBERRY: Self pollinating; only one variety required for fruit production.

7. SASKATOON: Self pollinating; only one variety required for fruit production

8. SEA BUCKTHORN: Require cross pollination by another cultivar for fruit production

9. STRAWBERRY: Self pollinating; only one variety required for fruit production

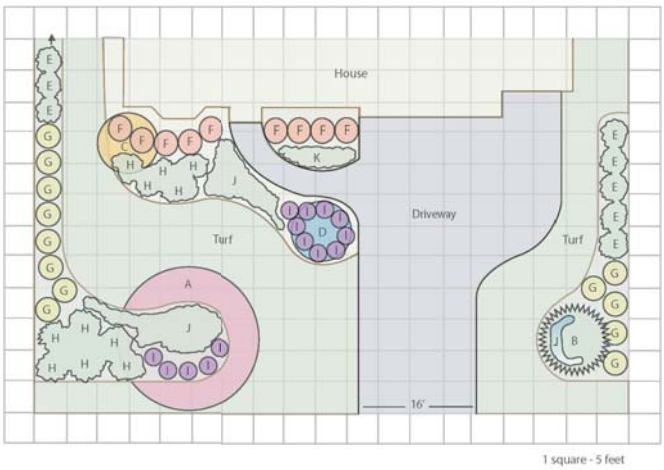
HARVESTING FRUIT

Colour, firmness and flavour are useful indicators to determine when fruit are ready to pick.

To determine when **apples** are ripe, look for the following: (1) green portions of the skin start to turn yellow; (2) seed coats turn brown; (3) flesh changes from tough and pulpy to crisp and juicy; and (4) fruit stem separates from the tree.

Pears should be picked when still firm and somewhat green in colour. If left to tree-ripen, they may turn brown and soft. **Plums** and **apricots** may be left on the tree until ready to eat.

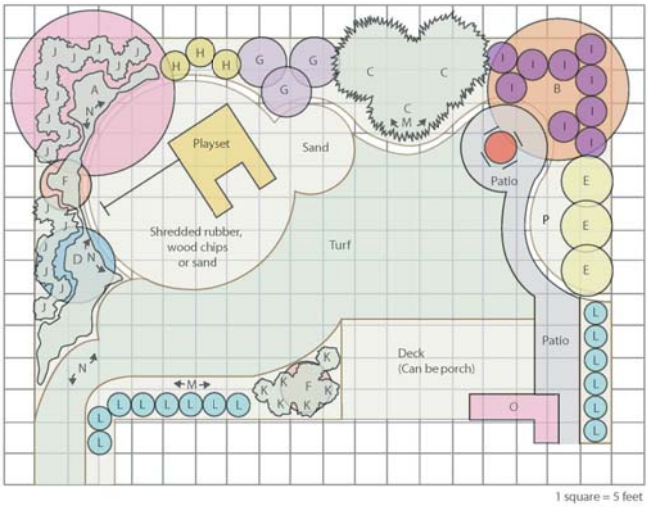
WELCOMING FRONT YARD



1 square - 5 feet

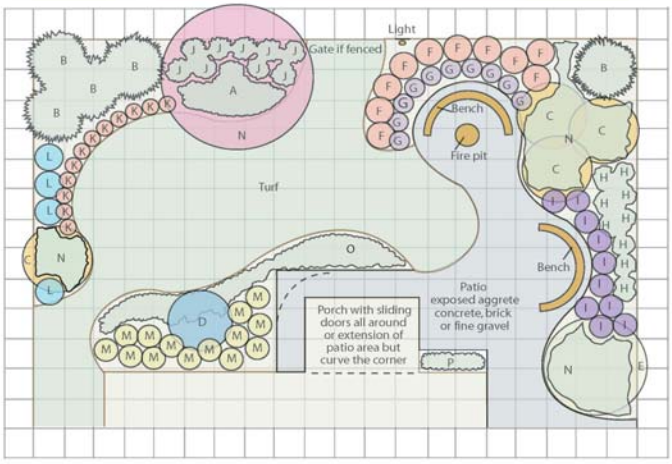
- **A** — **Nobility White Ash (x 1)**
  Alternates: American Linden, Admiration Oak
- **B** — **Black Hill's White Spruce (x 1)**
  Alternates: Select Blue Spruce, Hoopsi Blue Spruce
- **C** — **Snowbird Hawthorn (x 1)**
  Alternates: Spring Snow Crabapple, Toba Hawthorn
- **D** — **Ivory Pillar Tree Lilac (x 1)**
  Alternates: Ivory Silk Tree Lilac, Miss Kim Lilac Topgraft
- **E** — **Medora Juniper (x 8)**
  Alternates: Skybound Cedar, Wichita Blue Juniper
- **F** — **Incrediball Hydrangea (x 9)**
  Alternates: Little Lady Lilac, Dwarf Korean Lilac
- **G** — **Tiny Wine Ninebark (x 8)**
  Alternates: Summer Wine Ninebark, Center Glow Ninebark
- **H** — **Hughes Juniper (x 11)**
  Alternates: Arcadia Juniper, Morden Yew
- **I** — **Pink Beauty Potentilla (x 14)**
  Alternates: Darts Red Spirea, Magic Carpet Spirea
- **J** — **Perennials or ground cover; use dwarf daylilies or a mix of nepata and coreopsis**
- **K** — **Annuals of choice with spring bulbs**

FAMILY BACKYARD



1 square = 5 feet

- **A** — **Silver Cloud Maple (x 1)**
  Alternates: Unity Sugar Maple, Hackberry
- **B** — **Prairie Horizon Alder (x 1)**
  Alternates: Autumn Splendor Buckeye, Admiration Oak
- **C** — **Baby Blue Colorado Spruce (x 3)**
  Alternates: Black Hills White Spruce
- **D** — **Starlite Flowering Crabapple (x 1)**
  Alternates: Princess Kay Plum, Goldspur Amur Cherry
- **E** — **Spring Snow Flowering Crabapple (x 3)**
  Alternates: Snowbird Hawthorn, Showy Mountain Ash
- **F** — **Atomic Amur Maple (x 2)**
  Alternates: Muckle Plum, Double Flowering Plum Topgraft
- **G** — **Showy Mountain Ash (x 3)**
  Alternates: Spring Snow Crabapple, Snowbird Hawthorn
- **H** — **Northern Gold Forsythia (x 3)**
  Alternates: Golden Currant, Lemon Candy Ninebark
- **I** — **Cool Splash Dwarf Honeysuckle (x 9)**
  Alternates: Little Rebel Dogwood, Western Snowberry
- **J** — **Russian Cypress (x 16)**
  Alternate: Morden Yew, Dwarf Mugo Pine
- **K** — **Dwarf Winged Burning Bush (x 7)**
  Alternate: Alaska Cranberry, Miniglobe Honeysuckle
- **L** — **Annabelle Hydrangea (x 3)**
  Alternate: Alpine Currant, Snowhite Spirea
- **M** — **Burgundy Glow Ajuga (x 6)**
  Alternate: herbaceous perennial groundcover
- **N** — **Mixed perennials including aster, coreopsis, Echinacea, geranium, hemerocallis, iris, phlox, rudbeckia and veronica**
- **O** — **Annuals of choice**
- **P** — **Vegetables and herbs**



BACKYARD FOR ENTERTAINING

- A — Prairie Spire Green Ash (x 1)
  Alternates: American Linden, Nobility White Ash
- B — Black Hill's White Spruce (x 5)
  Alternates: Select Blue Spruce, Hoopsi Blue Spruce
- C — Starlite Flowering Crabapple (x 4)
  Alternates: Spring Snow Crabapple, Snowbird Hawthorn
- D — Purple Spire Crabapple (x 1)
  Alternates: Emerald Spire Crabapple, Miss Kim Lilac Topgraft
- E — Goldspur Amur Cherry (x 1)
  Alternates: Pink Spires Crabapple, Hot Wings Maple
- F — Mohican Viburnum (x 10)
  Alternates: Nannyberry, Snowball Viburnum
- G — Goldflame Spirea (x 10)
  Alternates: Goldmound Spirea, Magic Carpet Spirea
- H — Skybound Pyramidal Cedar (x 9)
  Alternates: Brandon Pyramidal Cedar, Holmstrup Cedar
- I — Mango Tango Potentilla (x 13)
  Alternates: Pink Beauty Potentilla, Morden Snow Potentilla
- J — Russian Cypress (x 9)
  Alternates: Compact Plumosa Juniper, Icee Blue Juniper
- K — Lambert Closse Rose (x 12)
  Alternates: Winnipeg Parks Rose, Prairie Joy Rose
- L — Dwarf Winged Burning Bush (x 4)
  Alternates: Summer Wine Ninebark, Snowhite Spirea
- M — Annabelle Hydrangea (x 14)
  Alternates: Phantom Hydrangea, Endless Summer Hydrangea
- N — Ground cover
- O — Mixed perennials
- P — Annuals of choice

GARDEN FOR BIRDS

- A — Hot Wings Maple (x 1)
  Alternates: Gladiator Crabapple, Goldspur Amur Cherry
- B — Toba Hawthorn (x 2)
  Alternate: Nannyberry Viburnum
- C — Skybound Cedar (x 3)
  Alternates: Holmstrup Cedar, Techny Cedar
- D — Little Rebel Dogwood (x 2)
  Alternate: Pucker Up Dogwood
- E — Arcadia Juniper (x 4)
  Alternate: Russian Cypress
- F — Mohican Viburnum (x 1)
  Alternate: Redosier Dogwood
- G — Snowberry (x 1)
  Alternates: Sweetberry Honeysuckle, Autumn Magic Aronia
- H — Compact American Cranberry (x 1)
  Alternate: Nannyberry Viburnum
- I — Purple Beauty Aster (x 7)
  Alternates: Romany Aster, Solomon's Seal
- J — Moonbeam Coreopsis (x 4) Alternate: Coral Bells
- K — Purple Coneflower (x 3) Alternate: Globe Thistle
- L — Black Eyed Susan (x 3)
  Alternate: Grand Parade Monarda
- M — Butterfly Blue Pincushion Flower (x 6)
  Alternate: Catmint
- N — Goldenrod (x 3) Alternate: Globe Thistle
- O — Autumn Red Maiden Grass (x 2)
  Alternate: Variegated Feather Reed Grass
- P — Blue Oat Grass (x 3) Alternate: Common Fern
- Q — Japanese Painted Fern (x 6)
- R — Cosmos (x 6) Alternate: Coleus
- S — Moss Rose (x 20) Alternate: Impatiens

PLANTING TREES AND SHRUBS

TYPES OF NURSERY STOCK

Bareroot

Heel in plants if not planted immediately. Neatly cut away any broken or damaged roots. Soak for a few hours prior to planting to rehydrate.

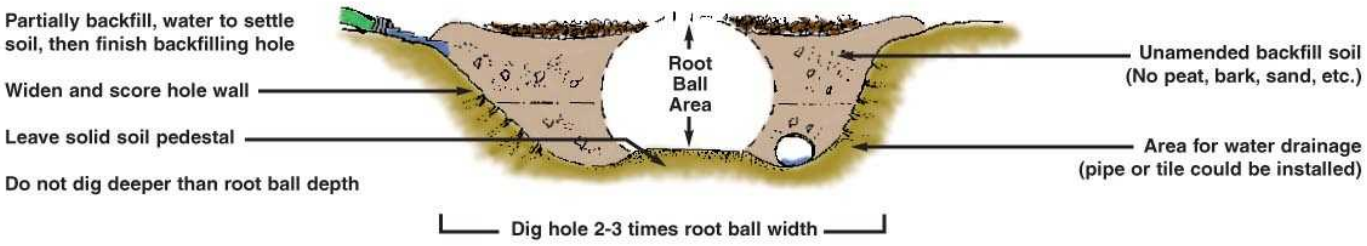
Container-Grown

Plastic or metal containers should be removed completely. Carefully cut through any circling roots. Remove top half of pressed peat/paper containers.

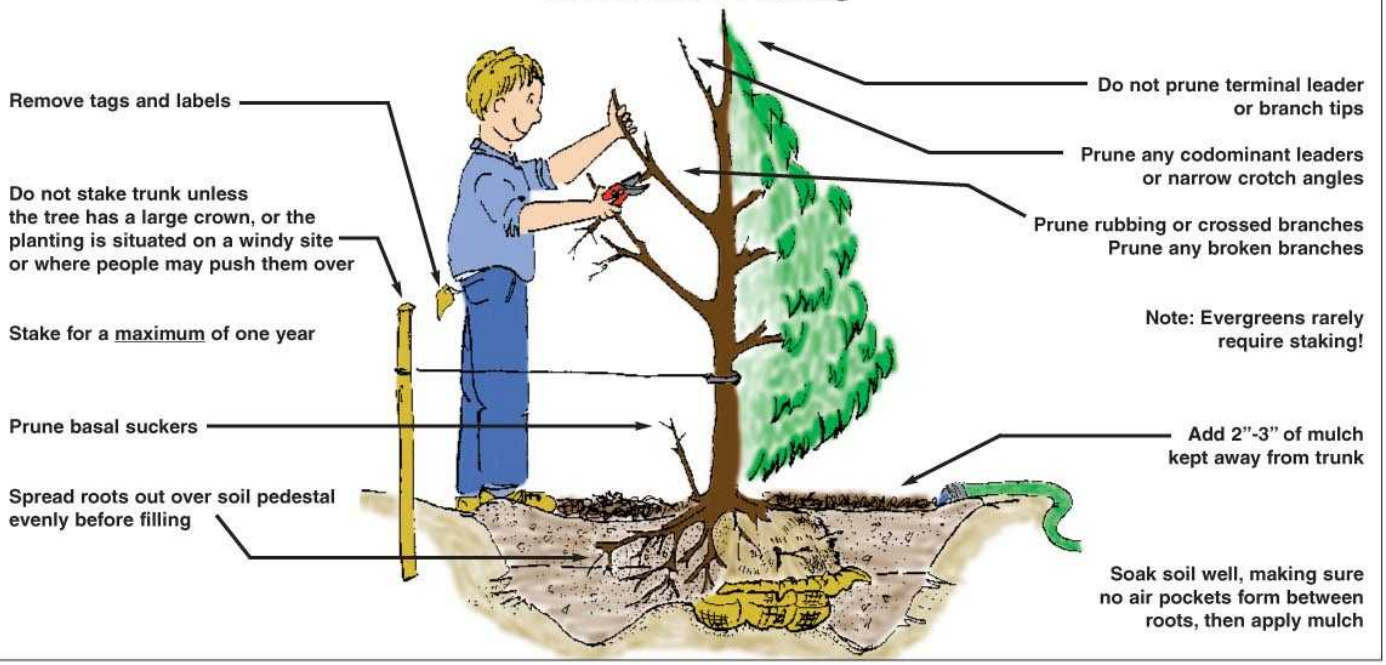
Balled-in-Burlap "B&B"

Cut balling ropes. Pull burlap down at least 1/3 of the way; slit remaining burlap to encourage root growth. If in a wire basket, cut away top section.

The Perfect Planting Hole



Your Finished Planting



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PRUNING LANDSCAPE PLANTS

Pruning is a horticultural practice that alters the form and growth of a plant. Based on aesthetics and science, pruning can also be considered preventive maintenance. Many problems may be prevented by pruning correctly during formative years for a tree or shrub.

REASONS FOR PRUNING

1. **Prune to promote plant health**
   - o Remove dead or dying branches injured by disease, severe insect infestation, animals, storms, or other adverse mechanical damage.
   - o Remove branches and branch stubs that rub together.

2. **Prune to maintain plants; intended purposes in a landscape, such as:**
   - o encouraging flower and fruit development,
   - o maintaining a dense hedge, or
   - o maintaining a desired tree form or special garden forms.

3. **Prune to improve plant appearance**

   Appearance in the landscape is essential to a plant's usefulness. For most landscapes, a plant's natural form is best. Avoid shearing shrubs into tight geometrical forms that can adversely affect flowering. When plants are pruned well, it is difficult to see that they have been pruned!

   Prune to:
   - o control plant size,
   - o keep evergreens well-proportioned

4. **Prune to protect people and property.**
   - o Prune branches that obscure vision at intersections.
   - o For security purposes, prune shrubs that obscure the entry to your home.

TIMING OF PRUNING

Shrubs that **bloom early in the growing season** on last year's growth should be pruned immediately after they finish blooming:

chokeberry	golden currant	elder
forsythia	lilac	double flowering plum
saskatoon	early blooming spirea	weigela

Shrubs grown **primarily for their foliage** rather than flowers should be pruned in spring, before growth begins:

alpine currant	barberry	burning bush
cistena cherry	dogwood	honeysuckle
ninebark	smokebush	sumac

Shrubs that **bloom on new growth** may be pruned in spring before growth begins. Plants with marginally hardy stems such as clematis and shrub roses should be pruned back to live wood.

PRUNING HEDGES:

After the initial pruning at planting, hedges need to be pruned often. Once the hedge reaches the desired height, prune new growth back whenever it grows another 6 to 8 inches. Prune to within 2 inches of the last pruning. Hedges may be pruned twice a year, in spring and again in mid-summer, to keep them dense and attractive.

PRUNING EVERGREENS:

With few exceptions, evergreens (conifers) require little pruning. Different types of evergreens should be pruned according to their varied growth habits.

- o **Pines** only put on a single flush of tip growth each spring and then stop growing. Prune before these "candles" of new needles become mature. Pines seldom need pruning, but if you want to promote more dense growth, remove up to two-thirds of the length of newly expanded candles. Don't prune further back than the current year's growth.
- o **Cedars and junipers** grow continuously throughout the growing season. They can be pruned any time through the middle of summer. Even though these plants will tolerate heavy shearing, their natural form is usually most desirable, so prune only to correct growth defects.


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