

A second alternative is to construct a hard surfaced deck or patio. A raised deck would be most satisfactory as the root system of the tree is not disturbed or hampered for future development and growth. Another solution would be to use flagstone laid on the surface of the soil or on a bed of sand or fine gravel. This would not impede tree root growth as would a poured concrete patio. Design wise each site will require its own individual solution.

It is easy to see that turfgrasses are better adapted to growing in the sun and some turfgrass species and cultivars will grow relatively satisfactorily in light shade. However, the greater the reduction in light quality and quantity, the more difficult it becomes to grow

turfgrass. It is important that a greater consideration be given to the selection of the proper species and cultivars and a well planned maintenance program conducted.

There are modifications which can be made to improve conditions which are more favorable to the cultivation of turfgrass and there are drastic steps which may be the only solution. Alternatives such as patios and/or decks can satisfy many situations both practically and aesthetically. The final solution will depend upon the individual site and conditions, the amount of time the grower is willing to spend on maintenance, and the overall landscape design.

SOME SUGGESTED GROUND COVERS FOR SHADY AREAS

HARDINESS ZONES

Zone 1 Northern Canada
Zone 2 (-50° F to -35° F) (-46° C to -37° C)
Zone 3 (-35° F to -20° F) (-37° C to -29° C)

Zone 4 (-20° F to -10° F) (-29° C to -23° C)
Zone 5 (-10° F to -5° F) (-23° C to -20° C)
Zone 6 (-5° F to 5° F) (-20° C to -15° C)

Botanical Name: *Ajuga reptans*

Common Name: Carpet Bugle (Bugleweed)

Soil: pH 6.0 to 7.5; moist, well-drained, rich in organic matter

Height: 3 to 12 inches

Hardiness: Zone 4

Spacing: 9 to 12 inches in rows 6 to 9 inches apart

Flower: Blue to purple, borne on upright stems

Remarks: Perennial in West Virginia; fast growing, can become a pest; varieties available with dark green, bronze or variegated foliage; quite effective when in bloom, good carpet of green; sometimes listed as *Ajuga reptans*

Botanical Name: *Convallaria majalis*

Common Name: Lily-of-the-Valley

Soil: pH 4.5 to 6.0, moist, well-drained

Height: 8 to 10 inches

Hardiness: Zone 2

Spacing: 9 to 12 inches in rows 6 to 9 inches apart

Flowers: White, waxy, bell-like

Remarks: Herbaceous perennial; foliage dark green, 8 inches long, 3 inches wide, lance shaped; plant 'pips' in the fall; foliage begins to fade in hot weather; spreads slowly; divide periodically; fruit reported to be toxic

Botanical Name: *Cornus canadensis*

Common Name: Bunchberry (Bunchberry Dogwood, Dwarf Cornel, Crackenberry, Puddingberry)

Soil: pH 5.5 to 6.5, cool, moist, well-drained, rich in organic matter

Height: 9 inches

Hardiness: Zone 2

Spacing: 12 inches in rows 9 inches apart

Flowers: White, late spring, showy

Remarks: Evergreen; spreads by creeping roots; foliage dogwood-like; makes a dense cover; does not grow well in warm soils

Botanical Name: *Daphne cneorum*

Common Name: Rose Daphne (Garland Flower)

Soil: pH 5.5 to 7.5; porous, well-drained, rich in organic matter

Height: 6 to 10 inches

Hardiness: Zone 4; roots are killed if soil temperature reaches 20° F (-6° C)

Spacing: 18 inches in rows 14 inches apart

Flowers: Pink to white, fragrant, similar to candytuft blooms, tight clusters

Remarks: Spreading evergreen shrub; transplant in the spring container grown, does not transplant readily; effective when grown with rhododendron or in woody locations

Botanical Name: *Hedera helix*

Common Name: English Ivy

Soil: pH 6.0 to 8.0, moist, well-drained

Height: 9 to 12 inches

Hardiness: Zone 5

Spacing: 12 to 18 inches in rows 9 to 14 inches apart

Remarks: Woody vine; do not allow runners to form the first year of planting; several varieties planted together can be quite effective; *Hedera helix* 'Baltica'—Baltic English Ivy is one of the hardier forms; *H.h.* 'Bulgaria' and *H.h.* 'Thorndale' are the hardiest; other varieties available with varying leaf size; fruit reported to be toxic.

Botanical Name: *Helleborus niger*

Common Name: Christmas Rose (Black Hellebore, Winter Rose)