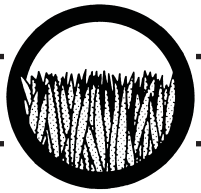
Professional Grounds Management Calendar



Turf

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
ESTABLISHMENT												
FERTILIZATION												
LIMING												
CORING												
THATCH CONTROL												
OVERSEEDING												
RENOVATION												
WEED CONTROL		(Summer Annual Weeds)							(Winter Annual Weeds)			
Preemergence												
Postemergence (grass weeds)												
Summer Broadleaves												
Winter Broadleaves												
DISEASE CONTROL												
Brown Patch												
Dollar Spot												
Pythium Blight												
Melting Out (Leaf Spot)												
INSECT CONTROL												
Armyworms												
Chinch Bugs												
Cutworms												
Mole Crickets												
Sod Webworms												
White Grubs												

Woody Ornamentals

(trees, shrubs, vines)

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
PLANTING Container Grown												
Balled-and-burlapped												
Bare-rooted												
FERTILIZATION Trees												
Shrubs												
Vines/Groundcovers												
PRUNING Spring flowering					after bloom							
Deciduous Summer flowering												
Conifers				candle stage								
Broadleaf Evergreens												
Overgrown shrubs	S. Georgia				N. Georgia							
Mulching												
WEED CONTROL Preemergence		summer annual weeds						winter annual weeds				
Postemergence												
DISEASE CONTROL Azalea leaf gall												
Azalea petal blight												
Crape Myrtle Powdery Mildew												
Dogwood anthracnose (Discula)												
Dogwood spot anthracnose (Elsinoe)												
Dogwood septoria leafspot												
Flowering pear fireblight												
Flowering pear Leafspot												
Maple anthracnose												
Ornamental crabapple Cedar apple rust												

Woody Ornamentals
(trees, shrubs, vines)

DISEASE CONTROL(cont'd)	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Ornamental crabapple Fireblight												
Ornamental crabapple Powdery mildew												
Ornamental crabapple Scab												
Red-tip photinia Entomosporium spot												
Pine needle rust												
Pine needle cast												
Pyracantha fireblight												
Rose black spot												
Rose botrytis												
Rose powdery mildew												
INSECT CONTROL Aphids												
Fall webworm												
Black turpentine beetles (pines)												
Bagworms (cedar, juniper, arborvitae)												
Dogwood borer												
Dogwood twig borer												
Eastern tent caterpillar (orn. crab & cherries)												
Lace bugs												
Leafminers (hollies, azaleas)												
Mealybugs Mites												
Thrips (herbaceous plants)												
Scales												

Herbaceous Ornamentals

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
TIME OF BLOOM*												
Hardy Annuals	- - - - + +	+	+	+	+	+	- - - -			- - - -	- - - -	- - - -
Half-Hardy Annuals			+	+	+	+	- - - -	- - - -	- - - -	+	+	+
Tender Annuals				+	+	+	+	+	+	+	+	+
Perennials	- - - -	- - - +	+	+	+	+	+	+	+	+	- - - -	- - - -
Spring-flowering Bulbs	- - - -	- - - +	+	+	+	+						
Summer-flowering Bulbs					- - - -	+	+	+	+	- - - -		
Fall-flowering Bulbs								+	+	+		
PLANTING TIME												
Hardy Annuals		—	—						—	—	—	
Half-hardy Annuals			—	—					—	—		
Tender Annuals				—	—	—						
Perennials			—	—					—	—	—	—
Spring-flowering Bulbs									—	—	—	
Summer-flowering Bulbs				—	—							
Fall-flowering Bulbs								—	—			
MANAGEMENT												
Fertilization						See Text						
Insect Control				See Woody Ornamentals Section								
Disease Control						See Text						
Weed Control						See Text						
Deadheading						See Text						

* First and last frost dates vary by several weeks across the state. Time of flowering may also vary. Time of flowering shown is for central Georgia. Residents in coastal and extreme north and south Georgia should adjust the dates accordingly. Refer to text for additional comments.

Key to Symbols

C = cool-season turfgrasses
W = warm-season turfgrasses
+++ = peak flowering
--- = reduced flowering or fewer species and varieties at that time of year

Professional Grounds Management



Professional grounds management requires annual, monthly and daily scheduling to ensure optimum growth and landscape beauty. There is only a short time during which preemergence weed control and disease control practices are most effective. Other activities, such as fertilization, are not as precise in their timing; but they are easily forgotten unless scheduled as a reminder.

This publication is a monthly guide for professional managers of commercial, recreational, municipal, institutional or private grounds in Georgia. The calendar can be used as a wall chart, and the accompanying text can help clarify activities listed on the chart. The authors have attempted to make the calendar applicable to all areas of the state, but differences in geographic and climatic conditions throughout the state may alter the schedule plus or minus two weeks.

Your local county extension agent can help you with pest identification, e.g. weeds, insects and diseases, and can provide specific recommendations for control.

Turf

Establishment:

Plant cool-season grasses in the fall at least four to six weeks before the normal first fall temperature date of 32 degrees F. Establish the warm-season grasses when soil temperatures are high enough to trigger spring growth. In both cases, successful establishment begins with proper soil preparation.

Mowing:

Proper mowing involves cutting the grass at the recommended height, cutting it often enough to prevent scalping, and proper mower maintenance. Cut turf often enough to remove no more than one-third of the total leaf surface in a given mowing. If a turf is being cut at 2 inches, mow it when it reaches 3 inches.

Irrigation:

Turfgrass water needs depend on grass species, turf management level, soil type and weather. The most efficient irrigation practice is to water only when the turf shows signs of moisture stress, such as dull bluish-green color. Most turfgrasses require about 1 inch of water per week during active growth. This amount of water in one application should soak the soil to a 6- to 8-inch depth (two ½-inch applications are preferred on sandy soils). The most efficient and effective time to water is after dew has developed or before it is dried by the morning sun. Irrigating during that time will not increase disease problems.

Fertilization:

Depend on soil test analysis to determine the best fertilizer grade, rate and time of application. Generally, turfgrasses require 1 pound of water-soluble nitrogen per 1,000 square feet per month during the growing period. Excess nitrogen will increase leaf and stem growth, which means more frequent mowing. High nitrogen rates also increase water requirements, thatch formation, and possibly insect and disease problems. The recommended annual rates of nitrogen for our turfgrasses are as follows:

Turfgrass	Annual Nitrogen (lbs/1000 sq.ft.)	Turfgrass	Annual Nitrogen (lbs/1000 sq.ft.)
Bermuda	4 to 6	St Augustinegrass	2 to 5
Centipede	1 to 2	Zoysia	2 to 4
Tall fescue	2 to 5		

* Clippings do not contribute to thatch under proper management and do not need to be removed. If they are removed, increase fertilizer application rate by 30%.

Liming:

Apply lime according to soil test recommendations. Fall is the preferred time of application; winter rainfall helps activate the lime in the soil. However, lime can be applied any time.

Coring:

Coring is the best method to reduce soil compaction and improve water penetration. This is best accomplished by using equipment that has hollow or spoon-type tines that remove plugs of soil 2 to 3 inches deep and ½ to ¾ inch in diameter. The cores may be removed or broken up and worked back into the turf by dragging, matting or shattering. Fertilization 10 to 14 days prior to coring increases turf recovery rate.

Thatch Control:

If a thatch layer exceeds a depth of ½ inch in most turfs, it can reduce turf vigor and health. Thatch is most effectively controlled by top-dressing with a ¼-inch layer of topsoil. Thatch can also be reduced by vertical mowing. Vertical mowing should be followed by at least 30 days of good growing conditions. Vertical mowing prior to spring growth increases the rate of green-up. Do not vertical mow during periods of temperature or moisture stress. Time it to not enhance weed germination or preemergence herbicide breakdown.

Overseeding:

Warm-season turfgrasses can be overseeded with cool-season grasses to provide year-long green color. This type of over-seeding is usually done four to six weeks prior to the first fall temperature date of 32 degrees F. Tall fescue can be overseeded in the fall. Overseeding can cause problems for any turf, especially those weak from improper management.

Renovation:

Turfgrass renovation is necessary when a turf declines so far that normal management and cultural practices are not enough to revive the turf. Renovate at the start of the growing season.

Pest Control:

Good lawn management can help reduce pest problems. When pest control is necessary, 1) identify the pest problem; 2) select the chemical recommended to control the pest; 3) be sure the turfgrass will tolerate the chemical; and 4) apply the chemical according to the label recommendations.

WEED CONTROL: Apply **preemergence herbicides** before weed emergence or poor control will result. Recommended dates of application for crabgrass and other annual grasses are February 15 to March 5 in

south Georgia and March 1 to March 20 in north Georgia. Recommended dates for annual bluegrass and selected winter annual broadleaf weeds are September 1 to September 15 in north Georgia and October 1 to October 15 in south Georgia. Apply **postemergence herbicides** to small, actively-growing weeds at air temperatures between 60 degrees F and 90 degrees F. Applications to turf stressed by high temperature or drought increase the possibility of injury and usually cause poor weed control. Altrazine (Aatrex) or simazine (Princep, Wynstar) can be applied to warm-season turfgrasses for preemergence and/or postemergence control of annual blue-grass and selected winter broadleaf weeds from November through February. Avoid all postemergence herbicide applications during spring green-up of warm-season turfgrasses. Refer to the current *Georgia Pest Control Handbook* for more information.

DISEASE CONTROL: The development and maintenance of a healthy, vigorous plant through proper turf management is the best method of disease prevention. Proper fertilization and irrigation are very important disease prevention practices. If a disease is suspected, identification of the disease is needed before treatment can be recommended.

INSECT CONTROL: Very few of the many insects and related species living in a turf cause damage. Some insects, such as white grubs and mole crickets, live in the soil and damage turfgrass roots. Others, such as armyworms, cutworms, sod webworms and chinch bugs, feed on grass leaves and stems by chewing or sucking plant juices. When damage is apparent, an insecticide will probably be needed. Refer to the *Georgia Pest Control Handbook* for specific recommendations.

Woody Ornamentals

Planting:

Container grown ornamentals can be transplanted successfully throughout the year with little transplant shock. **Balled-and-burlapped ornamentals,** on the other hand, are more likely to undergo transplant shock than container grown ornamentals because a large portion of their root system is destroyed in the digging process. They transplant best from early fall to early spring, and they require extra care when transplanted during hot summer months. Many ornamental trees and shrubs are now being produced in fabric bags in the field. Research studies that compare the establishment and subsequent growth of trees and shrubs transplanted in fabric bags to that of balled-and-burlapped plants are currently incomplete. Our current recommendation for plants produced in fabric bags is to handle them much like balled-and-burlapped plants, but remove the fabric from the root ball when transplanting.

Bare-root ornamentals, such as packaged roses, are dug and transplanted during the dormant winter season. When transplanting ornamentals from one location to another in the land-scape, wait until the dormant winter season to transplant them for best results. When planting woody ornamentals, make certain the soil is well-drained and well-prepared to encourage rapid plant establishment and optimum growth. For more information on soil preparation and planting procedures, refer to Georgia Extension Service Bulletin 932, *Soil Preparation and Planting Procedures for Ornamental Trees and Shrubs.*

Fertilization:

The type and quantity of fertilizer should be based on soil test recommendations. If you don't have a soil test, use a fertilizer containing 10% to 16% nitrogen. Analyses such as 12-4-8, 16-4-8, 10-10-10 or 13-13-13 are commonly recommended and available in the trade. For best results, apply a fertilizer with at least 30% to 40% of its nitrogen in the ammoniacal or urea form. These forms of nitrogen are released slowly to the plant and do not leach from the soil as readily as nitrate nitrogen. Generally, 3 to 5 pounds of nitrogen per 1,000 square feet per year are recommended for optimum growth. This quantity is applied on a broadcast basis under the canopy of trees, shrubs and climbing vines or over-the-top of ground covers. Frequency of application depends on vigor and desired growth rate. One application may be sufficient on mature plants, while three to five applications may be required for optimum growth on younger plantings. Begin fertilizing in early March prior to spring growth, and stop fertilizing by the end of August. Be certain to water after applying fertilizers.

Pruning:

Prune deciduous plants during winter when plants are dormant and not actively growing; fewer insects and diseases are present to infect the wound area. Prune **spring-flowering trees and shrubs,** such as forsythia, azalea, flowering quince and dog-wood, after they bloom. Prune deciduous **summer-flowering trees and shrubs,** like crape myrtle, glossy abelia and peegee hydrangea during the dormant winter season before spring growth. Crape myrtle can be forced to form two to three complete flushes of bloom during the growing season by removing the seed clusters when the blossoms fade. **Conifers** (needle evergreens) are best pruned during the candle stage (when the young, vigorous growth is 2 to 6 inches long). Conifers will not tolerate severe pruning and will likely decline or take on a misshapen appearance when cut back to older wood. Many **broadleaf evergreens,** including dwarf Japanese hollies, Chinese hollies, waxleaf ligustrum and boxwood can be sheared during the growing season to maintain a desired formal shape. Frequency of pruning depends on vigor of growth and desired appearance. **Overgrown shrubs** can be renewed by pruning them to within 6 to 12 inches of ground level, but timing is most critical. Renewal pruning of overgrown shrubs should be done from mid-February through April in south Georgia and from mid-March through May in north Georgia. Late fall renewal pruning is likely to induce new growth flush and make the plant more susceptible to winter injury. For more information on pruning time and technique, refer to Georgia Extension Service Bulletin 961, *Pruning Ornamental trees and Shrubs in the Landscape.*

Mulching:

Mulching is one of the most important ground management activities. It helps insulate the roots of ornamental plants from winter freezes and summer heat while minimizing soil-borne foliar diseases and weeds. The type of mulch used depends on availability and cost. Apply mulches 2 to 4 inches thick under the entire canopy of ornamentals. On new plantings, do not apply more than 5 inches of mulch, because it reduces oxygen supply to the root system and encourages the roots to grow into the mulch layer, where they become more susceptible to drought and freeze damage. On previously mulched areas, apply approximately 1 inch of mulch.

Insect Control:

The calendar indicates those months during which major insect pests are most prevalent in landscapes. Insect populations may vary or occur during other months if environmental conditions are conducive to a pest build-up. For specific recommendations, consult the *Georgia Pest Control Handbook.*

Disease Control:

Dates shown indicate the times of year when environmental conditions often favor build-up of the specific diseases on the host plants indicated. Chemical control measures would likely be most effective when applied during the predicted period of optimum disease activity. For more information on diagnosing and controlling diseases on specific ornamental plants, consult the *Georgia Pest Control Handbook.*

Weed Control:

(Woody and Herbaceous Ornamentals)

Two to four inches of mulch maintained on the soil surface will aid in weed suppression. Numerous preemergence and post-emergence herbicides are available for grounds management work. Apply preemergence herbicides before weed emergence or poor control may result. Recommended application dates for crabgrass and other annual grasses are February 15 to March 15 in south Georgia and March 1 to March 20 in north Georgia. Recommended dates for control of winter annual weeds, such as henbit, swinecress and common chickweed are September 1 to September 15 in north Georgia and October 1 to October 15 in south Georgia. Apply fluazifop (Ornamec, Take-Away) or sethoxydim (Vantage) to annual grasses 2 to 8 inches in height or to bermudagrass that is 3 inches tall or has runners 4 to 8 inches long. Refer to the fluazifop or sethozydim labels for instructions for over-the-top or semi-directed applications. Applications of fluazifop or sethoxydim to small, actively growing grasses are more effective than applications to large or drought-stressed grasses. Glyphosate (Roundup) will control most annual weeds less than 12 inches high. For perennial weeds, such as nutsedge, bermudagrass, poison ivy and honeysuckle, applications of glyphosate at flowering or fruiting are more effective than earlier applications. **DO NOT** allow glyphosate to contact the green bark or foliage of ornamentals or severe injury will occur. For more information, refer to Georgia Extension Service Bulletin 842, *Weed Control in Landscape Plantings,* or to the *Georgia Pest Control Handbook.*

Herbaceous Ornamentals

Time of Bloom:

ANNUALS are generally used for single-season color, although some may survive for more than one season. Many so-called annuals are actually tender perennials that are killed by frost. **Hardy annuals** are those that withstand hard freezes and normally overwinter without protection. Pansy is the principal hardy annual grown in Georgia. Hardy annuals are not heat tolerant and usually die in summer. **Half-hardy annuals** are those that withstand some frost but not hard freezes. Examples include Calendula, Flowering Kale and Annual Phlox. Half-hardy annuals frequently overwinter in coastal and extreme southern parts of the state. Most half-hardy annuals are intolerant of high temperatures and tend to slump in summer. **Tender annuals,** often called **summer annuals,** are those which withstand no frost. Examples include Begonia, Impatiens, Marigold, Petunia and Celosia. For more information on annuals, refer to Georgia Extension Service Bulletin 954, *Flowering Annuals for Georgia Gardens.*

PERENNIALS are plants that live for more than two seasons. Examples include Daylily, Iris and Hosta. Some are short-lived, while others may survive many years. Perennials vary in their time of bloom and length of bloom. For more information on perennials, refer to Georgia Extension Service Bulletin 944, *Flowering Perennials for Georgia Gardens.*

BULBS are a special category of perennials that produce specialized underground storage organs. The term "bulb" is used to include corms, tubers and rhizomes. **Spring-flowering bulbs** include Tulip, Hyacinth and Daffodil. Many other less common bulbs, e.g. Crocus, Scilla and Grape Hyacinth, are also well-adapted for Georgia; the so-called minor bulbs extend the flowering season, some blooming as early as January. Flowers of nearly all spring-flowering bulbs are frost tolerant and often freeze tolerant. **Summer-flowering bulbs** include Canna, Caladium and Agapanthus. Some summer-flowering species (e.g. Canna) flower over a long period of time, often until frost kills them in the fall. **Fall-flowering bulbs** include Colchicum, Autumn Crocus and Sternbergia. They usually bloom for a short time but are valued because of their time of bloom. For more information on bulbs, refer to Georgia Extension Service Bulletin 918, *Flowering Bulbs for Georgia Gardens.*

Planting Time:

ANNUALS are planted at different times of year according to their hardiness. **Hardy annuals** may be planted in fall or early spring. Fall planting allows time for more extensive root development before peak flowering in the spring and may also provide some color during the fall and winter months. **Half-hardy annuals** are planted in early spring or early fall. **Tender annuals** should not be planted until after the last killing frost. Earlier plantings may be injured by frost and usually grow slowly until the soil warms. Later plantings may continue into August.

PERENNIALS are usually planted in early spring or late fall when the plant is dormant. The exact planting time varies by species. Container grown plants extend the planting season but, in all cases, perennials should be set before vigorous growth begins. Spacing varies with species and variety.

BULBS should be planted or transplanted when dormant. They should be planted in well-prepared soils; good drainage is essential. Spacing varies from a few inches to a foot or more, depending on species and desired landscape effect. **Spring-flowering bulbs** should be planted in the fall. Such bulbs are harvested in late summer and become available in late September or early October. Spring-flowering bulbs can be planted as late as mid-December in most areas, although October-November plantings are preferable. Many **summer-flowering bulbs** are not winter hardy statewide and should not be planted until after the danger of frost has passed and the soil has warmed. Such bulbs should be dug when frost kills the tops in fall, stored indoors, and replanted the next spring. **Fall-flowering bulbs** should ideally be planted in late August or early September. Later plantings may not flower the first year. Fall-flowering bulbs are winter hardy.

Management:

Herbaceous ornamentals generally have more intensive management requirements than most woody ornamentals. Fertilization, pest control, weed control and deadheading (removal of spent blossoms) are routine management practices necessary to ensure optimum growth and abundant flowering.

Fertilization:

Fertilize annuals at planting and at approximately six- to eight-week intervals throughout the growing season when using an ordinary garden fertilizer like 10-10-10; slow-release fertilizers lessen the frequency of fertilization. Also fertilize perennials at planting and at least once a year thereafter, usually when the plant is in active growth. Bulbs are fertilized at planting and at least once each year thereafter, when the bulbs start to produce foliage. For more information on fertilization of herbaceous ornamentals, refer to these Georgia Extension Service publications: Bulletin 954, *Flowering Annuals for Georgia Gardens;* Bulletin 944, *Flowering Perennials for Georgia Gardens;* Bulletin 918, *Flowering Bulbs for Georgia Gardens.*

Insect Control:

Many insects common to woody ornamentals attack herbaceous ornamentals. Aphids, thrips and Japanese beetles are most prevalent. Related pests, such as spider mites and slugs, are sometimes problems. Identify the pest, then consult the *Georgia Pest Control Handbook* for appropriate control measures.

Disease Control:

Good sanitation practices and planting of healthy, disease-free plants lessen the likelihood of crown rot and other root rot diseases. Aside

from these soil-borne diseases, botrytis, powdery mildew and leaf spots are the principal diseases seen in the landscape. Consult the *Georgia Pest Control Handbook* for recommendations. Diagnosis and recommendations are also available through the Plant Disease Clinic on campus and the Digital Diagnostics program; contact your county extension agent for details.

Weed Control:

(See also Woody Ornamentals, Weed Control)

When possible, plant in weed-free beds. Fumigation is practical in many situations and may also help in insect, disease and nematode control. Some preemergence and postemergence herbicides are approved for use with certain herbaceous plants, but often no herbicide exists for specific weed problems. In many instances, hand-weeding is necessary. Mulching helps control weeds but must be used with discretion on many herbaceous plants. Thick, heavy mulches increase the incidence of crown rot in many perennials. Thick mulches may also provide habitats for rodents, which frequently damage bulbs. For more information on chemical weed control in herbaceous plants, refer to Georgia Extension Service Bulletin 842, *Weed Control in Landscape Plantings,* or the *Georgia Pest Control Handbook.*

Deadheading:

Deadheading refers to the removal of old flowers after bloom. Deadheading prevents seed formation, enhances appearance and helps maintain plant vigor. Broken stems and flowers should be removed as required. Remove the tops of perennials after frost kills them in fall or early winter; a few perennials retain evergreen foliage throughout the winter. Don't remove foliage of bulbs until it dies naturally, with the exception of those bulbs used as only a one-time color display. In this case, remove the entire bulb as soon as the color display is over.

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