

TURF GRASS AND WEED CONTROL

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BEFORE WE BEGIN

- GET A SOIL TEST
- ESTABLISH A SCHEDULE AND STICK TO IT
- ADAPT AND ADJUST
- CONSISTENT
- PERSEVERE

INTRODUCTION

- TYPES OF TURF PLANTED IN CENTRAL TEXAS
- MOST COMMON TYPES OF TURF IN BELL COUNTY
- HOW TO CARE FOR AND MAINTAIN YOUR TURF
- MOST COMMON WEEDS FOUND IN CENTRAL TEXAS
- WEED CONTROL MEASURES

WARM SEASON GRASSES

- BERMUDAGRASS
- BUFFALOGRASS
- CENTIPEDEGRASS
- ST. AUGUSTINEGRASS
- ZOYSIAGRASS

MOST COMMON TYPES

- BERMUDAGRASS
- ST. AUGUSTINEGRASS
- ZOYSIAGRASS

BERMUDAGRASS

- A WARM-SEASON TURFGRASS THAT SPREADS Laterally by stolens and rhizomes. It is found in Australia, Africa, South America, and the United States. It grows well in almost all soil types and resists drought. It has a coarse leaf texture and a low, dense growth habit.
- EXTREMELY DROUGHT-HARDY, DURABLE, AND VERSITILE TURFGRASS THAT CAN BE USED IN MANY SETTINGS:
 - GOLF COURSES
 - ATHLETIC FIELDS
 - HOME LAWNS
 - UTILITY TURF

VARIETIES

VEGETATIVELY PROPAGATED

- BABY
- CELEBRATION
- DISCOVERY
- TEXAS NATIVE
- TIFTON 10
- TIFSPORT
- TIFWAY 419

SEEDED

- ARIZONA COMMON
- BARBADOS
- JACKPOT
- MIRAGE 2
- SOUTHERN STAR
- SUNSPOT
- VERACRUZ

BERMUDAGRASS

PROS

- DROUGHT TOLERANCE
- HEAT TOLERANCE
- DEEP ROOTING
- DURABILITY
- GOOD RECUPERATIVE POTENTIAL
- RAPID ESTABLISHMENT RATE
- LOW DISEASE POTENTIAL
- AVAILABLE AS SEED OR SOD

CONS

- INVASIVE – CREEPS INTO FLOWER BEDS
- SHADE TOLERANCE
- FREQUENT MOWING REQUIREMENT
- MODERATE TO HIGH FERTILIZATION REQUIREMENT

GENERAL MAINTENANCE & CARE

- BEGIN MOWING IN THE SPRING WHEN THE GRASS BEGINS TO TURN GREEN.
- MOW AT 1-2 INCHES FOR COMMON BERMUDAGRASS AND 1 AND A HALF FOR HYBRID VARIETIES.
- NOTE: MOW HIGHER TO SHADE OUT WEEDS AND OBTAIN A FULLER APPEARANCE.
- IT IS BEST NOT TO BAG GRASS CLIPPINGS. THEY DECOMPOSE QUICKLY AND RETURN NUTRIENTS TO THE SOIL. IF YOU DO BAG CLIPPINGS, THEY ARE AN EXCELLENT SOURCE OF NITROGEN FOR COMPOSTING.

FERTILIZING

- DO A SOIL TEST TO DETERMINE HEALTH OF YOUR SOIL.
- FERTILIZE (ACCORDING TO SOIL TEST ANALYSIS) IN SPRING AFTER THE THIRD MOWING.
- IF NO SOIL TEST IS DONE, USE A COMPLETE FERTILIZER WITH A 3-1-2 RATIO OF NITROGEN, PHOSPHORUS AND POTASSIUM. EXAMPLE (15-5-10, 21-7-14, ETC).
- APPLY 1 POUND OF SOLUBLE NITROGEN PER 1,000 SQ FT OF LAWN EVERY 4-6 WEEKS

THE FORMULA

- TO DETERMINE THE AMOUNT OF FERTILIZER TO APPLY TO EQUAL 1 POUND OF NITROGEN PER 1,000 SQ FT, DIVIDE 100 BY THE FIRST NUMBER IN THE FERTILIZER ANALYSIS:
- IF USING A 15-5-10 FERTILIZER, 6.6 POUNDS OF FERTILIZER PER 1,000 SQ FT WILL BE NEEDED.
 - 100 divided by 15 = 6.6
- IF YOUR LAWN IS 5,000 SQ FT: $6.6 \times 5 = 33$ POUNDS OF FERTILIZER

WATERING

- WATER ONLY WHEN THE GRASS NEEDS IT. WET THE SOIL TO A DEPTH OF 6 INCHES.
- DO NOT WATER AGAIN UNTIL THE GRASS SHOWS SYMPTOMS OF DROUGHT STRESS; USUALLY IN 5 – 10 DAYS (DEPENDING ON WEATHER)

HOW LONG TO WATER

- SET OUT 5 OR 6 CANS RANDOMLY AROUND THE LAWN (TUNA CANS).
- TURN ON SPRINKLERS OR IRRIGATION SYSTEM FOR 30 MINUTES.
- MEASURE THE DEPTH OF WATER IN EACH CAN.
- CALCULATE THE AVERAGE DEPTH OF WATER FROM ALL THE CANS.
- ADD DEPTH IN ALL CANS AND DIVIDE BY TOTAL NUMBER OF CANS – THIS WILL GIVE YOU THE AVERAGE DEPTH OF ALL CANS.

CONT'D

- USE A GARDEN SPADE TO FIND OUT HOW DEEPLY THE SOIL WAS WET DURING THE 30 MINUTE PERIOD.
- NOW YOU KNOW HOW MUCH WATER WAS APPLIED IN 30 MINUTES AND HOW DEEPLY THAT VOLUME OF WATER WET THE SOIL.
- IF THE SPRINKLERS SPRAYED 0.5 INCH OF WATER IN 30 MINUTES AND WET THE SOIL TO A DEPTH OF 3 INCHES, YOU WILL NEED TO APPLY 1 INCH OF WATER TO WET THE SOIL TO A DEPTH OF 6 INCHES. YOU MUST WATER FOR 1 HOUR TO OBTAIN THESE RESULTS.

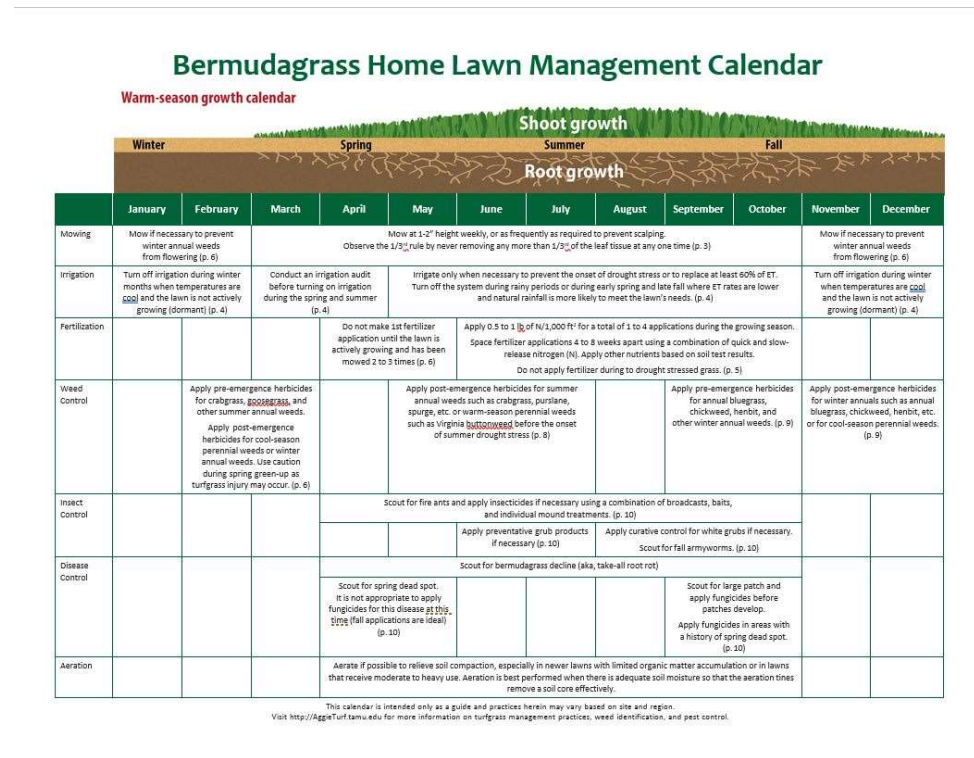
WEED CONTROL

- THE BEST FORM OF WEED CONTROL IS A HEALTHY, DENSE, ACTIVELY GROWING LAWN.
- APPLY PREEMERGENT HERBICIDES IN SPRING WHEN THE SOIL TEMPERATURE REACHES 55F.
- APPLY POSTEMERGENT HERBICIDES WHEN WEEDS ARE PRESENT AND THE GRASS IS HEALTHY AND ACTIVELY GROWING.
- CONTROL BROADLEAF WEEDS WITH HERBICIDES THAT CONTAIN 2,4-D AND/OR DICAMBA.
- WEED CONTROL IS MOST EFFECTIVE IF YOU APPLY HERBICIDE WHEN THE WEEDS ARE VERY SMALL.

IMPORTANT

- ALWAYS READ THE PRODUCT LABEL CAREFULLY.
- FOLLOW ALL INSTRUCTIONS.
- ENSURE THE HERBICIDE IS RIGHT FOR THE WEEDS YOU HAVE AND THAT IT DOES NOT DAMAGE THE TURF.

MONTHLY SCHEDULE OF TASKS



Slide 17

GMO WATER DORMANT BERMUDAGRASS IF THE WEATHER IS WARM, DRY, AND WINDY.
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ST. AUGUSTINEGRASS

- A COURSE-TEXTURED, WARM-SEASON TURFGRASS POPULAR FOR HOME LAWNS IN TEXAS ANLD THROUGHOUT THE SOUTHERN UNITED STATES. IT SPREADS LATERALY BY ABOVE GROUND GROWTH CALLED STOLONS.
- IT IS CONSIDERED TO BE THE MOST SHADE-TOLERANT WARM-SEASON GRASS.
- GROWS BEST IN WARM TEMPERATURES RANGING FROM 80 TO 95F AND WILL BECOME BROWN OR OFF-COLORED DURING WINTER DORMANCY.

VARIETIES

- RALEIGH
- SEVILLE
- PALMETTO
- FLORATAM

ST. AUGUSTINEGRASS

PROS

- SHADE TOLERANCE
- MODERATE DROUGHT TOLERANCE
- DEEP ROOTING POTENTIAL
- RAPID ESTABLISHMENT RATE
- ESTABLISHED USING SOD, SPRIGS, AND PLUGS

CONS

- MANY VARIETIES DO NOT TOLERATE COLDER WEATHER AND TRAFFIC AS WELL AS OTHER WARM-SEASON TURFGRASSES
- SUSCEPTIBLE TO DISEASES SUCH AS LARGE PATCH, GRAY LEAF SPOT, AND TAKE-ALL ROOT ROT
- SUSCEPTIBLE TO CHINCH BUGS
- CURRENTLY, SEED IS NOT

GENERAL MAINTENANCE & CARE

- BEGIN MOWING AS SOON AS THE GRASS BEGINS TO GREEN UP IN THE SPRING.
- REMOVE NO MORE THAN ONE-THIRD OF THE LEAF AREA WITH ANY ONE MOWING.
- SET MOWING HEIGHT AT 2 ½" – 3"
- IT IS BEST NOT TO BAG GRASS CLIPPINGS. THEY DECOMPOSE QUICKLY AND RETURN NUTRIENTS TO THE SOIL. IF YOU DO BAG CLIPPINGS, THEY ARE AN EXCELLENT SOURCE OF NITROGEN FOR COMPOSTING.

FERTILIZATION

- BEGIN FERTILIZING 3 WEEKS AFTER THE GRASS TURNS GREEN AND WHEN THERE IS LITTLE CHANCE OF LAST FROST.
- APPLY $\frac{3}{4}$ TO 1 LB OF SOLUBLE NITROGEN PER 1,000 SQ. FT. EVERY 8 WEEKS, OR 1 TO 1 $\frac{1}{2}$ LBS OF SLOW-RELEASE NITROGEN EVERY 10 WEEKS .
- HAVE YOUR SOIL TESTED TO DETERMINE WHAT ADDITIONAL NUTRIENTS YOUR LAWN MAY NEED.

THE FORMULA

- SEE PREVIOUS SLIDES FOR BERMUDAGRASS.
- TO DETERMINE THE AMOUNT OF FERTILIZER TO APPLY TO EQUAL 1 POUND OF NITROGEN PER 1,000 SQ FT, DIVIDE 100 BY THE FIRST NUMBER IN THE FERTILIZER ANALYSIS:
 - IF USING A 15-5-10 FERTILIZER, 6.6 POUNDS OF FERTILIZER PER 1,000 SQ FT WILL BE NEEDED.
 - $100 \text{ divided by } 15 = 6.6$
- IF YOUR LAWN IS 5,000 SQ FT: $6.6 \times 5 = 33$ POUNDS OF FERTILIZER

WATERING

- SEE PREVIOUS SLIDES FOR BERMUDAGRASS
- NOTE: ST. AUGUSTINE USUALLY REQUIRES MORE MOISTURE THAN OTHER WARM-SEASON GRASSES.

WEED CONTROL

- SEE PEVIOUS SLIDES FOR BERMUDAGRASS

IMPORTANT

- ALWAYS READ THE PRODUCT LABEL CAREFULLY.
- FOLLOW ALL INSTRUCTIONS.
- ENSURE THE HERBICIDE IS RIGHT FOR THE WEEDS YOU HAVE AND THAT IT DOES NOT DAMAGE THE TURF.

MONTHLY SCHEDULE OF TASKS

St. Augustinegrass Home Lawn Maintenance Calendar

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The Texas A&M University System



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This calendar serves as a general guide and practices may vary depending on environmental conditions

| Warm-season growth calendar | | Shoot growth | | | | | | | | | | | |
|-----------------------------|--|--------------|--|-------|--|------|------|--|---|---------|--|----------|--|
| | | Spring | | | Summer | | | | | | Fall | | |
| | | Root growth | | | | | | | | | | | |
| | January | February | March | April | May | June | July | August | September | October | November | December | |
| Establishment | The best time to establish warm-season grass is during active growth periods. | | | | | | | | | | | | |
| Mowing | Mow, if necessary, to prevent winter annual weeds from flowering. | | Mow at 2 to 4" weekly, or as frequently as necessary to prevent scalping. Never remove more than 1/3 of the leaf tissue at one time. | | | | | | Mow, if necessary, to prevent winter annual weeds from flowering. | | | | |
| Fertilization | | | Make the first fertilizer application when the lawn is actively growing and has been mowed at least two times. | | Apply 0.5 to 1 lb. of nitrogen/1000 ft ² 1 to 4 times during the growing season with a combination of quick- and slow-release fertilizer. Do not exceed 4 lbs N/1000 ft ² per year. Do not apply fertilizer to a stressed grass. Make the last application of nitrogen 4 to 6 weeks before the first historic frost. Apply other nutrients based on soil test results. | | | | | | Depending on the part of the state, fertilizer may be continued to be applied. Make the last application of nitrogen 4 to 6 weeks before the first historic frost. | | |
| Aerification | Aerate to relieve soil compaction, especially in new lawns with limited organic matter or in lawns that are moderately or heavily used. Aeration is best performed when there is adequate soil moisture. | | | | | | | | | | | | |
| Thatch removal | Remove problematic thatch using hollow-tine aerification, a vertical mower, or a power rake. Thatch at 0.5 to 1" depth can begin to impede water infiltration and harbor disease and insects. | | | | | | | | | | | | |
| Weed Control | Apply pre-emergence herbicides when soil temperatures reach approximately 55°F for 4 to 5 consecutive days for the prevention of summer annual weeds (i.e., crabgrass, goosegrass). | | | | Apply post-emergence herbicides as needed for summer annual and perennial weeds. | | | Apply pre-emergence herbicides when soil temperatures reach approximately 70°F for 4 to 5 consecutive days for the prevention of select winter annual weeds (i.e., annual bluegrass, henbit, ricegrass). | | | Apply post-emergence herbicides as needed for the control of winter annual and perennial weeds. | | |
| Irrigation | Turn off irrigation during winter months when turfgrass is not actively growing. | | Complete the "Water-Wise Checklist" before turning irrigation on for the spring and summer. | | Irrigate only when necessary to prevent wilting or to replace at least 60% of evapotranspiration. Do not irrigate during rainy periods or early spring and late fall when natural rainfall is more likely to meet the lawn's needs. | | | | | | Turn off irrigation during winter months when turfgrass is not actively growing. | | |
| Insect Control | Apply preventative white grub products, if necessary. Scout for fall armyworms. Scout for chinch bugs and apply insecticide, if necessary. Scout for take-all root rot and gray leaf spot. | | | | | | | | | | | | |
| Disease Control | Apply preventative fungicide products for large patch disease (<i>Rhizoctonia solani</i>) in areas with a history of disease development when soil temperatures are between 55-70°F. | | | | | | | | | | | | |

*Visit aggieturf.tamu.edu for more information on weed identification and control in turfgrass lawns.

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ZOYSIAGRASS

- ZOYSIAGRASS IS A WARM-SEASON, COARSE-TEXTURED GRASS NATIVE TO CHINA, JAPAN, AND OTHER PARTS OF SOUTHEAST ASIA.
- IT IS A SOD-FORMING PERENNIAL SPECIES THAT POSSESSES BOTH STOLONS AND RHIZOMES.
- IT TURNS BROWN AFTER THE FIRST HARD FROST AND IS AMONG THE FIRST WARM-SEASON GRASSES TO GREEN UP IN THE SPRING.
- USED ON GOLF COURSES, PARKS, ATHLETIC FIELDS, AND AS A HOME LAWN.

SPECIES

- ZOYSIA MATRELLA (MANILLA GRASS) HAS A FINER LEAF TEXTURE THAN Z. JAPONICA , IS LESS COLD TOLERANT, AND GROWS MORE SLOWLY. IT IS OFTEN USED IN AREAS WHERE A HIGH QUALITY AND HIGH MAINTENANCE TURF IS DESIRED.
- ZOYSIA JAPONICA (JAPANESE LAWN GRASS/KOREAN LAWN GRASS – MORE COLD HARDY THAN ZOYSIA MATRELLA) THE ONLY SPECIES THAT CAN BE ESTABLISHED FROM SEED
- ZOYSIA TENUIFOLIA (KOREAN VELVET GRASS) A FINE TEXTURED GRASS THAT IS THE LEAST COLD TOLERANT OF THESE GRASSES.

ZOYSIAGRASS VARIETIES

- MEYER
- BELAIR
- EL TORO
- EMERALD

ZOYSIAGRASS

- PROS
- HIGHLY VERSATILE
- CAN BE GROWN IN ALL KINDS OF SOILS RANGING FROM SANDS TO CLAYS AND BOTH ACIDIC AND ALKALINE
- EXTREMELY DROUGHT TOLERANT – TOLERATES MODERATE SHADE
- THE MOST TRAFFIC TOLERANT TURFGRASS
- HAS A DEEP ROOT SYSTEM
- CONS
- DOES NOT PERFORM WELL IN COOLER CLIMATES UNDER SHADE
- SIMILAR WATER REQUIREMENTS AS BERMUDAGRASS
- SLOW RATE OF GROWTH
- POOR RECUPERATIVE POTENTIAL
- ONLY ONE SPECIES (JAPONICA) CAN BE ESTABLISHED FROM SEED

GENERAL MAINTENANCE & CARE

- CLOSE, FREQUENT MOWING PRODUCES THE FINEST ZOYSIAGRASS TURF.
- ON LAWNS GROWING IN FULL SUN, ZOYSIAGRASS MAY BE MOWED AT A HEIGHT OF 1 TO 2 INCHES EVERY 5 TO 7 DAYS. LESS FREQUENT MOWING AT THESE HEIGHTS RESULTS IN SCALPING AND POOR-QUALITY TURF.
- IN SHADED SITES, LAWNS TEND TO BUILD UP A THATCH LAYER; A LAYER OF UNDECOMPOSED ORGANIC RESIDUE JUST ABOVE THE SOIL SURFACE.

THATCH REMOVAL

- USE VERTICLE MOWERS OR FLAIL MOWERS TO REMOVE EXCESS THATCH.
- REMOVE THATCH BEFORE FALL TO ALLOW AMPLE TIME FOR REGROWTH.
- SCALPING THE LAWN IN EARLY SPRING TO REMOVE ACCUMULATED GROWTH WILL ALSO HELP PREVENT THATCH ACCUMULATION.

OTHER CONSIDERATIONS

- TO MAINTAIN GROWTH, PROVIDE A MINIMUM OF 1 INCH WATER PER WEEK DURING SUMMER. APPLY 2 OR 3 TIMES PER WEEK DEPENDING ON TEMPERATURE AND SOIL CONDITIONS.
- ZOYSIAGRASS IS RELATIVELY FREE OF PEST PROBLEMS.
- BROWNPATCH, RUST AND LEAF SPOT DISEASES CAN CAUSE PROBLEMS IN THE TURF, BUT IT USUALLY RECOVERS WHEN ENVIRONMENTAL CONDITIONS CHANGE. APPLY FUNGICIDES IN THE FALL FOR PREVENTION.
- MONITOR THE SOIL FOR WHITE GRUB INFESTATIONS.

- WHEN FERTILIZING, USE A 1-2-1 FORMULA AT A RATE OF 1 POUND OF NITROGEN PER 1,000 SQ FT. OF AREA.
- DURING DRY MONTHS OF WINTER, WATER OCCASIONALLY TO PREVENT SERIOUS LOSS OF STAND EVEN THOUGH THE GRASS MAY BE DORMANT.
- FOLLOW THE “ONE THIRD” RULE WHEN MOWING ALL TURFGRASSES.
- CLOSE, FREQUENT MOWING PRODUCES THE FINEST ZOYSIAGRASS TURF.
- IN SHADED AREAS, MOW SLIGHTLY HIGHER THAN RECOMMENDED FOR LAWNS IN FULL SUN.

LAWN FERTILIZATION IN TEXAS

- TOTAL NITROGEN REQUIRED
(Lb/1,000 SQ FT/YEAR)

- 5-7

- 4-6

- 3-5

- 2-5

- GRASS VARIETY

- HYBRID BERMUDAGRASS
(TIFWAY,TIFGREEN, TIFDWARF)

- COMMON BERMUDAGRASS

- ZOYSIAGRASS

- ST. AUGUSTINEGRASS

WEED ID & CONTROL

WHAT IS A WEED

- A WEED IS ANY PLANT THAT IS GROWING WHERE YOU DON'T WANT IT.
- IF YOU DIDN'T PLANT IT; IT'S PROBABLY A WEED.
- IT REPRODUCES AND SPREADS EASILY.
- COMPETES WITH DESIREABLE PLANTS FOR SPACE, LIGHT AND NUTRITION.
- WEED SEEDS LIE DORMANT AND GERMINATE WHEN ENVIRONMENTAL CONDITIONS ARE FAVORABLE.
- SEEDS MAY BE WINDBLOWN, SPREAD BY BIRDS, AND FOUND IN IMPORTED SOIL.

WEEDS OF TEXAS TURF

- **REFER TO HANDOUT “A HOMEOWNER’S GUIDE TO HERBICIDE SELECTION FOR WARM-SEASON TURFGRASS LAWNS.”**
- **REFER TO HANDOUT “EARTH-WISE GUIDE TO WEEDS”**
- PROPER WEED IDENTIFICATION
- PROPER TURFGRASS IDENTIFICATION
- DETERMINE WHETHER TO USE PREEMERGENCE OR POST EMERGENCE PRODUCT

WEED CLASSIFICATION

- BROADLEAF WEEDS: NETLIKE VEINS AND USUALLY SHOWY FLOWERS.
- GRASSY WEEDS: PARALLEL (STRIPED) VEINS THAT TYPICALLY DO NOT HAVE SHOWY FLOWERS. MANY TEND TO GROW IN CLUMPS.
- SEDGES: SIMILAR TO GRASSES. USUALLY HAVE SOLID, TRIANGULAR STEMS AND A THREE-RANKED LEAF ARRANGEMENT.

BROADLEAF WEEDS

- CARPETWEED
- SPOTTED SPURGE
- TEXAS THISTLE
- DOLLARWEED
- CAROLINA DICHONDRA
- CAROLINA-GERANIUM
- DANDELION
- WHITE CLOVER

BROADLEAF WEEDS

- FILAREE
- HENBIT
- HORSEWEED, PIGWEED
- PRUSLANE
- RAGWEED
- SHEPERDSPURSE
- SHOWY-EVENING-PRIMROSE

GRASSES AND GRASS-LIKE WEEDS

- ANNUAL BLUEGRASS
- ANNUAL RYEGRASS
- DALLISGRASS
- GOOSEGRASS
- JOHNSONGRASS
- LARGE CRABGRASS
- RESCUEGRASS
- SANDBUR
- KING RANCH (KR) BLUESTEM

GRASSES AND GRASS-LIKE WEEDS

- SMOOTH CRABGRASS
- SMUTGRASS
- SPOTTED SPURGE
- TEXAS THISTLE
- VETCH
- WILD ONION
- ANNUAL SEDGE
- PURPLE NUTSEGE

HERBICIDES FOR GENERAL CONTROL OF GRASSY AND BROADLEAF WEEDS

- PREEMERGENT: CONTROL OF ANNUAL AND PERENNIAL WEEDS. MAY BE APPLIED IN SPRING AS WELL AS FALL.
- POST EMERGENT: CONTROL OF ESTABLISHED WEEDS WHILE THEY ARE ACTIVELY GROWING.

HERBICIDES FOR GENERAL CONTROL OF GRASSY AND BROADLEAF WEEDS

- APPLY PREEMERGENT IN SPRING WHEN SOIL TEMPS ARE 55F AT A DEPTH OF 2 INCHES. USUSALLY WHEN DAY TEMPS ARE 55F FOR 3 – 5 DAYS.
- APPLY IN FALL (SEPT – OCT) TO CONTROL ANNUAL BLUEGRASS AND LAWN BURWEED. APPLY WHEN SOIL TEMP IS 70F.
- PREEMERGENT HERBICIDES: APPLIED BEFORE WEEDS EMERGE. BEFORE THEY GERMINATE. DOES NOT KILL WEED SEEDS.

-

HERBICIDES, CONT'D

- PREEMERGENT HERBICIDES HAVE NO EFFECT ON WEED SEEDS.
- PREVENTS GERMINATED WEED SEEDLINGS FROM BECOMING ESTABLISHED; EITHER BY INHIBITING GROWTH OF THE ROOT, THE SHOOT, OR BOTH.
- PREEMERGENT HERBICIDES MUST BE WATERED INTO THE SOIL, AND BE PRESENT, WHEN THE WEED SEEDS ARE GERMINATING TO BE EFFECTIVE.

HERBICIDES, CONT'D

- APPLIED THROUGH A ROTARY OR DROP SPREADER.
- OR MIXED WITH WATER AND APPLIED THROUGH A SPRAYER.
- AFTER THEY ARE WATERED IN, THE HERBICIDE MOLECULES REMAIN IN THE UPPER LAYER OF SOIL AND CONTROL WEEDS THAT GERMINATE FROM SEED. PREEMERGENT IS VIABLE FOR ABOUT 8-12 WEEKS, DEPENDING ON ENVIRONMENTAL CONDITIONS.

- IF YOU PLAN TO SEED, DO NOT APPLY A PREEMERGENCE HERBICIDE WITHOUT FIRST CHECKING THE LABEL FOR THE APPROPRIATE RESEEDING INTERVAL.
- IN GENERAL, APPLY THESE HERBICIDES ONLY TO WELL-ESTABLISHED TURFGRASS. READ THE LABEL.
- AS THE HERBICIDE REMAINS IN THE SOIL, SOIL MICROBES AND OTHER PROCESSES SLOWLY BREAK IT DOWN INTO NON-HERBICIDE METABOLITES.
- AFTER SEVERAL WEEKS OF DEGRADATION, THE HERBICIDE IS USUALLY NO LONGER EFFECTIVE.

- MOST PREEMERGENCE HERBICIDES PROVIDE SUITABLE CRABGRASS AND OTHER GRASSY AND BROADLEAF WEED CONTROL. SEE “WEED, INSECT, AND DISEASE CONTROL” HANDOUT”).
- GERMINATION TYPICALLY OCCURS IN LATE WINTER (FEBRUARY TO MID-MARCH), BUT VARIES FROM YEAR TO YEAR, BASED ON TEMPERATURE, RAINFALL, AND LOCATION.
- CRABGRASS GERMINATION USUALLY BEGINS WHEN THE SOIL TEMPERATURE AT A 2-INCH DEPTH REACHES 55F FOR AT LEAST 3 DAYS.
- SOME PREEMERGENCE HERBICIDES CAN PROVIDE EARLY POSTEMERGENCE CONTROL OF SMALL CRABGRASS PLANTS.

IF YOU CANNOT MAKE AN APPLICATION BEFORE CRABGRASS GERMINATION:

- USE DITHIOPYR (SUCH AS DIMENSION) AND PRODIAMINE + SULFENTRAZONE (ECHELON) TO CONTROL CRABGRASS UP TO THE 4 – 5 LEAF STAGE.
- INDAZILAM (SPECTRACIDE) CAN CONTROL CRABGRASS AT THE 2-LEAF STAGE OR SMALLER.

SOME TRADE NAMES

- DIMENSION
- SPECTRICIDE
- GALLERY
- ANDERSON'S CRABGRASS/GOOSEGRASS CONTROL
- PENDULUM
- BARRICADE
- ECHELON

POSTEMERGENCE HERBICIDES

- READ THE PRODUCT LABEL TO CONFIRM THE HERBICIDE IS NOT HARMFUL TO YOUR TYPE OF LAWN.
- EFFECTIVE WHEN APPLIED AFTER THE WEED HAS EMERGED AND ACTIVELY GROWING. CAN BE USED TO CONTROL ANNUAL AND PERENNIAL WEEDS.
- MORE EFFECTIVE WHEN APPLIED EARLIER IN A TARGET WEED'S LIFE CYCLE.
- EFFECTIVE WHEN LEAF CONTACT IS MADE AND IS ABSORBED INTO THE PLANT.
- MOST OFTEN MIXED WITH WATER AND APPLIED THROUGH A SPRAYER. A SURFACANT MAY BE BENEFICIAL TO ENSURE HERBICIDE DROPLETS REMAIN ON THE LEAF SURFACE AND ABSORBED THROUGH THE LEAF.

- APPLY TO HEALTHY, ACTIVELY GROWING TURFGRASS AT THE RATE INDICATED ON THE PRODUCT LABEL.
- FOLLOW THE LABEL DIRECTIONS AS TO THE APPROPRIATE ENVIRONMENTAL CONDITIONS FOR APPLICATION.
- PRODUCTS CONTAINING 2,4-D AND OTHER CHEMICALS MAY BE BANNED IN YOUR COUNTY.
- WARM-SEASON TURFGRASSES ARE GENERALLY MOST SUSCEPTIBLE TO INJURY IN EARLY SPRING AND LATE FALL, WHEN THE WEATHER IS COOL AND THEY ARE EMERGING FROM OR ENTERING DORMANCY.

ACTIVE INGREDIENTS IN PREEMERGENCE HERBICIDES

- CORN GLUTEN MEAL
- DITHIOPYR
- PRODIAMINE
- ORYZALIN
- GRASSES – NOT VERY EFFECTIVE
- GRASSES/BROADLEAF WEEDS – CAN PROVIDE SOME EARLY POSTEMERGENT CRABGRASS CONTROL
- BROADLEAF WEEDS – ACTIVATED BY RAINFALL OR IRRIGATION
- GRASSES/BROADLEAF WEEDS

ACTIVE INGREDIENTS IN POSTEMERGENCE HERBICIDES

COMMON NAME

- 2,4-D
- ATRAZINE
- DICAMBA

WEED CONTROLLED

- BROADLEAF WEEDS-MAY INJURE BUFFALO, ST. AUGUSTINE, CENTIPEDEGRASS
- GRASSY WEEDS, BROADLEAF WEEDS- MAY INJURE BERMUDAGRASS
- BROADLEAF WEEDS- ABSORBED BY ROOTS: MAY INJURE ST. AUGUSTINE, BUFFALO, CENTIPEDE

ACTIVE INGREDIENTS IN POSTEMERGENCE HERBICIDES

COMMON NAME

- MSMA
- MSMA + 2,4-D + DICAMBA
- QUINCLORAC + 2,4-D + DICAMBA

WEED CONTROLLED

- SOME GRASSY AND BROADLEAF WEEDS
- GRASSY AND BROADLEAF WEEDS
- MANY BROADLEAF WEEDS

SOME TRADE NAMES


- IMAGE
- TRIMEC PLUS
- QUINCEPT
- SPECTRACIDE
- LAST CALL
- TENACITY

GOOD “CULTURAL CONTROL” MEANS ADOPTING PRACTICES THAT SUPPORT HEALTHY, DENSE TURFGRASS, THE BEST DEFENSE AGAINST WEEDS.

- PROPER MOWING, IRRIGATION, FERTILIZATION PRACTICES ARE VITAL IN SUPPORTING HEALTHY TURFGRASS GROWTH AND REDUCING OVERALL WEED PRESSURE.
- THE FOLLOWING CALENDAR IS A GUIDE TO MAINTAINING A HEALTHY TURFGRASS AND DESCRIBES CULTURAL PRACTICES NEEDED ON A MONTHLY BASIS TO ACHIEVE THIS GOAL.
- ALTHOUGH THIS CALENDAR ADDRESSES BERMUDAGRASS, IN GENERAL THESE PRACTICES MAY BE APPLIED TO ALL TEXAS TURFGRASSES.

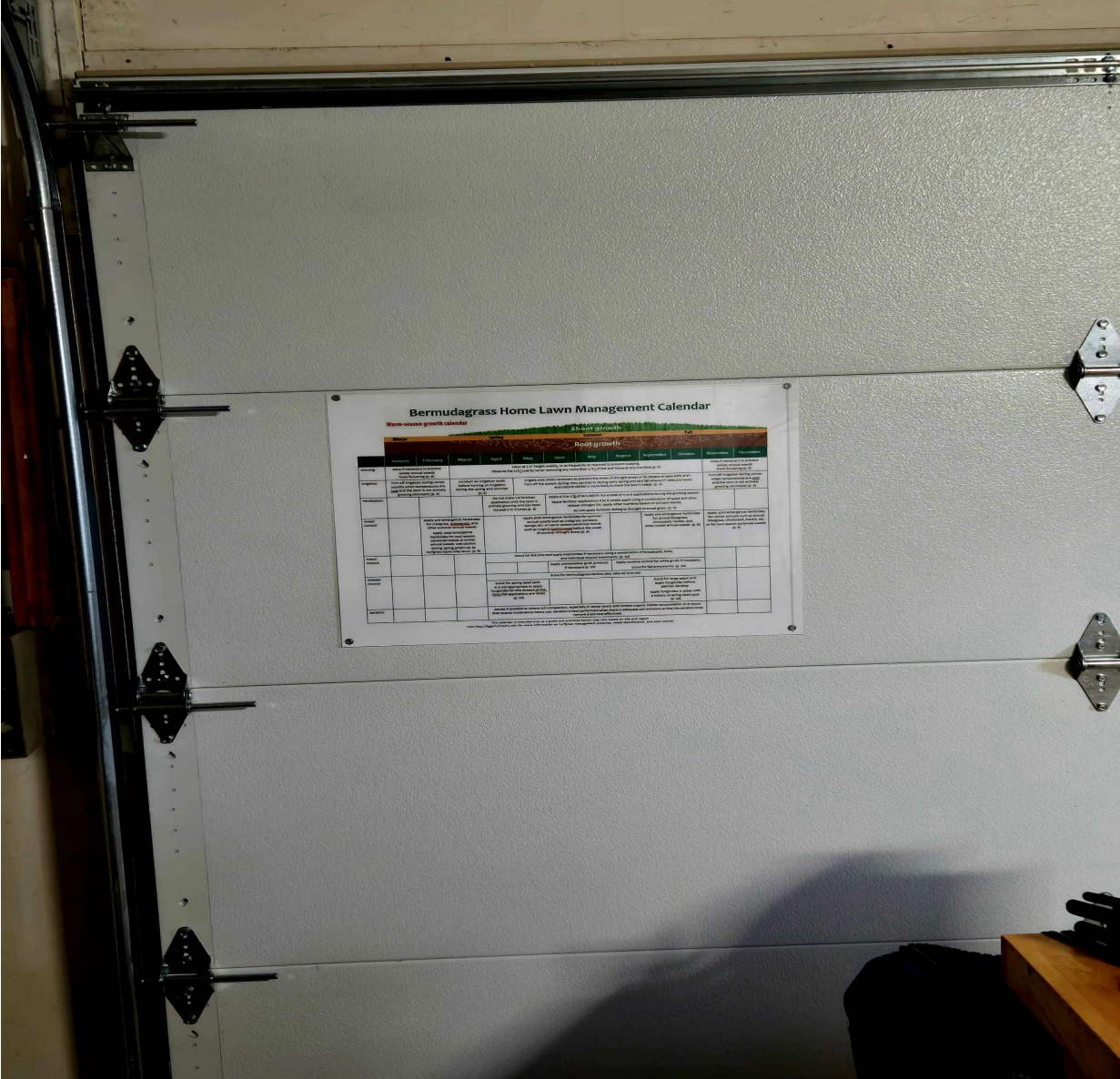
Bermudagrass Home Lawn Management Calendar

Warm-season growth calendar



| | Winter | | Spring | | Summer | | | Fall | | | | |
|-----------------|--|----------|---|-------|--|------|--|--|-----------|---|---|---|
| | January | February | March | April | May | June | July | August | September | October | November | December |
| Mowing | Mow if necessary to prevent winter annual weeds from flowering (p. 6) | | Mow at 1-2" height weekly, or as frequently as required to prevent scalping. Observe the 1/3 rd rule by never removing any more than 1/3 rd of the leaf tissue at any one time (p. 3) | | | | | | | | | Mow if necessary to prevent winter annual weeds from flowering (p. 6) |
| Irrigation | Turn off irrigation during winter months when temperatures are <u>cool</u> and the lawn is not actively growing (dormant) (p. 4) | | Conduct an irrigation audit before turning on irrigation during the spring and summer (p. 4) | | Irrigate only when necessary to prevent the onset of drought stress or to replace at least 60% of ET. Turn off the system during rainy periods or during early spring and late fall where ET rates are lower and natural rainfall is more likely to meet the lawn's needs. (p. 4) | | | | | | Turn off irrigation during winter when temperatures are <u>cool</u> and the lawn is not actively growing (dormant) (p. 4) | |
| Fertilization | | | | | Do not make 1st fertilizer application until the lawn is actively growing and has been mowed 2 to 3 times (p. 6) | | Apply 0.5 to 1 lb of N/1,000 ft ² for a total of 1 to 4 applications during the growing season. Space fertilizer applications 4 to 8 weeks apart using a combination of quick and slow-release nitrogen (N). Apply other nutrients based on soil test results. Do not apply fertilizer during to drought stressed grass. (p. 5) | | | | | |
| Weed Control | | | Apply pre-emergence herbicides for crabgrass, goosegrass, and other summer annual weeds. Apply post-emergence herbicides for cool-season perennial weeds or winter annual weeds. Use caution during spring green-up as turfgrass injury may occur. (p. 6) | | Apply post-emergence herbicides for summer annual weeds such as crabgrass, purslane, spurge, etc. or warm-season perennial weeds such as Virginia buttonweed before the onset of summer drought stress (p. 8) | | | Apply pre-emergence herbicides for annual bluegrass, chickweed, henbit, and other winter annual weeds. (p. 9) | | Apply post-emergence herbicides for winter annuals such as annual bluegrass, chickweed, henbit, etc. or for cool-season perennial weeds. (p. 9) | | |
| Insect Control | | | | | Scout for fire ants and apply insecticides if necessary using a combination of broadcasts, baits, and individual mound treatments. (p. 10) | | | | | | | |
| | | | | | Apply preventative grub products if necessary (p. 10) | | Apply curative control for white grubs if necessary. Scout for fall armyworms. (p. 10) | | | | | |
| Disease Control | | | | | Scout for bermudagrass decline (aka, take-all root rot) | | | | | | | |
| | | | | | Scout for spring dead spot. It is not appropriate to apply fungicides for this disease at this time (fall applications are ideal) (p. 10) | | | Scout for large patch and apply fungicides before patches develop. Apply fungicides in areas with a history of spring dead spot. (p. 10) | | | | |
| Aeration | | | | | Aerate if possible to relieve soil compaction, especially in newer lawns with limited organic matter accumulation or in lawns that receive moderate to heavy use. Aeration is best performed when there is adequate soil moisture so that the aeration tines remove a soil core effectively. | | | | | | | |

This calendar is intended only as a guide and practices herein may vary based on site and region. Visit <http://AggieTurf.tamu.edu> for more information on turfgrass management practices, weed identification, and pest control.



Bermudagrass Home Lawn Management Calendar

Warm-season growth calendar

The diagram shows a cross-section of soil with 'shoot growth' indicated by a green line above the surface and 'root growth' indicated by a red line below the surface. The soil is divided into layers: topsoil, subsoil, and bedrock.

| | January | February | March | April | May | June | July | August | September | October | November | December |
|----------------------|--|----------|-------|-------|-----|------|------|--------|-----------|---------|----------|----------|
| Watering | Water bermudagrass lawns during periods of drought. Do not water during rain events. Watering should be done in the early morning or late afternoon. Watering should be done in the early morning or late afternoon. | | | | | | | | | | | |
| Fertilization | | | | | | | | | | | | |
| Mowing | | | | | | | | | | | | |
| Other | | | | | | | | | | | | |

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RESOURCES

- WEEDS.CES.NCSU
- AGGIETURF.TAMU.EDU
- AGRILIFEEXTENSION.TAMU.EDU
- AGRILIFETODAY.TAMU.EDU
- AGRILIFEEXTENSION.TAMU.EDU/SOLUTIONS/WEED-CONTROL-TURFGRASS
- ASK2.EXTENSION.ORG
- IPMIMAGES.ORG
- RANGEPLANTS.TAMU.EDU
- AGRILIFEBOOKSTORE.ORG



The way to get started is to quit
talking and begin doing.

Walt Disney