

Turfgrass Calendar: Warm-Season Grasses for Lawns in Iowa

Warm-season grasses have a C4 photosynthetic pathway, which is different from cool-season grasses that have a C3 pathway. The C4 pathway is more efficient than the C3 pathway in higher temperatures. Thus, warm-season grasses are best adapted to temperatures between 75 and 95°F. Warm-season grasses include bermudagrass, zoysiagrass, and buffalograss. However, bermudagrass does not survive well in Iowa due to poor cold tolerance and winterkill. Zoysiagrass and buffalograss are better adapted to cooler climates and grow best in full sun (6-8 hours). These warm-season lawns are best suited for the southern half of Iowa, but can be established up to the middle of the state (up to US Route 30). A warm-season grass typically will be green and growing from Memorial Day through Labor Day. Both grass species often require less fertilizer and irrigation compared to cool-season grasses such as Kentucky bluegrass. Zoysiagrass spreads by both rhizomes and stolons and the grass blades often have a tough and stiff feel. Buffalograss is the only native grass species suitable for lawns in Iowa; the blades are covered with fine hairs, and it spreads by stolons. Both zoysiagrass and buffalograss have better cold tolerance than other warm-season grasses, but the cold tolerance depends on the cultivar. Below are suggestions for zoysiagrass and buffalograss lawn care throughout the year.

April through May

Mowing – There is no set start date to begin mowing. The first mowing will depend on the type of warm-season lawn you have and where you are located in the state. The one-third mowing rule applies to each of these turf types, which states that no more than one-third of the total leaf blade should be removed at each mowing. Clippings can be returned to the lawn as long as these do not produce clumps on the surface, which shade out the healthy turf. A mowing height of 1-3 inches is recommended for zoysiagrass and 2.5-4 inches is recommended for buffalograss. The mowing height for buffalograss can be raised or not mowed for low maintenance and natural areas. However, a spring mowing should be done to help the grass green up.

Watering – Supplemental irrigation rarely is required since zoysiagrass and buffalograss are drought tolerant. Furthermore, spring watering promotes weeds and coolseason grass growth. In the case of a drought, some additional water may be needed with no more than one inch of water per week during the drought conditions.

Fertilization – Soil testing is recommended for the best lawn fertility. However, if soil testing is not performed, use a nitrogen-phosphorus-potassium (N-P-K) fertilizer and apply at 0.5-1 pound nitrogen per 1,000 ft². The first fertilizer application is optional for zoysiagrass lawns and should be skipped for buffalograss lawns. If choosing a spring application, do not apply until the middle to late May, because earlier fertilization promotes weed growth since the grass is not actively growing.

Weed Control – Only use products that are labeled for use on zoysiagrass and buffalograss. Control summer annual weeds (crabgrass and goosegrass) with an application of preemergence herbicides. Generally, applications to control crabgrass should be done between April 15 and May 1 (dependent on the location within Iowa), when soil

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temperatures reach 55°F. To boost preemergence herbicide effectiveness, water in the preemergence herbicide after application according to the herbicide label.

Broadleaf weeds may be controlled during May. However, fall broadleaf control is preferred. Do not apply broadleaf herbicides when temperatures exceed 85°F as damage to the turf can occur. Caution should be taken with buffalograss, as it is susceptible to damage from many products.

Seeding/Establishment – Late spring (May) seeding and vegetative establishment can be done, but early summer is preferred. See June through August seeding/establishment for recommendations.

June through August

Mowing – Follow April through May mowing recommendations.

Watering – During extended summer drought periods, irrigation may be needed. In general, warm-season grasses need around one inch of water per week to maintain growth and prevent dormancy. Zoysiagrass and buffalograss will go dormant and lose color during prolonged droughts, but will recover with increased rainfall. If choosing to use irrigation, water infrequently, but deeply, in the morning hours.

Fertilization – For zoysiagrass, apply 0.5-1 pound of nitrogen per 1,000 ft² using an N-P-K fertilizer in June, July, and August (optional). For buffalograss, using an N-P-K fertilizer apply 0.5-1 pound of nitrogen per 1,000 ft² in June and July (optional). Buffalograss in low maintenance or natural areas may require less fertilization. In general, established zoysiagrass and buffalograss do not require more than 2 pounds of nitrogen per 1,000 ft² per year. Excessive fertilizer applications can cause problems such as increased thatch and disease pressure, increased aboveground growth that requires excessive mowing, and decreased root growth.

Thatch/Aerification – Zoysiagrass creates a thatch layer of decomposing plant material, which forms a distinct brown and spongy horizontal layer just above the soil surface. Once the thatch exceeds 1-2 inches, the lawn needs dethatching and/or aerification. Dethatching and aerification should occur sometime after June once the grass is actively growing to help the recovery process, but before the end of August so it can recover. A vertical mower or power rake can be used to dethatch a lawn. Debris from dethatching should be collected and removed. When aerifying, the cores should be left on the surface to dry and crumble before the next mowing. Buffalograss does not produce thatch, but if soil compaction



becomes an issue, aerification may be necessary. Adequate soil moisture and fertilization after dethatching and/or aerification will help promote recovery.

Seeding/Establishment – Zoysiagrass and buffalograss may be established through seeding and vegetatively. Seeding should be done from June to July. For zoysiagrass, the seeding rates are 1-3 pounds per 1,000 ft² for noncoated seeds and 2-3 pounds per 1,000 ft² for coated seeds. Establishment from seed is slow unless the seeds are treated. For improved germination, zoysiagrass seeds need sunlight, so do not rake and cover the seeds. Instead, use a roller to lightly press the seed to the soil. Buffalograss should be planted to depth of ½ inch or less with a seeding rate of 1-3 pounds per 1,000 ft². Keep seeds moist until germination and establishment.

Vegetative establishment includes sodding, plugging, and sprigging. Sod can be applied from June to late August as long as temperatures are warm enough for the sod to root down into the soil. Plugging and sprigging should be done from late May to June. Late planting may not allow enough time for complete establishment, leading to winterkill. Plugs are small pieces of sod (at least two inches diameter) and should be planted 6-12 inches apart. Sprigs are pieces of aboveground and belowground grass stems, which can be broadcast spread across the lawn and lightly covered. Zoysiagrass (rhizomes and stolons) and buffalograss (stolons) will spread to fill in the rest of the lawn. After planting, sod, plugs, and sprigs should be lightly rolled and kept moist until the turf roots down into the soil and becomes established. Additionally, fertilization should be applied after planting to promote growth and spreading. To avoid damage to the lawn, do not apply herbicides to newly established areas until after the second mowing.

Insect/Disease Occurrence – Zoysiagrass and buffalograss generally have few disease and insect problems. Diseases are rare in home lawns and typically can be avoided through cultural practices, such as proper mowing, fertilization, watering, and thatch control. If damage from white grubs becomes common, control measures may be justified. Early detection and proper pesticide applications are necessary to prevent or control insect and disease problems. Contact a reputable lawn care company for insecticide and fungicide applications.

September through November

Mowing – Raise mowing by 0.5-1 inch in the fall. Increasing the mowing height in the fall increases cold tolerance and winter survival. Stop mowing when the growth rate slows, or the green color lessens in the leaves.

Watering – If the fall is dry, a late fall watering can help winter survival. A late fall deep soaking improves crown health (how the plant survives winter) and promotes growth the following spring. This is critical as the grass enters dormancy and goes from green to brown in color. **Fertilization** – Avoid fall fertilization as this can lead to reduced cold tolerance and winterkill.

Weed control – Perennial broadleaf control is the most effective in the fall. Once again, use products labeled for zoysiagrass and buffalograss. For fully dormant buffalograss (in the winter), herbicides containing glyphosate can be applied to control winter annual weeds and cool-season grasses.

Tree Leaves – Follow **Turfgrass Management Calendar:** <u>Kentucky Bluegrass Lawns</u> (store.extension.iastate.edu/ product/4383) for proper management of tree leaves.

Warm-season lawn management calendar.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mowing					When grass is actively growing							
Watering						As needed						
Fertilizing												
Weed Control				PRE		PO	ST		BDL			
Thatch/Aerification												
Seeding/Establishment												

PRE = Preemergence herbicide, POST = Postemergence herbicide, BDL = Broadleaf herbicide.

More Information

Iowa State University Extension and Outreach - Turfgrass (extension.iastate.edu/turgrass)

Reference

Christians, N. E., Patton, A. J., and Law, Q. D. (2017). Fundamentals of turfgrass management. 5th edition, Wiley, Hoboken, NJ.

Written by Alex L. Lindsey, horticulture postdoc research associate; Adam Thoms, assistant professor in horticulture and turfgrass extension specialist; Nick Christians, university professor at Iowa State University.

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