



Common Lawn Grasses for Hawaii

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Revised and expanded from UH CES Circular 425, *Lawns for Island Homes: Choosing a Grass for Your Lawn*, by D.A. Akana, 1968, and its revision by H.D. Sato, 1978.

Notes:

Mowing height: Reel mowers are preferred for cutting turfgrasses at heights less than 1 inch. Rotary mowers are preferred for heights greater than 1 inch.

Propagation: 2-inch square plugs planted 12 inches on center require 30 ft² of sod per 1000 ft² of lawn area planted. 2-inch square plugs planted 6 inches on center require 110 ft² of sod per 1000 ft² of lawn area planted.

Nitrogen fertilizer: Amounts given in table refer to quick-release N, such as urea, ammonium sulfate, and some mixed formulations, unless otherwise noted. In windward locations during winter months, reduce fertilizer amounts or omit applications because the grass grows slowly and cannot use the nutrients.

Lawn grass	Appearance	Desirable characteristics	Undesirable characteristics	Location	Propagation (per 1000 ft ²)	Preferred mowing height (inches)	Nitrogen fertilizer requirement for best quality (actual N per 1000 ft ²)
Common bermudagrass (Cynodon dactylon)	Gray-green; medium texture; long internodes.	Resists wear; has deep root system, low moisture requirement; tolerates saline, alkaline, and moderately acid soils; tolerates many herbicides.	Vigorous, often invading where not wanted; frequent seed head formation; susceptible to some lawn insects; builds thatch; easily invaded by weeds.	Sun	Seed (hulled): 1–2 lb Stolons: 5–10 bu Plugs: 6–12" apart Sprigs: 11–22 bu	1/2–1	1 lb per month or 2–3 lb of slow-release N every 60–90 days. Reduce applications in winter months in windward locations.
'No-Mow' bermudagrass ('Green Velvet') (Cynodon dactylon)	Dark blue-green; medium texture; creeping growth; usually not more than 3 inches high.	Resists some wear; tolerates saline and alkaline soil, some compaction, and drought; requires less mowing.	Susceptible to several insects and diseases; builds thatch; slow to establish.	Sun	Stolons: 5–10 bu Plugs: 6–12" apart Sprigs: 1–2 bu	1/2–1	1 lb per month or 2–3 lb of slow-release N every 60–90 days. Reduce applications in winter months in windward locations.
'Tifgreen' bermudagrass (Tifton 328) (C. dactylon x transvaalensis)	Dark green; fine texture with prostrate growth; shorter internodes than common bermudagrass; soft leaves.	Resists wear; tolerates saline and alkaline soils; stands moderate acidity; produces few seed heads. Under proper management can be a beautiful lawn.	Vigorous grower; very susceptible to some lawn insects; builds thatch; injured by some herbicides. A very high-maintenance grass.	Sun	Stolons: 5–10 bu Plugs: 6–12" apart Sprigs: 1–2 bu	1/2–3/4	1 lb per month or 2–3 lb of slow-release N every 60–90 days. Reduce applications in winter months in windward locations.

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'Tifway' bermudagrass (Tifton 419) (C. dactylon x transvaalensis)	Dark green; fine texture; dense sod; stiff leaves.	Resists wear; tolerates saline and alkaline soils; very rapid recovery; good weed resistance; high quality turf; produces few seed heads. Moderate maintenance	Susceptible to insects; builds heavy thatch.	Sun	Stolons: 5–10 bu Plugs: 6–12" apart Sprigs: 1–2 bu	1/2–3/4	1 lb per month or 2–3 lb of slow-release N every 60–90 days. Reduce applications in winter months in windward locations.
'Tifdwarf' bermudagrass (C. dactylon x transvaalensis)	Dark green; dense mat; fine texture; shorter blades and internodes than 'Tifgreen'.	Resists wear; tolerates saline, moderately acid, and alkaline soils; produces few seed heads. Denser sod than 'Tifgreen'; requires less frequent mowing.	Susceptible to grass webworms and also to other insects and diseases; builds thatch; slow to cover. A very high-maintenance grass.	Sun	Stolons: 5–10 bu Plugs: 6–12" apart Sprigs: 1–2 bu	1/2–3/4	1 lb per month or 2–3 lb of slow-release N every 60–90 days. Reduce applications in winter months in windward locations.
'Sunturf' bermudagrass (C. magennisii)	Dark green; fine texture; low-growing.	Resists wear; tolerates saline and alkaline soils; drought resistant; rapid recovery from scalping; produces few seed heads.	Vigorous grower; slightly slow to establish, but rapid growth thereafter; susceptible to insect injury; builds thatch.	Sun	Stolons: 5–10 bu Plugs: 6–12" apart Sprigs: 1–2 bu	1/2–3/4	1 lb per month or 2–3 lb of slow-release N every 60–90 days. Reduce applications in winter months in windward locations.
Manilagrass (Zoysia matrella)	Deep green; medium texture; blades flat and shorter than templegrass; blades stiff; fewer mounds than templegrass	Resists wear; shade tolerant; tolerates salinity, drought, and mild soil acidity; dense growth resists weeds when established; tolerates most herbicides.	Attacked by billbugs and rust fungus; builds thatch; slow to establish; forms some mounds; requires good drainage; requires heavy-duty mower.	Sun or light shade	Stolons: 5–10 bu Plugs: 6–12" apart Sprigs: 1–2 bu	3/4–1	1/2 lb per month or 1–2 lb of slow-release N every 60–90 days.
Templegrass; koreangrass; velvetgrass (Zoysia tenuifolia)	Medium green; fine texture; blades stiff with sharp points; pronounced mounds or humps.	Resists wear; shade tolerant; may be left unmowed as a groundcover; seldom flowers; tolerates many herbicides.	Badly attacked by billbugs and some other insects and diseases; builds thatch. Slowest of the zoysias to establish; forms mounds that are difficult to mow; requires reel mower; requires good drainage; high water user.	Sun or light shade	Stolons: 5–10 bu Plugs: 6–12" apart Sprigs: 1–2 bu	As desired or 3/4–1	1/2 lb per month or 1–2 lb of slow-release N every 60–90 days.
'Emerald' zoysiagrass (Z. japonica x tenuifolia 'Emerald')	Deep green; medium texture; blades shorter than manilagrass; blades not stiff; not as mounding as templegrass.	Resists wear; shade tolerant; tolerates salinity, drought, and mild soil acidity; spreads faster than manilagrass; keeps out weeds when well established; tolerates most herbicides.	Attacked by billbugs and possibly by rust fungus; builds thatch; forms some mounds; requires reel mower; requires good drainage; leaves stiff; many seed heads.	Sun or light shade	Stolons: 5–10 bu Plugs: 6–12" apart Sprigs: 1–2 bu	3/4–1	1/2 lb per month or 1–2 lb of slow-release N every 60–90 days.

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'Meyer Z-52' zoysiagrass (Zoysia japonica 'Meyer')	Light green; medium texture; leaves stiff, prickly, and longer than 'Emerald'.	Resists wear; shade tolerant; tolerates salinity and mild soil acidity; produces no mounds; keeps weeds out when well established; tolerates most herbicides.	Attacked by some insects and diseases; builds thatch; requires heavy-duty mower; needs good drainage; leaves stiff; produces seed heads.	Sun or light shade	Stolons: 5–10 bu Plugs: 6–12" apart Sprigs: 1–2 bu	³ / ₄ –1	¹ / ₂ lb per month or 1–2 lb of slow-release N every 60–90 days.
'El Toro' zoysiagrass (Zoysia japonica 'El Toro')	Light green; fine to medium texture; stiff leaves.	Resists normal wear; tolerates shade, drought, and salinity; deep root system. Produces a quality turf with proper management.	Does not tolerate excessive traffic; recovers slowly. Does not like poorly drained soils.	Sun or light shade	Plugs: 6–12" apart Stolons: 5–10 bu Sprigs: 1–2 bu	¹ / ₂ –2	¹ / ₂ lb per month or 1–2 lb of slow-release N every 60–90 days.
'Z-3' zoysiagrass (Zoysia matrella x japonica)	Medium green; medium-fine texture; short, soft leaves; inconspicuous seed heads.	Establishes more quickly than most zoysias. Forms a dense stand; tolerates drought; resists wear; recovers well. Produces a quality turf with proper management.	Can invade other plantings; forms some thatch. Should be mowed to low heights to keep it attractive. Verticut once a year and/or lightly topdress.	Sun or light shade	Plugs: 6–12" apart Stolons: 5–10 bu Sprigs: 1–2 bu	¹ / ₂ –1	¹ / ₂ lb per month or 1–2 lb of slow-release N every 60–90 days.
St. Augustinegrass (Stenotaphrum secundatum)	Light green; coarse texture; stiff, wide blades and stems; no underground stems; leaves upright; shallow-rooted.	Resists moderate wear; very shade tolerant; tolerates a range of soils and climates but prefers well-drained, fertile soil; low maintenance; easy to establish. There are variegated varieties for ornamental purposes and dwarf lawn cultivars.	Attacked by grass webworms, chinch bugs and other insects and diseases; produces thick thatch; requires heavy-duty mower; susceptible to certain herbicides. Does not tolerate drought well. Difficult to start with stolons.	Sun or shade	Stolons: 3–5 bu Plugs: 6–12" apart	2–3	1 lb preferably slow-release N every 60–90 days or as determined by color. Iron may be necessary to improve color in soils with low iron or alkaline pH.
Centipedegrass (hunangrass) (Eremochloa ophiuroides)	Medium green; medium texture; leaves long and narrow; many stolons; shallow-rooted.	Tolerates some shade; does well in coarse, heavy, low-fertility, or acid soils; makes dense, weed-free sod; best for moist areas; few insect or disease problems; very low maintenance requirement. 'Au Centennial' is a dwarf selection.	Becomes chlorotic under alkaline soil conditions; does not tolerate heavy traffic or poorly drained soil; susceptible to certain herbicides and salt spray. Not drought tolerant.	Sun or light shade	Seed: 2–4 lb Plugs: 6–12" apart Sprigs: 1–2 bu	1–2	1–6 lb per year (slow-release N preferred) depending on desired quality and maintenance levels. Do not apply more than 2 lb quick-release N per application. Iron may be needed on alkaline soils.

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Carpetgrass, Australian carpetgrass (Axonopus affinis or A. compressus)	Light green; coarse texture; creeping growth habit; blunt, rounded leaf tips; produces seed heads primarily in summer.	Produces a dense stand; tolerates wet and shady conditions, poorly drained soils; prefers acid soils; low maintenance. Somewhat resembles centipedegrass. Commonly used in pastures and for erosion control.	Not drought or salt tolerant; not suitable for a quality lawn; poor traffic tolerance; shallow root system; must be irrigated frequently in drought conditions; may be chlorotic under alkaline conditions.	Sun or shade	Seed: 5 lb Sprigs: 1–2 bu	1–2	Does not need or like a lot of N. Apply 1/2–1 lb every 6 months.
Seashore paspalum (Paspalum vaginatum)	Medium to dark green; fine textured; very soft leaves; Y-shaped seed heads.	Tolerates saline conditions; seen growing directly into brackish ponds and streams; tolerates brackish irrigation. Tolerates drought and wear. Will show moisture stress but recovers quickly.	Affected by armyworms, webworms. Scalping can be a problem in shade. Produces very heavy thatch; few herbicides available; requires regular maintenance to maintain quality	Sun or light shade	Stolons: 5–10 bu Plugs: 6–12" apart Sprigs: 1–2 bu	3/4–1 1/2 Best mowed at 1" or less.	1/2 lb per month or 1–2 lb of slow-release N every 60–90 days.
Hilograss (Paspalum conjugatum)	Medium to dark green; coarse texture; wide, pointed blade tip; Y-shaped seed heads.	Easily takes over lawn or bare ground. Tolerates acidic, wet, and low-fertility soils; establishes easily and grows fast. Does well in high rainfall areas. Makes a satisfactory lawn grass with some maintenance.	An invader in most cases. May cause an allergic rash to sensitive skin. Does not tolerate drought and heat well. Needs to be mowed frequently to control unsightly seed heads and upright growth.	Sun or light shade	May not be commercially available. Seed: 4–6 lb Stolons: 5–10 bu Plugs 6–12" apart Sprigs: 1–2 bu	1–2	Does well with little or no fertilizer. Apply 1/2–1 lb every 6 months.