

## A Field Guide for a Beautiful Lawn

Can minor changes in your mowing deliver major results?

A healthier lawn is just a cut away!

Learn simple techniques that improve lawn health naturally, while reducing fuel use and saving water.





## Why does a healthy lawn matter?

Maintaining your lawn is the “green” thing to do. According to industry studies, well-maintained lawns absorb considerably more CO<sub>2</sub>—a greenhouse gas—than poorly maintained lawns.

A healthy lawn simply looks better. More attractive lawns have proven to add appraisal value to homes and properties. A commercial property lawn is often the first impression customers glean of the business. A lawn continuously mowed poorly, by contrast, can become a nuisance to a neighborhood that values a quality appearance.

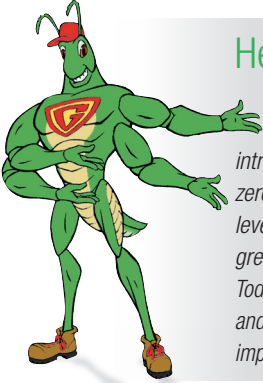
A healthy lawn is a refuge which “feels” better to its visitors. Healthy lawns have been proven to lower the ambient temperature around a home, acting as an air conditioner around your house. A healthy lawn creates an important ecosystem that supports helpful microorganisms, earthworm activity and encourages nearby nesting of colorful song birds.

Researchers in Australia have reported the scent of fresh-cut grass induces stress-relieving chemical reactions and may even slow down memory loss associated with age!



Children and pets enjoy playing on a soft lawn, especially when chemical residue is absent. While grass itself is a cushion, the soil below stays softer and moister longer when it is well shaded by a healthy turf canopy.

Save water and reduce out-of-pocket chemical expense. With recycled clippings and proper mowing height, new weed infestations and bare spots are reduced, along with the need for excessive water and chemical applications.



## Healthy Lawns Matter!

*In 1969, while NASA was putting the first men on the moon, Grasshopper introduced the first commercially viable zero-turn radius mower with dual swingout levers, making America's passion for healthy green lawns easier than ever to achieve. Today, Grasshopper's fast pace, perfect cut and sweet ride combine with year-round implements to help you create the perfect lawn.*

## But isn't mowing a lot of work?

Mowing earned its reputation for being hard work from the tools that were available in decades past, but times have changed. Pushing or standing on a mower during a hot summer day does take some endurance. Cranking a steering wheel all day on a lawn tractor and negotiating foot pedals in order to mow patterns in a lawn or trim around obstacles is also tiring. But the introduction of the highly acclaimed Grasshopper mower in 1969 changed lawn care dynamics, providing comfort and maneuverability to make quality mowing fast, simple and enjoyable. Many people now say they love mowing their lawn and view it as good therapy for daily stress.

1969

*While America was putting the first man on the moon, Grasshopper introduced the first commercially viable zero-turn radius mower.*



## Comfort Makes It Easy.

*The MidMount™ SmartFrame™ and exclusive FrontMount™ AntiVibe Power Platform™ technology quietly absorb the unevenness of the lawn, while dampened, padded, swing-away, dual-motion control levers (an industry first!) and USR™ seat keep the operator comfortably in control at faster mowing speeds.*

# What difference does it make how I mow?

There are several benefits to proper mowing. By letting grass grow to the proper height before mowing, followed by cutting it to the recommended height, you allow a healthier root system to develop. By keeping mower blades sharp, you save fuel and prevent grass from browning out. The benefits of proper mowing thus include a greener, healthier lawn.

Mechanical treatments such as dethatching and aeration can speed up the process of creating a healthy lawn, but mowing properly is the variable most under your control.

1983

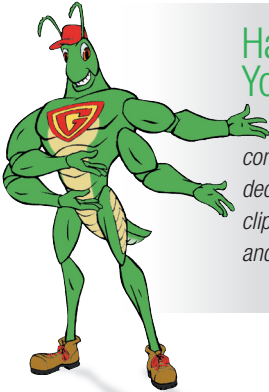
*Grasshopper developed the industry's first dual swing-away control levers for easier operator access and more precise handling.*



# How is the environment impacted by my mowing habits?

The turf canopy and the root zone are both improved by proper mowing. When left with adequate leaf blade area, the turf canopy captures a maximum degree of sunlight energy and, through photosynthesis, releases oxygen, captures CO<sub>2</sub>, creates denser turf growth and develops a deeper root system. Scientific evidence concludes well-maintained lawns produce more oxygen and absorb more CO<sub>2</sub> than grassy areas that are unattended or poorly maintained. A well-mown lawn may absorb up to four times the amount of CO<sub>2</sub> a typical mower will emit while cutting the grass.\*

*\*With permission from OPEI ([www.OPEI.org](http://www.OPEI.org))*



## Handle Clippings Your Way.

*Dedicated rear-discharge decks combine forces with DuraMax<sup>®</sup> combination decks to let you mulch, bag or discharge clippings based on the mowing conditions and desired results.*

1983

*First liquid-cooled 3-cylinder diesel power plants for zero-turn radius mowers, offering the fuel economy of diesel to the grounds maintenance marketplace.*

Invisible under a healthy, properly mowed lawn, the soil is teeming with microorganisms, which are co-dependent on grass roots. These helpful microorganisms work closely with roots to decompose organic nutrients and facilitate the exchange of carbon with nutrients essential to building healthy turf. The stronger turf canopy shades and crowds out weeds and slows water evaporation. When the soil itself is adequately aerated and grass is mowed to a proper height, it allows for optimal drainage with less runoff, better absorption of water and lawn treatments and less moisture required to keep the lawn looking green.



## Treat Lawns Responsibly.

*Grasshopper recommends use of drift-control shielded sprayers when chemicals are applied to your lawn. Grasshopper Shielded Sprayers keep the application on target and off of nearby vegetation.*

1984

*Deck cutting-height adjustments can be made from operator's seat, and the introduction of the Quik-D-Tatch® PowerVac™ Collection System quickly converts the same deck from collection to discharge in minutes without tools.*



# How can I keep crabgrass, weeds, dry spots and bare patches out of my lawn?

For starters, don't mow too low. Raise the cutting height to a level that leaves a significant portion of the grass blade intact. Establish a regular practice of removing 1/3 of the foliage each time you mow to keep the lawn healthier and greener. Keeping up with the 1/3 rule requires adjusting your mowing frequency relative to the current time of year.

For most cool-season grasses, 3 inches or higher allows the grass to develop a fuller, greener canopy to shade out weeds. At this height, the grass can also develop a deeper root system to keep the turf greener and healthier during hotter, drier periods. The extra surface shade helps hold moisture in the ground and allows healthy organisms to thrive in the soil—microorganisms which help break down thatch and nourish roots. A cooler, moister root zone invites earthworms, which naturally aerate the soil. Mowing a little higher than what you may be accustomed to and cutting back on chemicals helps restore the natural line of defense against weeds.

Warm-season grasses have evolved their own natural defenses against heat and drought, but they still require proper mowing for optimum appearance. Southern grasses



1986

*Durable, environmentally friendly, powder-coated paint application system is installed.*



spread through rhizomes, or runners, close to the soil surface. Rhizomes are more stem-like and sprout foliage while anchoring with roots. Stem-like structures decompose more slowly and present a more serious thatch threat. Even so, weed infestation and drought dormancy are minimized by raising the cutting height to the upper end recommended for the turf variety.

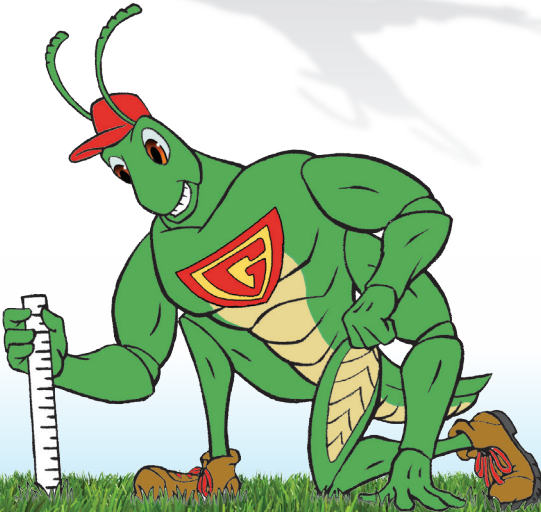
In moderate climates around the world, cool and warm seasons both compete in the same lawns. When average daily temperatures approach 80°F (26°C) the warm-season grasses begin to take over, according to research from the PACE Turfgrass Research Institute.\* Depending on which grass is dominant in your lawn, you may have to adjust your cutting height throughout the year.

*\*With permission from PACE Turf ([www.paceturf.org](http://www.paceturf.org))*



## Change Height on the Go.

*Exclusive dual-function PowerFold® deck on FrontMount™ mowers allows toggle-switch cutting-height control, as well as easy access to the underside of the deck. Grasshopper MidMount™ mowers use DropPin™ Height Adjustment for one-hand adjustment, or electric-hydraulic cutting-height options for even greater ease.*





# Does mowing higher mean I'll be mowing more often?

No, the opposite is true. Cutting the grass too short does not save you any time. The good news is that maintaining grass at the proper height may require less time on the mower than if you were to cut it too short. There are two reasons for this. First, at higher cutting heights, the mower blades do not have to cut through the harder stems which typically grow closer to the ground, and there's also less risk of scalping. Less power required to cut the grass translates into faster mowing speeds and less fuel consumption. Second, if you follow the 1/3 rule (see chart), the higher you cut your grass, the more growing time you allow before the next mowing.

Grass Height	1/3 Rule Height
6.00 in.	4.00 in.
5.35 in.	3.50 in.
4.50 in.	3.0 in.
3.75 in.	2.50 in.
3.00 in.	2.00 in.
2.25 in.	1.50 in.
1.50 in.	1.00 in.

Grass Type	Optimal Height (in.)
Bermuda	1 to 2
Zoysia	1 to 2
Fescue	3 to 3.5
Bluegrass	2 to 3
Buffalo	2 to 3
Ryegrass	2 to 3
St. Augustine	2 to 3



*Down Discharge™ mulching decks are introduced to cut and recut clippings and direct them deep into the grass bed.*

# Does it really matter if I sharpen my blades?

Dull blades can erase all the progress you've made with your lawn. Often what separates a green lawn from a brown one is how sharp the blades are on the mower. Brown-topped lawns are often the result of grass blades being torn and shredded by dull mower blades. Torn grass is more susceptible to heat stress, discoloration and disease.



## Cut, Don't Tear!

*GrassMax™ blades hold their edge longer for a better-quality cut, minimal grass buildup and optimum airflow for side or rear discharge thanks to a heat-treating process that makes them 25 to 40 percent harder and makes them last twice as long in field tests than aftermarket options. If cut quality and longer wear are important, make sure your blades have the Grasshopper logo.*

# Can I save fuel with sharp blades?

Absolutely. Sharp blades require less horsepower for cutting and they let you get the mowing done faster. Using less fuel is definitely a “green” way to mow.

1995

*Introduced the Combo™ deck, allowing operators to discharge, bag or mulch with the same deck.*



## When should I vacuum clippings?

While a reasonable amount of clippings is beneficial to a lawn, periodic vacuum collection also benefits a lawn. The most common reason to vacuum is to create a beautiful clean-swept appearance in high-profile areas. There are at least four times during the year that vacuum collection is recommended: 1) during periods of very rapid growth; 2) when trees shed an excessive amount of seed or when neighboring weeds are going to seed; 3) during the fall leaf season when fallen leaves risk smothering a lawn. Clippings, organic debris and leaves make great compost material, which can be spread over the lawn to boost the microbial balance required for a healthy root system. 4) A fourth application for PowerVac™ collection is the removal of lightweight, wind-blown debris from high-profile areas that need to look their best at all times.



1996

*Award-winning AERA-vator™ aeration system is introduced. Grasshopper zero-turn radius maneuverability allows aerating in smaller, hard-to-reach areas to happen much more quickly and easily than walk-behind models.*



## Vacuum? Yes You Can!

*There's a Quik-D-Tatch® PowerVac™ System for all Grasshopper models. Quickly convert from discharge to vacuum collection without use of tools. Spindle-driven power eliminates the need for noisy, fuel-guzzling auxiliary motors. Plus, you maintain zero-turn radius maneuverability.*

## What's the secret to mulching?

It would be bliss if a magic mulching blade existed that simply made clippings disappear, but it does not. Mulching works well, however, if a few guidelines are followed:

1. Install a mulching kit under your mower deck that includes air-control shrouds, side discharge restriction and blades designed to work with the shrouding. All three elements are required for optimal mulching results.
2. Mulching hides clippings in the turf canopy. If there are too many clippings, or too little turf canopy, then the clippings have nowhere to hide. So mow a little higher and follow the 1/3 rule. For example, when the grass is 4 ½ inches tall, mow it down to 3 inches and the clippings will have adequate canopy to hide under.

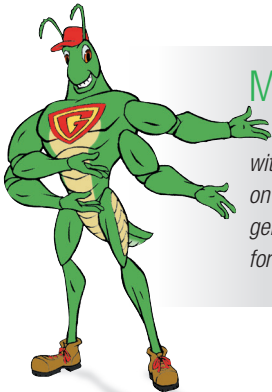
2000

*Grasshopper is the first to offer both FrontMount™ and MidMount™ mowers with the introduction of the M1 MidMount™ mowers and DuraMax® decks.*

2004

*Industry-exclusive PowerFold® Lift is introduced, offering fingertip control to rotate the deck upright without heavy lifting.*

3. Sharpen blades more frequently. Clippings need to be re-cut several times with sharp blades rather than bludgeoned to a pulp by dull ones. Because mulching blades re-cut grass clippings over and over, they need to be sharpened more frequently.
4. Dry clippings mulch better than wet ones. So, if possible, mulch when the lawn is dry, after morning dew and water from the sprinkler system has evaporated. In moist conditions, clean the deck more often for better results.
5. Disengage the clutch before passing over sidewalks and drives to prevent clippings from discharging onto these areas.
6. Fertilize less if you follow a regular mulch program. Mulching returns nutrients back to the soil, reducing the need for chemical applications.



## Mulch More, Water Less.

*Reduce water and fertilizer requirements with mulching. The rear Debris Control Flap™ on Grasshopper DuraMax® mower decks gently brushes clippings into the turf canopy for a clean mulching appearance.*



# Is special equipment needed for striping?

Striping a pattern into your lawn is much easier when the grass is cut at a proper mowing height, and no special roller kit should be required when there is adequate air lift under the deck. A striped appearance occurs when the blades of grass lie in opposite directions after adjacent passes of the mower. Longer grass blades are easier to lean and have more light-reflecting surface area. To maintain a sharp distinction between the stripes, don't overlap more than 2 inches as you mow in opposite directions.



For best striping results, it's recommended to mow a complete pass around the border of the area to be striped. After the perimeter is mowed, make the first straight-line, linear pass adjacent to one of the borders, and at the end make a careful turnaround so that the next pass can be made in the opposite direction directly beside the previous pass. To mow a straight line over a long distance, it helps to focus your sight on a marker in the distance and steer toward it.

It's recommended you occasionally vary your mowing pattern so the grass blades don't become permanently fixed in a certain direction.

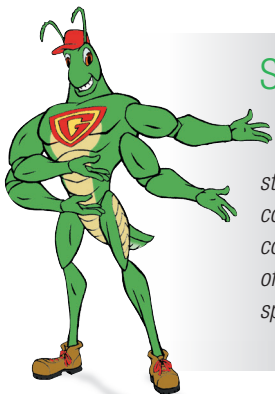


2006

*100 Series MidMount™ Mowers are introduced, offering the comfort and durability of larger Grasshopper models in a more compact size.*

2007

*Revolutionary T-Drive™ hydrostatic transmission and AntiVibe Power Platform™ direct more power to the cutting deck and provide an unprecedented vibration-free experience for the operator.*



## Striping Made Easy.

*QuikAdjust Tilt™ padded control levers on Grasshopper equipment let you mow straight lines without the effort or play common to steering wheels. Advanced commercial drive systems and a low center of gravity on Grasshopper models also help speed and simplify turning.*

## How does one create that “crisp, clean” look to a lawn?



Mowing at the proper height and frequency, using the correct sharpened blades for the application and removing clippings and debris at key times during the year will go a long way toward creating an immaculate lawn. The “crisp, clean” look comes from trimming and edging. Fortunately, a

zero-turn radius mower can perform most of the trimming as you mow, and what’s left can be done quickly with a trimmer and an edger.





## Mow, Edge, Trim.

*Mower-mounted accessories reduce time and effort versus hand-held versions. The SpeedTrimming™ Roller Kit trims up close along foundations, trees and fences, and the Edge-Eze™ can be mounted on either side of the mower deck for maintaining clean, crisp edges while you mow.*

# What else can I do to create a healthier lawn?

Sometimes soil texture, thatch, soil aeration or other issues can impact the health and appearance of a lawn. Routine practices, along with a proper watering schedule, can alleviate those problems without drastic measures. Here are the most commonly recommended schedules, listed in the order they are normally performed.

**Spring:** How do you revive a lawn that has been dormant for several weeks or months? Follow these common spring lawn preparation tips:

- Remove thatch using a tine rake dethatcher
- Evenly apply compost or other soil amendments if needed
- Aerate soil with a method that thoroughly fractures soil without pulling cores (If service provider uses older method of pulling cores, do so ahead of applying compost or other soil amendments and make sure cores are gathered and crushed, or they'll lay unsightly on the lawn for weeks.)
- Overseed sparse or bare areas

2008

*Unique four-spindle 4X Rear Discharge™ DuraMax® decks channel clippings away from the engine and the operator with even distribution behind the mower for a quality cut.*



- Apply minimal weed and crabgrass control (make sure product doesn't counteract with newly seeded areas)
- Mow whenever grass grows 50% in height from the previous mowing (For example, if you set your cutting height to 3 inches, mow whenever the grass is 4 ½ inches tall. This is also referred to as the "1/3 rule.")

**Summer:** As summer settles in, how will your lawn react to the hotter, drier climate? Common summertime lawn practices include:

- Moderate lawn mowing frequency as pace of growth slows (stick to the 1/3 rule)
- Aerate bare areas, walking paths and areas where drainage problems persist (well-aerated lawns stay greener)
- Irrigate during periods of prolonged drought

**Fall:** As cooler temperatures trigger changes in the lawn and trees begin shedding leaves, what should be done to prepare the lawn for next spring?

- Early in the fall, remove excess thatch that may have built up over the summer
- Collect excessive quantities of leaves; thoroughly mulch any leaves left on the lawn so they decompose quickly under the turf canopy
- Aerate and overseed if problem areas persist
- Adjust mowing frequency to changes in growth rate (continue to follow the 1/3 rule)
- Irrigate newly seeded areas so root development occurs prior to ground freeze
- Apply organic-based root enhancement products or apply fertilizer in safe, recommended quantities (consider using products engineered to "winterize" the root system)

2011

*Following our 40th Anniversary, major strides in fuel economy and emissions reductions took place in 2011, along with increased winter versatility with enhanced cab enclosure and snowthrower controls, including joystick control for lifting and spout rotation.*





**Winter:** For those of us who enjoy our lawns, the winter break is a bittersweet vacation. Depending on your local latitude and climate, the grass may be dormant for a few weeks up to a few months. This is an excellent time to make sure the mower is properly serviced with fresh oil, fresh filters, sharp blades and stabilizer added to the fuel. It's also a great time to attach the Drift Buster™ Snowthrower, Little Bully™ Dozer Blade or CleanSweep™ Rotary Broom to your Grasshopper zero-turn power unit if you live in a snow zone. True ZeroTurn™ maneuverability allows you to effortlessly go in and out of places you once thought only walk-behinds could go.

As for the lawn, make sure heavy pockets of leaves have been cleared and sticks and limbs or any other debris are picked up so they don't cause problems later.

If your longing for springtime leaves you forlorn, try "fresh-cut grass" scented candles or other fresh-cut grass scented products available from various sources to satisfy your senses until that beautiful lawn needs mowing again!

2014

*The HighLift™ 15B PowerVac™ collector is introduced. It can be raised to a 6-foot height to empty clippings into a elevated space, such as a truck bed.*

2015–  
2016



## Zero-Turn ... Everything!

*Grasshopper maneuverability is key for dethatching, aerating, vacuuming, leaf blowing and snow removal. Front-mounted AERA-vator® is perfect for aerating established turf, preparing bare ground for sodding or seeding and cultivating a plant bed without destroying the mulch.*



*Equipment Dealers Association's "Dealer's Choice" in the Outdoor Power Equipment category two years in a row. Led OPE manufacturers in all 12 categories, including overall satisfaction, product quality, parts quality and technical support.*

# A more responsible approach to lawn maintenance is consistent with our company philosophy toward the environment.

Putting a fresh spin on field guide usefulness, Grasshopper answers the top questions posed by home owners and facility managers regarding the challenges of producing the immaculate lawn.

The good news is that proper lawn maintenance has never been easier. Over 45 years of True ZeroTurn™ radius mower innovation has resulted in complete grounds care methods that are fast, produce a beautiful cut and are comfortable and easy to operate. Follow the few simple rules included in this field guide to produce a beautiful lawn.



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