

# Introducing the First Complete Line of Potassium Nitrate-Based Turf Products.

## Supported by Research

You've read the studies. A desirable ratio of potassium and nitrogen makes stronger turf requiring less maintenance. You know this is a higher ratio of potassium to nitrogen than you're applying now.

## Controlled-Release: the Key

But what choice have you had? Controlled-release materials are the basis of advanced turfgrass fertility programs. And until recently, controlled-release potassium nitrate has not been available.

Now K-Power's MultiCote® controlled-release coating allows you to apply the benefits of potassium nitrate-based fertilization across your entire program: Greens Grade, Fairways, even Combination products.

## K-Power® Builds Stronger Turf



K-Power's potassium helps turf plants better regulate water levels in their tissue and increase cell wall thickness. The plant is better able to resist temperature and drought stress as well as fungus and insect attacks. Without costly chemical treatments.

Stiffer leaves support the



golf ball for better shot-making. Even if you mow a little higher. Clippings are reduced because K-Power's desirable ratio of potassium to nitrogen reduces the rate of leaf growth.

And the low salt index of chlorine-free K-Power potassium nitrate makes it one of the safest turf fertilizers available.

## Unique Formulas

The Greens Grade line includes the only ammoniated homogenous products that combine the benefits of methylene urea and potassium nitrate.

The Fairway Blends provide a unique 50/50 ratio of controlled-release nitrogen to controlled-release potassium. For the growth and green-up you need. When you need it.

## Trial Programs

Contact your distributor for more information on K-Power and the world's most perfect trial program. Or call us at 1-800-227-2798.



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# (It's about time.)

then it seemed I just moved them around the course. I was generally using the cheapest product on the market, but began to notice that even at higher rates, I was wasting time and money.

Then I began listening to fellow superintendents talking about mapping heavy areas with the idea of getting a jump on them next year (a strategy that I was already using for preemergent weed control for the same reasons mentioned above).

This led me to my present program which consists of a granular product on my tees and greens after my spring aerification and verticut (usually mid May), the same product would be used on other targeted areas. I have had good response with Crusade the last couple of years.

Then right after this application I pump a wetting agent through the irrigation system as I do every month to help get the product into the soil. The balance of the summer I must admit I am back on the hit-or-miss approach.

I do believe that my changing of the chemical helps. I will use other granulars, switch from Orthene to Pageant, and use baits later to get the adults that survived all that.

I have done this cheaper with better success than the old program of spending all my budget by trying to go wall to wall with the least expensive product too late. I am very interested in the idea of biological control but at this time this approach is a little out of my league here.

I will have to let my bigger brothers try this approach first. This may prove to be the most cost effective and environmentally sound approach yet.

**Karl Schmidt**

**Lucern Lakes GC, Palm Beach Chapter**

**Year-around problem**

In South Florida mole cricket control is a 12-month-a-year problem. Control strategies include proper timing of insecticide applications in the spring for control of nymphs, to spot-treating problem areas in summer and fall, and hand-treating active crickets in winter on putting surfaces. The following information will describe the most effective methods I have utilized.

ticide applications in the spring for control of nymphs, to spot-treating problem areas in summer and fall, and hand-treating active crickets in winter on putting surfaces. The following information will describe the most effective methods I have utilized.

**Hand treatment on greens**

An educated staff and soap flushes are two good tools to assist in timing a spring pesticide application. I have had good experience with Crusade in muck soil conditions over the last couple of years. Target areas typically have been tee tops and slopes, bunker slopes, approaches, collars and green slopes.

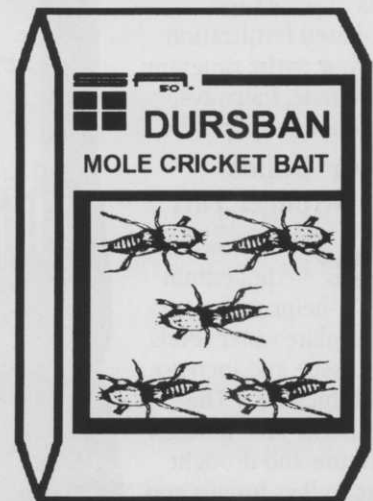
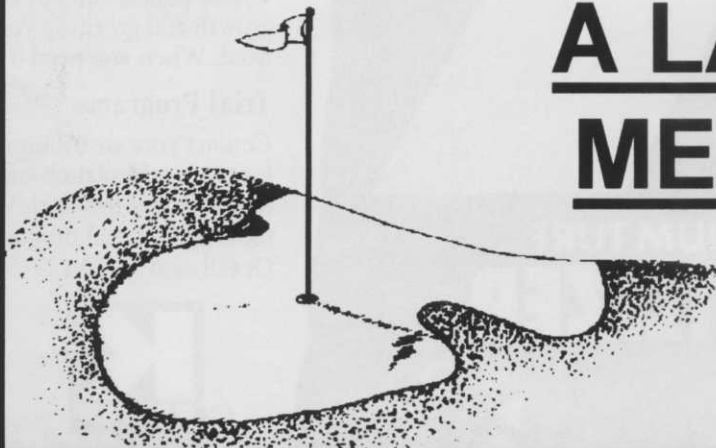
This is also a good time to treat areas that suffered severe damage in rough and fairways in late summer of the previous year.

**Spring/summer/fall adult control**

A successful mix for me has been: 3 1/3 lb Orthene, 1 qt Coax, per acre This tank mix buffered to a pH of 6-6.5 The perfor-

**GIVE MOLE CRICKETS  
WHAT THEY DESERVE...**

**A LAST  
MEAL!**



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mance of this tank mix increased significantly when we buffered the mix to bring down the pH.

#### High-pressure injection

Dursban, Orthene, Turcam, all provided excellent results when injected with a 550-gallon, 650-psi, PTO-driven injector. Rates of 550 gallons per acre made this a slow application process but the control achieved provided an excellent option for problem areas. (Don't forget to buffer pH)

#### Proact Nematode for control

I worked at one of the research sites for this project in the late 1980s. Although the research on our course showed the project was a failure, the turf condition in all areas was dramatically improved. These areas previously needed to be sodded annually

at the end of every season and now were providing consistently healthy playing conditions.

#### Mapping damaged areas

A useful tool for our operation is to post a detailed course map that can be used to identify areas of high cricket activity. Marking problem areas throughout the peak activity season will provide useful tracking that can be reviewed to plan strategies for spring nymph control the following year.

Robert G. Klitz, CGCS

Deer Creek CC,

South Florida Chapter

#### Begin with mapping

Our mole cricket control program begins with each course mapping out infes-

tations, which usually begins in mid February. This is when the first mating flights occur. Next, weekly soap flushes are performed to monitor the nymph development.

Once a viable population is observed, late afternoon/early evening topical sprays are employed. We like to time these if possible with the full moon or any significant rainfall which increases mole cricket activity. This process is repeated through June.

At this point, any heavy pocket infestations are treated with granular insecticides and watered per label instructions to achieve control. Again, soap flushes are used before and after to determine a rough percentage of control. This process is ongo-



*A trapping station was developed by IFAS to expose mole crickets to nematodes during early trials of the biological control that has since proven successful.*



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THE GREENS  
WERE THE  
BEST EVER!

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DID AN  
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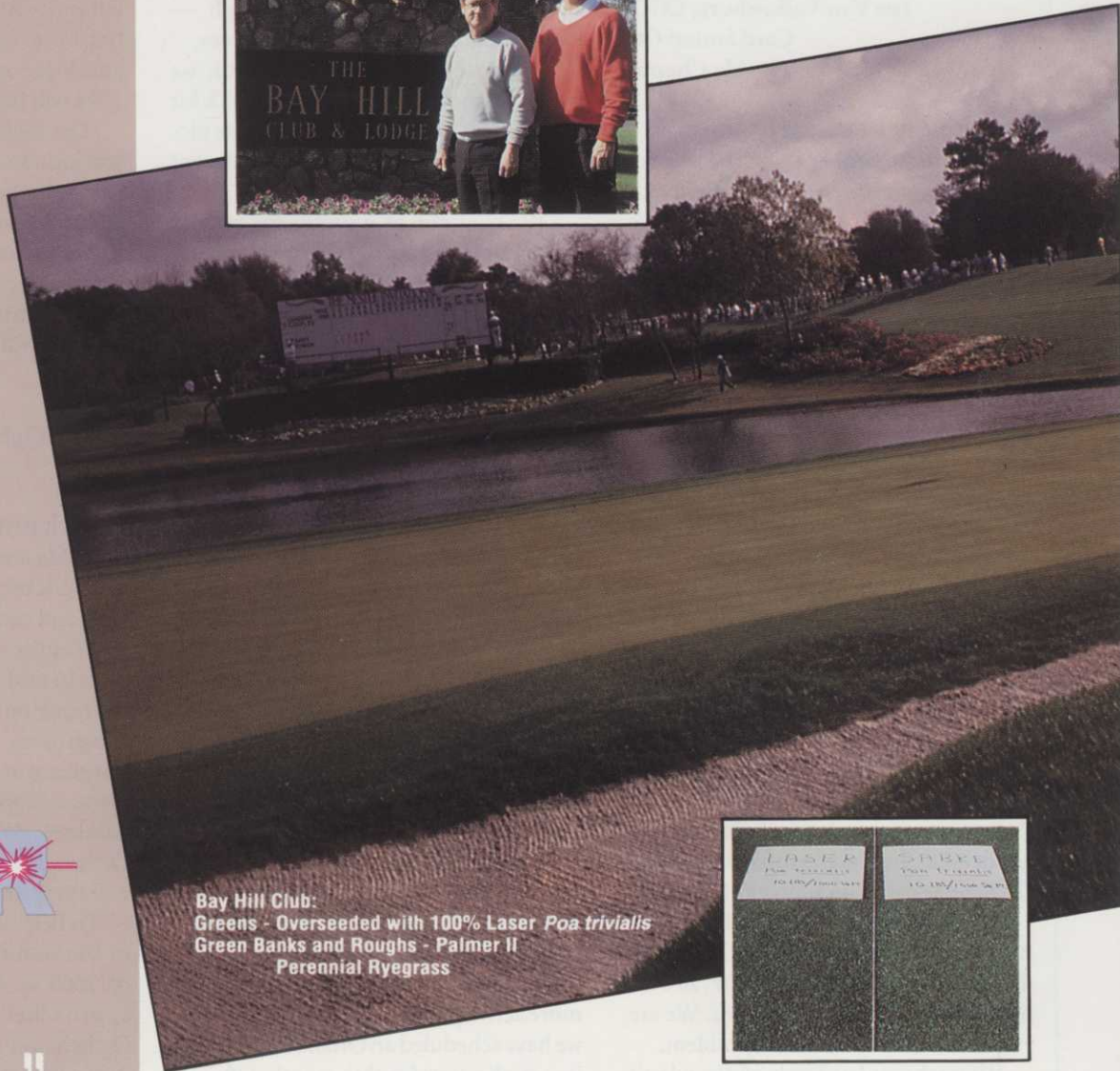
Dwight Kummer, GC Supt.  
Bay Hill Club, Orlando, FL



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Bay Hill Club:  
Greens - Overseeded with 100% Laser *Poa trivialis*  
Green Banks and Roughs - Palmer II  
Perennial Ryegrass



Dwight Kummer, GC Supt., Bay Hill Club and Jim Ellison of the Arnold Palmer Golf Management Company follow a very simple recipe for their successful greens overseeding program:

Apply 100% Laser *Poa trivialis* at the rate of 10-13 lbs/ 1000 sq. ft. mid-fall. For heavy traffic courses, like Bay Hill, that receive 250+ rounds per day, you may want to supplement the original overseeding with an additional 2 lbs/1000 sq. ft. on a weekly basis late December through January.

If you want darker color, excellent heat and traffic tolerance, smoother spring transition and proven, tournament-quality performance use Laser for your overseeding program. It worked at Bay Hill, it will work for you.

Note: Laser *Poa trivialis* can also be blended with turf-type perennial ryegrasses, such as Palmer II or Prelude II for Southern overseeding programs.

ing until an acceptable level of control is achieved.

**Lee Van Valkenburg, CGCS  
Card Sound GC,  
South Florida Chapter**

### Work very hard early

At Lake Region we are very fortunate that we do not have a severe mole cricket problem.

We have a piece of property that doesn't have any homes or any development except the club itself. This helps to keep the crickets to a minimum by not having to worry about any fly-ins.

For mole cricket control we use just a few different avenues for treatment.

Over the past years we have made maps of all the areas that get activity early. Usually in May we start to see the hot spots begin to show activity. We will immediately treat these hot spots with Mocap. If we get these spots early, it seems to dictate the rest of our year with crickets.

After that application we keep a close eye out for them and will use Orthene when they reappear. We will treat our greens with Triumph in the summer to help with crickets and nematodes also.

Last year we used some baits, and had good results, but I prefer to use Mocap and Orthene as my main sources of control.

As I have said though, I do not have a major mole cricket problem. If I had a devastated area the size of a carryall bed, that for us would be a huge area. We are very fortunate not to have a problem.

We work very hard early and just don't let them get too far before we go after them.

**Alan Puckett  
Lake Region Y&CC, Ridge Chapter**

### Program never ends

My mole cricket program really never ends at Colony West.

We start with soap flushes in late April to early May to get an idea of the size and species of mole crickets and to determine when the majority are hatching. We then map the areas of activity to keep a historical record of the location of activity throughout the years.

Two weeks after the majority hatches (about first or second week of June) we apply either Oftanol, Turcam 2 1/2G, or

Crusade to the fairways and roughs.

Also at this time we apply Triumph or — if nematode counts are high — NemaCur 10 G to the greens and tees.

After we make our applications, we return to the mapped areas and check for survivors. This gives a more accurate picture of the effectiveness of the treatment than body counts alone.

We continue to monitor for activity from July to October. If we see an increase in activity, we spot-treat with either baits or Orthene. The best results occur when making this application in the evening, after the noon rains have passed.

From November to March, if all went according to plan, the mole crickets that survived the summer are not in sufficient numbers to cause any damage that would require treatment. We only make treatments during this time of year when damage occurs on the greens.

**Dale Kuehner, CGCS  
Colony West CC, South Florida  
Chapter**

### Hatching earlier this year

Mole crickets this year appear to be hatching earlier than they have in the past.

Normally we have tried to achieve our best control in early July with Mocap or Oftanol. This is the time of the year when we have experienced heavy feeding and we feel most eggs have hatched.

However, this year there seems to be more activity than usual in early June and we have scheduled an Oftanol with fertilizer application for this month. Oftanol has not been used at Isleworth in several years so we anticipate a high level of control.

We will continue to treat hot spots with Orthene through August at which time we will switch to baits. We experimented this past winter with some newer products like the third-generation pyrethins which seemed promising.

Again, we still feel that timing is the most important key. Choosing the right product for the development stage the mole cricket is in will give the best results.

**Buck Buckner  
Isleworth GC, Central Florida/  
Ridge Chapters**

### More biological controls

Control of Mole Crickets for summer, fall and winter of 1993 and spring of 1994 has been very successful. Our plan of attack for summer, fall, and winter of 1994 will be similar to 1993.

The slight modification we plan this year includes more biological control (parasitic nematodes, ProAct), and the addition of Turcam to our arsenal of weapons. I feel that the success of 1993 had a lot to do with the use of parasitic nematodes. We will continue to monitor areas treated Biologically, and will hopefully see great results in 1994.

**Bob Bittner, CGCS  
Club at Pelican Bay, Everglades  
Chapter**

### Knock out the nymphs

At Meadowbrook, we strive to control mole cricket populations by hitting them hard and early in their nymph stages.

We inject Mocap (75 lbs/acre) on fairways in mid June and apply Crusade (80 lbs/acre) on green slopes and irrigated rough areas. Control of mole crickets on our greens is achieved by using Orthene (4 lbs/acre) applied with Down-n-Thru (30 oz/acre). We also keep solutions of Orthene in spray bottles on greensmowers and spray any mounding activity we see.

To help us control the bigger crickets in late summer, we apply Triumph (1.5 oz/1000 sq. ft.) on our greens, tees and approaches. We continue to spray Orthene on any hot spots that turn up during the year.

Since we try to hit mole crickets when they are young, it is imperative to know where they are on the course, therefore we map extensively in the summer and fall. When we have a warm period in the winter, we take special note of any cricket activity. We have found a little activity in the winter signifies extensive cricket damage in the summer and fall.

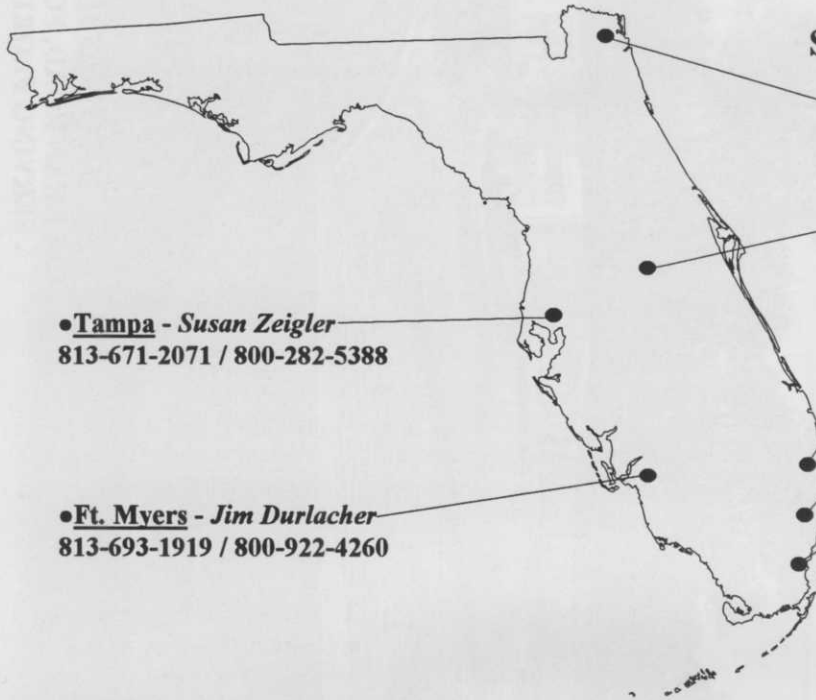
**Craig Boller  
Meadowbrook GC,  
Seven Rivers Chapter**

### Totally changed philosophy

Although mole crickets represent the number-one pest problem for superintendents during the summer months, I have

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# Groundsmaster® 300 Series

Timeless durability, reliable power and unsurpassed cutting quality. It's no wonder why Groundmaster riding rotaries remain the standard to which all others compare.



# The Proven Performers

For 20 years commercial mowing professionals have put Groundsmaster® 300 Series through rigorous tests against time and terrain. And for 20 years the 300 Series continue to be the preferred choice among these same professionals. They have come to rely on these commercial mowers to handle even the most extreme cutting conditions with unmatched productivity.

The *proven* performers. Long on durability. Tight on turns. With power to spare. Today the 300 Series continue to advance your expectations in measures of reliability, efficiency and unsurpassed quality of cut.

Whatever your situation or application, there's a Groundsmaster to serve your utmost demands.



## Power-Packed

Service life is optimized with these liquid cooled performers. Durably built engines, either 25 hp—diesel or 45 hp—gas, offer fuel economy yet plenty of power. The powerful 345 gas version has its power regulated and reserved to effectively increase torque and power while reducing noise and vibration. It also equips a Distributorless Ignition System for increased reliability and less downtime.

Fully pressurized lubrication, heavy duty air cleaners, industrial sized radiator and engine protection systems go a long way to enhance



engine efficiencies and keep you on the job.

And routine servicing is so simple it promotes itself. Designed to open wide with conveniently located, easy-to-reach components, saves you time and fosters proper servicing.

## Incredible Control

Groundsmaster design continues to evolve in response to the specific demands of today's turf professional, even meeting future expectations. Toro understands that exacting control, superior traction and a comfortable ride improves operator performance making the job easier, faster and ultimately more profitable. To that end, there's front wheel drive, rear wheel power steering, single pedal forward/reverse action, a compact wheelbase and individual drum wheel brakes. All for incredible, smooth control and effortless maneuverability whether trimming close, transporting or trailering.

# Traction-Plus

Traction and stability are the emphasis with extra large turf tread tires and, a counterbalance system that automatically transfers weight between the deck and tractor when performance demands additional traction.

For enhanced traction the Groundsmaster 325-D with **4-Wheel Drive** excels in traction where competitive two-wheel differential lock types can't. Toro's 4-wheel drive features an on-demand overrunning clutch that prevents rear wheel skidding in turns and ensures excellent traction.



# Operator Comfort

Providing Groundsmaster operators with excellent control lessens the fatigue experienced from a long day's ride. And a comfortable operator's station with

excellent visibility extends to consistent operator performance and productivity.

For ultimate comfort, the high back, foam cushion deluxe suspension seat adjusts to individual operator's weight and length. Armrests afford relaxed steering plus the steering wheel tilts for individual steering preference.



Easy to mount and dismount, the uncluttered operator's station provides plenty of foot room with conveniently located brake and traction pedals.

Independent wheel brakes optimize control and lock together for smooth, even braking power.

A full instrumentation panel offers easy-to-read gauges for monitoring all engine functions and easy-to-reach controls for operator efficiency.

Four link power assist steering with optional cruise control significantly raises productivity.

And upfront implement positioning affords maximum visibility and maneuverability.

# Versatile Cutting Unit Family.

Toro's Groundmaster®72" Side or Rear Discharge Cutting Units have a reputation for cutting in areas and at speeds that others can't.

Durably built with 11 gauge steel construction, heavy duty spindle housings, splined spindle, tapered roller bearings and welded blade adaptors; these decks are more rugged, require less servicing and last longer.

Optimally designed, a deep 6" Wind Tunnel® housing and three 25" blades create superior vacuum action for a smooth, even cut,



even dispersion – at no loss of ground speed.

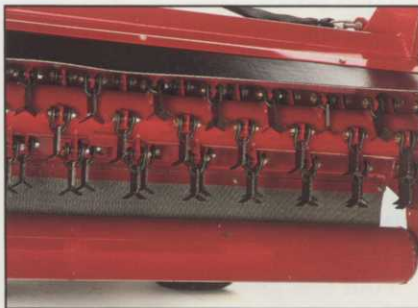
Four solid rubber deck caster wheels optimize ground contour

following. Scalping is virtually eliminated with antiscalp features like oversized antiscalp rollers and adjustable skids.

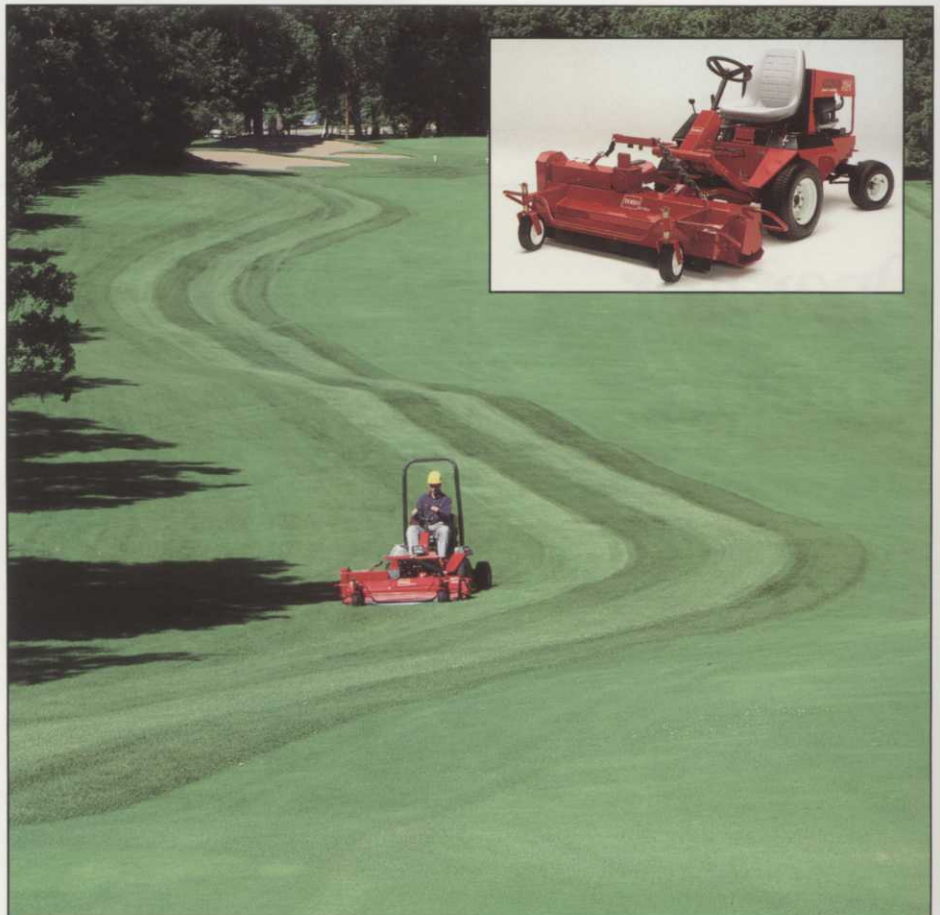
## Fine Cut Flail 2760

Named for its high quality of cut and exceptional striping characteristics, Toro's *Fine Cut Flail* is a worthy alternative for mowing your formal and semi-formal turf. The 2760 performs without clumping, not even in heavy wet grass. And, its full width rear discharge further enhances after-cut appearance while it also makes for safer operations.

But its versatility may be its greatest advantage. The same mower that delivers you a praiseworthy cut can serve to



scalp prior to overseeding, break up aeration cores or mulch leaves. All without the hassle of changing or adding attachments.



Durability features of the Fine Cut Flail ensure a lasting performance:

- Built with heavy duty 10 gauge steel and 7 gauge reinforcement braces.

- Floating blades move freely to prevent breakage when striking hard objects.
- Reversible rotor extends blade wear.
- Rotor and roller shafts have greaseable ball bearings.

# The Guardian® 72" Recycler®

Another member of Toro's proven cutting unit family provides commercial recycling capabilities that will enhance your performance in areas of safety, productivity and after-cut appearance.

Guardian is a commercial recycler innovatively designed to cut without discharge. With the absence of discharge you create a safer mowing environment.

"No discharge" offers time saving benefits that go a long way to increase your productivity, too! The need to collect and dispose of clippings is eliminated. Trimming maneuvers can be approached from either side. And it's easier to trailer.

Toro's commercial recycler is designed with special deflectors



*Excellent mulching capabilities take the "chore" out of fall clean up.*



that cycle clippings to be cut and recut, forcing the smallest of clippings back into the turf. This unique vertical discharge system prevents windrowing and provides an after-cut appearance you can be proud of.

Guardian is solidly built to power against rugged conditions. Its patented design includes these features:

- Proven heavy duty spindles
- Anti-scalp cups and rollers for smooth ground following
- Patented rear castor isolation system
- Quick release covers for ease of servicing

All Groundsmaster 300 Series prime movers, except the 327, retrofit to the Guardian 72" Recycler. Take advantage of this deck of the future and experience the safety of no discharge with maximized efficiency for a quality of cut that's unsurpassed.

**Toro cares!, and wants to remind you that no product is a substitute for sound safety practices. Always clear away debris and do not mow when people are in the operating area.**

# Groundsmaster® 300 Series are versatile professionals with year 'round accessories.



**Cab With ROPS.** Completely enclosed cab loaded w/std. features turns your Groundsmaster into an all-weather vehicle. Heater and light kits optional.



**2-Post or 4-Post Roll Over Protective Structure (ROPS).** Includes seat belt and optional canopy/sunshade with acoustical roof insulation.



**Debris Blower.** Forceable winds effectively clean sidewalks, parking lots, tees, greens, fairways.



**Aero-Seeder.** Drops seed into parallel slits in the ground with adjustable rate and seed size.



**Rotary Broom** for a variety of uses; sweeps parking areas, walkways and turf of dirt, debris, leaves and snow. Minimizes hand labor.



**V-Plow.** Rugged, 48" V-plow for snow has front skid and reversible/replaceable scraper blades for low cost snow removal. Requires special mounting kit.



**2-Stage Snowthrower.** Big 48" two stage snowthrower with adjustable skids. Directional discharge chute is electrically adjusted from operator's seat; 180°. Driftbreaker auger and oversized second stage clears snow in a hurry and prevents clogging.

**Speed Control.** Lets you set your unit for a continuous operating speed. Automatic override when operator moves drive pedal or operates brakes.

**Core Pulverizer.** Quickly and efficiently pulverizes cores and topdresses after aeration.

**Aerator.** Easily installed, self-propelled operation and out-front vision increases productivity. Available with 3/4" tines.

**Leaf Mulcher.** Made of heavy gauge steel, the leaf mulcher mounts under side discharge decks allowing blades to vacuum and pulverize fallen leaves.

# Groundsmaster® 300 Series Specifications\*

	<b>GROUNDMASTER 345, 2 WHEEL DRIVE — GAS, MODEL 30789</b>	<b>GROUNDMASTER 325-D, 2 WHEEL DRIVE — DIESEL, MODEL 30788 AND GROUNDMASTER 325-D, 4 WHEEL DRIVE — DIESEL, MODEL 30795</b>
<b>ENGINE</b>	Ford, 4 cylinder, 4 cycle, overhead valve, liquid cooled gas engine with centrifugal water pump. Ford engine rating of 45 hp (33.6 kW); governed to a maximum speed of 3250 rpm. 67 cu. in. (1100 cc) displacement. Distributorless ignition system; spark is controlled by a DIS solid state electronic module. 3.5 quart (3.3 liter) oil capacity; replaceable oil filter. Replaceable fuel filter. Forged connecting rods, cast iron cylinder head and block. Mechanical fuel pump; heavy duty remote mounted air cleaner. Spark arrestor muffler is standard.	Mitsubishi, 3 cylinder, 4 cycle, vertical overhead valve, liquid cooled diesel engine with centrifugal water pump. 25 hp (18.6 kW) @ 2850 rpm rated; governed to a maximum speed of 3250 rpm. 59.7 cu. in. (979 cc) displacement. Three start assist glow plugs; 12 volt (2.0 kW) gear reduction starter with solenoid. Forced lubrication with trochoid pump. 3.5 quart (3.3 liter) oil capacity; replaceable oil filter. Forged connecting rods, cast iron cylinder head and block. Fuel injection pump. 12 volt electric fuel pump with electric fuel pump. Replaceable fuel filter/water separator with 3 micron filtration; bottom drain for water removal. Heavy duty, remote mounted air cleaner. Spark arrestor muffler is standard.
<b>FUEL CAPACITY</b>	6.5 gallons (24.6 liters) unleaded gasoline.	6.5 gallons (24.6 liters), No. 1 or 2 diesel fuel.
<b>CONTROLS</b>	Hand-operated throttle, choke, PTO, hydraulic implement lift and foot-operated traction pedal.	Hand-operated throttle, PTO, hydraulic implement lift and foot-operated traction pedal.
<b>GAUGES &amp; DIAGNOSTICS</b>	Ammeter, hour meter, fuel gauge, coolant temperature switch-gauge (prevents overheating), oil pressure warning light and buzzer.	Ammeter, hour meter, fuel gauge, coolant temperature switch-gauge (prevents overheating), oil pressure warning light and buzzer, glow plug switch/indicator.
<b>ELECTRICAL FEATURES</b>	12 volt battery, 370 amp, cold cranking performance at 0°F (-18°C). Dash mounted ignition switch, 55 amp alternator. Seat, PTO and traction interlock switches.	Maintenance free 12 volt battery, 630 amp, cold cranking performance at 0°F (-18°C). Dash mounted ignition switch, 35 amp alternator, 40 amp manual reset circuit breaker. Seat, PTO and traction interlock switches.
<b>WEIGHT</b>	Approx. 1,300 lbs. (590 kg) dry weight.	Model 30788: Approx. 1,250 lbs. (567 kg) dry weight. Model 30795: Approx. 1,665 lbs. (755 kg) dry weight; includes ROPS.

## SPECIFICATIONS COMMON TO GROUNDMASTER 300 SERIES PRIME MOVERS

<b>RADIATOR</b>	Mid-mount industrial radiator with tube and fin construction; 7 fins per inch. Approx. 6 quart (5.7 liter) capacity. Stamped top and bottom tanks with hydraulic cooler in lower tank. Thermally stable water cooled hydrostatic system regulates operating temperature, (adjusts seasonally).
<b>TRACTION DRIVE</b>	Variable speed, axial piston, hydrostatic in-line transmission; charge circuit hydraulics with 25 micron filtration provide hydraulic flow for power and implement lift. Transmission mates to drive axle; 20.9-1 reduction, approx. 5 quart (4.7 liter) oil lubricant capacity. Single foot pedal control of forward/reverse ground speed. Optional Electronic Cruise Control Kit, Model 30677, available. <b>Model 30795:</b> Rear axle is mechanically driven from front axle by a universal shaft. An on-demand overrunning clutch prevents rear tire scuffing in turns and maintains turning radius. Approx. 1.9 quart (1.8 liter) gear lubricant capacity.
<b>IMPLEMENT DRIVE AND LIFT</b>	1-1/8" (2.9 cm) splined PTO shaft driven by a tight-slack double "A" section, torque team V-belt. An anti-side load system protects the crankshaft output bearings. Lift cylinder 2.5" x 3.25" (6.4 x 8.3 cm) actuates a T-bar of 2" (5 cm) square structural tubing with convenient attaching chains for implement lift. Two large torsion springs counterbalance implements for greater stability and traction.
<b>STEERING</b>	Hydraulic power steering with control valve and metering section which regulates pressure and meters flow to steering cylinder. Steering valve features priority flow which automatically goes to steering function. 13" (33 cm) diameter steering wheel. Tilt steering wheel with a 15° range of movement releases and locks by a single lever control.
<b>GROUND SPEED/CLEARANCE</b>	0-9.5 mph (0-15.3 km/h), infinitely variable. Front ground clearance of 7.5" (19 cm). <b>Model 30795:</b> rear ground clearance of 4.5" (11 cm).
<b>TIRES/WHEELS/PRESSURE</b>	Two front traction drive tires — 23 x 8.50-12 tubeless, extra traction tread, 4-ply rating. Demountable drop center rims. Two rear steering tires — Models 30789/30788: 16 x 6.50-8, tubeless, ribbed type, 4-ply rating. Model 30795: 18 x 6.50-8, tubeless, extra traction tread, 4-ply rating. Tire pressures: 21 psi (145 kPa). Optional extra wide tire and rim: 23 x 10.50-12 tubeless, 4-ply rating, Part No. 62-7020; (not applicable when using cutting unit model 30710).
<b>MAIN FRAME</b>	Welded construction steel reinforced with square and rectangular tubing.
<b>BRAKES</b>	Individual 7" x 1.75" (17.8 x 4.4 cm) drum type wheel brakes. Parking brakes on front traction wheels. Dynamic braking through traction drive.
<b>SEAT</b>	Optional: High back cushion seat, Model 30708, or deluxe adjustable suspension seat, Model 30772. (Seat Adapter Kit, Model 30709, required with 30772).
<b>STORAGE COMPARTMENTS</b>	Toolbox with latch down cover located in fender. Operator manual storage tube furnished for attachment to seat frame.
<b>WARRANTY</b>	Two years or 1500 operational hours, whichever comes first. Refer to the appropriate Groundsmaster 300 Series Operators' Manual for further details.
<b>CERTIFICATION</b>	Groundsmaster 300 Series prime movers and rotary cutting units are certified to meet the American National Standard Institute's (ANSI) specifications, B71.4-1990 and applicable Federal and State regulations based thereon.

## FULL FLOTATION CUTTING UNITS

	<b>72" SIDE DISCHARGE, MODEL 30722 &amp; 72" REAR DISCHARGE, MODEL 30710</b>	<b>GUARDIAN® 72" RECYCLER®, MODEL 30716</b>	<b>FINE CUT FLAIL 2760, MODEL 44590</b>
<b>TYPE</b>	72" (183 cm) width of cut, three blade, front mounted rotary. Side or rear discharge respectively.	72" (183 cm) width of cut, three blade, front mounted rotary. Recycling capability with no discharge.	60" (152 cm) width of cut, 144 knives rotating at 2300 rpm, front mounted flail. Rear discharge.
<b>MOWING RATE</b>	Mows up to 3.8 acres/hr (1.5 hectares/hr) at 5.5 mph (8.9 km/hr). Mowing rate is dependent on conditions.		Mows up to 3.1 acres/hr (1.25 hectares/hr) @ 5.5 mph (8.9 km/hr). Mowing rate is dependent on conditions.

\*Specifications and design subject to change without notice.

# Groundsmaster® 300 Series Specifications\* (continued)

FULL FLOTATION CUTTING UNITS (continued)									
	<b>72" SIDE DISCHARGE, MODEL 30722 &amp; 72" REAR DISCHARGE, MODEL 30710</b>	<b>GUARDIAN® 72" RECYCLER®, MODEL 30716</b>	<b>FINE CUT FLAIL 2760, MODEL 44590</b>						
<b>TRIMMING ABILITY</b>	Deck offset to the right from centerline: 18" (46 cm). Deck trim width from outside of standard traction tire to trim side — right: 23" (58 cm). Uncut circle — right: 15" (38 cm). Uncut circle with use of wheel brakes: 0". (Rear discharge trims both sides).	Deck offset to the right from centerline: 7" (18 cm). Deck trim width from outside of standard tire to trim side — right: 22" (56 cm). Uncut circle right: 24" (61 cm). Uncut circle with use of wheel brakes: 0". Guardian 72" Recycler trims on both sides.	Flail offset to the right from centerline: 4.5" (11 cm). Trim width from outside of standard tire to right side: 12" (30 cm). Uncut circle on right side: 28" (71 cm). Flail 2760 trims on both sides.						
<b>HEIGHT OF CUT</b>	1-4" (2.5 - 10 cm) adjustable front and rear in .5" (13 mm) increments with spacers on the caster shafts.	2-5" (5.1 - 12.7 cm) adjustable front and rear in .5" (13 mm) increments with spacers on the caster shafts. 2" (5 cm) height of cut not recommended under severe cutting conditions.	0-4" (0 - 10 cm) adjustable front and rear in .5" (13 mm) increments with spacers on the front caster shafts and two bolts on the rear roller.						
<b>CONSTRUCTION</b>	<b>Model 30722:</b> 11 gauge steel, 6" (15 cm) deep with 2" (5 cm) step. Reinforced with 3.5" (8.9 cm) x 7 gauge channel. <b>Model 30710:</b> 11 gauge steel, 4" (10 cm) deep housing. Reinforced with 3.5" x 7 gauge channel.	12 gauge steel, 5.5" (14 cm) deep, welded construction reinforced with 10 gauge channels and plates.	10 gauge steel housing with 7 gauge sides. Welded construction reinforced with 10 gauge channels and plates.						
<b>CUTTER DRIVE</b>	Isolation mounted PTO driven gearbox with 1.26:1 spiral bevel gears. "B" hex section belts to spindles. 1.25" (3.2 cm) diameter spindle shafts, protected by rugged conical spindle housing, turn on two greaseable tapered roller bearings (greaseable from top of deck). A positive splined connection attaches pulleys to spindle shafts for high torque capacity.	Isolation mounted PTO driven gearbox with 1.26:1 spiral bevel gears. Single "BB" section hex belt to spindles. Self-tensioning idler pulleys. 1.25" (3.2 cm) diameter spindle shafts, turn on two greaseable tapered roller bearings (greaseable from top of deck). A positive splined connection attaches pulleys to spindle shafts for high torque capacity.	PTO drive to 1:1 ratio bevel gearbox. Two 3V section belts to rotor. Self-tensioning 4" (10 cm) diameter idler pulley. 1.25" (3.2 cm) diameter rotor shaft turns on greaseable ball bearings.						
<b>BLADES</b>	Three 25" (64 cm) long, .25" (6 mm) thick, heat-treated steel, suction-lift blades.	Three 25" (64 cm) long, .25" (6 mm) thick, heat-treated steel, Recycler blades.	144 heat-treated free pivoting knives rotating @ 2300 rpm.						
<b>SUSPENSION &amp; CASTER WHEELS</b>	Two front and rear caster tires consist of hard rubber and roller bearings. Deck counterbalanced by two torsion springs. Optional Pneumatic Wheel & Tire Assembly, P/N 12-1509, (two required).		Two 10" x 3.25" (25 x 8.3 cm) front hard rubber caster wheels with roller bearings. Flail counterbalanced by two torsion springs. Full width rear roller.						
		<table border="0"> <tr> <td style="text-align: center;"><b>Front Tires</b></td> <td style="text-align: center;"><b>Rear Tires</b></td> </tr> <tr> <td><b>Models 30722 &amp; 30710</b> 10.00" x 3.25" (25 x 8.3 cm)</td> <td>6.25" x 3.00" (16 x 7.6 cm)</td> </tr> <tr> <td><b>Model 30716</b> 10.00" x 3.25" (25 x 8.3 cm)</td> <td>8.00" x 3.50" (20 x 8.9 cm)</td> </tr> </table>	<b>Front Tires</b>	<b>Rear Tires</b>	<b>Models 30722 &amp; 30710</b> 10.00" x 3.25" (25 x 8.3 cm)	6.25" x 3.00" (16 x 7.6 cm)	<b>Model 30716</b> 10.00" x 3.25" (25 x 8.3 cm)	8.00" x 3.50" (20 x 8.9 cm)	
<b>Front Tires</b>	<b>Rear Tires</b>								
<b>Models 30722 &amp; 30710</b> 10.00" x 3.25" (25 x 8.3 cm)	6.25" x 3.00" (16 x 7.6 cm)								
<b>Model 30716</b> 10.00" x 3.25" (25 x 8.3 cm)	8.00" x 3.50" (20 x 8.9 cm)								
<b>ANTI-SCALP FEATURES</b>	<b>Model 30710:</b> One front center anti-scalp roller and left and right skids. <b>Model 30722:</b> one front center and two rear center anti-scalp rollers and RH skid. All rollers are 2-position adjustable.	Anti-scalp cup located on each blade. Three anti-scalp rollers. Adjustable skids.	Anti-scalp shoe located on each side of unit. Full width roller at rear with greaseable 1" (2.5 cm) bearings.						
<b>DECK COVERS</b>	Quick-release covers. No tools required to remove.	Quick-release, high impact plastic covers. No tools required to remove.	Bolt-on covers.						
<b>WEIGHT</b>	Model 30722: 400 lbs. (181 kg) Model 30710: 415 lbs. (188 kg)	465 lbs. (211 kg)	470 lbs. (213 kg)						

## GROUNDMASTER ACCESSORIES

2-POST ROLL-OVER PROTECTIVE STRUCTURE (ROPS)		CAB WITH ROPS	
<b>STANDARD FEATURES</b>	Roll-over Protective Structure (2" (5 cm) x 3" (7.6 cm) x 1/4 gauge welded tubing), seat belt and attaching system.	<b>STANDARD FEATURES</b>	Roll-over Protective Structure, seat belt and attaching system. Tinted safety glass throughout. Removable door with locking handle. 1" (2.5 cm) acoustical roof insulation. Steering post filler plate and underseat filler panel, heavy duty floor mat, rubber isolator mounts and hood support.
<b>WEIGHT</b>	2-Post ROPS: 135 lbs. (61 kg). Canopy Kit (optional): 90 lbs. (41 kg), approximate.	<b>ELECTRICAL FEATURES</b>	Two headlights, one rear working light, flashing amber beacon, defroster fan, windshield wiper, wiring harness and toggle switches.
<b>4-POST ROLL-OVER PROTECTIVE STRUCTURE WITH SUN ROOF</b>		<b>WEIGHT</b>	580 lbs. (263 kg).
<b>STANDARD FEATURES</b>	Roll-over Protective Structure, seat belt and attaching system. Sun roof with 1" (2.5 cm) acoustical roof insulation, rubber isolator mounts and hood support.	<b>OPTIONS</b>	Heater Kit. Road Light Kit: two combination signal and flasher lights, controls, mounting hardware and wiring.
<b>WEIGHT</b>	250 lbs. (113.4 kg); shipping weight.	<b>48" (122 cm) SNOW BLOWER, MODEL 44910</b>	
<b>OPTIONS</b>	Road Light Kit: roof mounted flashing amber beacon, two front and one rear working lights, two combination signal and taillights, signal controls and switch panel.	<b>STANDARD FEATURES</b>	48" (122 cm) 2-stage with adjustable skid shoes. Directional chute rotates electrically from the operator's seat, 180°.
		<b>WEIGHT</b>	400 lbs. (181 kg).

\*Specifications and design subject to change without notice.



# Groundsmaster® 300 Series Specifications\* (continued)

IMPLEMENT AND ACCESSORY COMBINATIONS																					
TORO ACCESSORIES																		OTHER MANUFACTURERS' ACCESSORIES**			
	72" SD Deck 30722	72" RD Deck 30710	Guardian® 72" Recycler® 30716	Fine Cut Flail 2760 Mower 44590	Cushion Seat 30708	Deluxe Seat 30772	48" V-Plow 30750	Speed Control Kit 30677	Plug Pulverizer 2560 44892	Debris Blower 2670 (w/o kit) 44524	Aero-Seeder 82 44815	Aerator 75 44890	Snow Blower 150 44910	[2] Wide Tires 23 x 10.5-12 62-7020	Tire Chains (rear) 76-1840	[3] 4-WD Shaft Kit 72-3741	Jack Pad Kit 76-0900	Rotary Broom	2-Post and 4-Post ROPS	Cab w/ ROPS	Grass Collection System
Groundsmaster 345 Model 30789	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	—	—	Opt.	Opt.	Opt.	Opt.	Opt.
Groundsmaster 325-D, Model 30788	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	—	—	Opt.	Opt.	Opt.	Opt.	Opt.
Groundsmaster 325-D, 4WD, Model 30795	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	2-Post Std.	Opt.	Opt.
Seat Adapter Kit Model 30709	—	—	—	—	—	Req.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Armrest Kit Model 30707	—	—	—	—	Opt.	Opt.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Leaf Mulcher Kit Model 30733	Opt.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Lift Blade P/N 23-2410	Opt.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
V-Plow Mounting Kit Model 30757	—	—	—	—	—	—	Req.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tire Chains (front) P/N 11-0390	—	—	—	—	—	—	Req.	—	—	—	—	—	Opt.	—	—	—	—	Opt.	—	—	—
Wheel Weight Kit (2-25 lb. (11 kg) wts.) P/N 11-0440	Opt.	Opt.	Opt.	Opt.	—	—	Opt.	—	—	—	—	—	Opt.	—	—	—	—	Opt.	—	—	—
Rear Weight (1-35 lb. (16 kg) wt.), P/N 24-5790	[1] Opt.	[1] Opt.	[1] Opt.	[1] Opt.	—	—	Opt.	—	Opt.	Opt.	Opt.	Opt.	Opt.	—	—	—	—	Opt.	Opt.	Opt.	Opt.
Rear Weight Kit (2-35 lb. (16 kg) wts.), P/N 24-5780	[1] Opt.	[1] Opt.	[1] Opt.	[1] Opt.	—	—	Opt.	—	Opt.	Opt.	Opt.	Opt.	Req.	—	—	—	—	Opt.	Opt.	Opt.	Opt.
Rear Weight Box Kit P/N 62-6590 [4]	Opt.	Opt.	Opt.	Opt.	—	—	Opt.	—	Opt.	Opt.	Opt.	Opt.	Opt.	—	—	—	—	—	—	—	—
10" (25 cm) Pneumatic Wheel & Tire (2 req'd) P/N 12-1509	Opt.	Opt.	Opt.	Opt.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10" (25 cm) Segmented Tire Assembly (2 req'd) P/N 76-1880 [5]	Opt.	Opt.	Opt.	Opt.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guardian 72" Recycler Low Height of Cut Kit Model 30680	—	—	Opt.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Debris Blower 2670 Kit Model 44535	—	—	—	—	—	—	—	—	—	Req.	—	—	—	—	—	—	—	—	—	—	—

[1] To comply with ANSI / OPEI B71.4-1990 stability requirements, Groundsmaster 2-wheel drive models 30789 and 30788 require additional rear weight. See "Counterbalance Weight Requirement" chart on following page.

[2] Wide Tires, P/N 62-7020, will not fit with Model 30710 Rear Discharge Cutting Unit.

\*Specifications and design subject to change without notice.

\*\*The Toro Company does not manufacture or sell these accessories, nor does Toro guarantee these accessories in any manner whatsoever. The manufacturers of these products are as follows: M-B Company Inc. of Wisconsin, Sweepster Jenkins Equipment Company, Custom Products and PeCo, Inc.

[3] Direct Drive Shaft Kit, P/N 72-3741, is for rear axle — no overrunning clutch.

[4] Rear Weight Box Kit, P/N 62-6590, weighted with suitable ballast, may be substituted for cast weights.

[5] Must order P/N 80-0040 Spacer to complete assembly.

# Groundsmaster® 300 Series Specifications\* (continued)

OVERALL SET UP DIMENSIONS AND WEIGHTS (approximate)			
	Groundsmaster 345 – Gas Model 30789	Groundsmaster 325-D Model 30788	Groundsmaster 325-D, 4WD Model 30795
<b>WIDTH</b> w/30722 SD Cutting Unit w/30710 RD Cutting Unit w/30716 72" Recycler® Cutting Unit w/44590 Fine Cut Flail 2760	46" (117 cm) (measured from outside of front tires) 85.5" (217 cm) 76.5" (194 cm) 75.5" (192 cm) 69" (175 cm)	46" (117 cm) (measured from outside of front tires) 85.5" (217 cm) 76.5" (194 cm) 75.5" (192 cm) 69" (175 cm)	47" (119 cm) (measured from outside of rear tires) 85.5" (217 cm) 76.5" (194 cm) 75.5" (192 cm) 69" (175 cm)
<b>LENGTH</b> w/30722 SD Cutting Unit w/30710 RD Cutting Unit w/30716 72" Recycler® Cutting Unit w/44590 Fine Cut Flail 2760	91" (231 cm) 112" (285 cm) 115" (292 cm) 117.5" (298 cm) 116" (295 cm)	91" (231 cm) 112" (285 cm) 115" (292 cm) 117.5" (298 cm) 116" (295 cm)	94" (239 cm) 115" (292 cm) 118" (300 cm) 118.5" (301 cm) 117" (297 cm)
<b>HEIGHT</b>	50" (127 cm)	50" (127 cm)	50" (127 cm) w/ROPS 78.5" (199 cm)
<b>DRY WEIGHT</b> w/30722 SD Cutting Unit w/30710 RD Cutting Unit w/30716 72" Recycler® Cutting Unit w/44590 Fine Cut Flail 2760	1,300 lbs. (590 kg) 1,700 lbs. (771 kg) 1,715 lbs. (778 kg) 1,765 lbs. (800 kg) 1,781 lbs. (808 kg)	1,250 lbs. (567 kg) 1,650 lbs. (748 kg) 1,665 lbs. (755 kg) 1,715 lbs. (778 kg) 1,731 lbs. (785 kg)	1,665 lbs. (755 kg) (w/ROPS) 2,065 lbs. (937 k) (w/ROPS) 2,080 lbs. (943 kg) (w/ROPS) 2,165 lbs. (982 kg) (w/ROPS) 2,146 lbs. (973 kg) (w/ROPS)
<b>WHEELBASE</b>	49" (124 cm)	49" (124 cm)	51" (130 cm)

COUNTERBALANCE WEIGHT REQUIREMENT <sup>1</sup>			
	72" SD, MODEL 30722 & 72" RD, MODEL 30710	GUARDIAN® 72" RECYCLER®, MODEL 30716	FINE CUT FLAIL 2760, MODEL 44590
<b>GROUNDMASTER 345, MODEL 30789</b>	105 lbs. (47.6 kg) (1) 24-5780 & (1) 24-5790	105 lbs. (47.6 kg) (1) 24-5780 & (1) 24-5790	105 lbs. (47.6 kg) (1) 24-5780 & (1) 24-5790
<b>GROUNDMASTER 325-D, MODEL 30788</b>	70 lbs. (31.7 kg)	70 lbs. (31.7 kg)	70 lbs. (31.7 kg)
<b>GROUNDMASTER 325-D, 4WD, MODEL 30795</b>	No weight necessary.		

<sup>1</sup> In order to comply with ANSI / OPEI B71.4-1990 stability requirements.

\*Specifications and design subject to change without notice. "Toro", "Groundsmaster", "Guardian" and "Recycler" are registered trademarks of The Toro Company, 8111 Lyndale Avenue South, Minneapolis, Minnesota, 55420-1196. Products depicted in this advertisement are for demonstration purposes only. Actual products offered for sale may vary in use, design, required attachments and safety features. Consult your local Toro distributor.

Commercial Products



Helping you put quality into play.™

totally changed my philosophy for treatment in recent years.

I used to contract out a wall to wall combination application of Nemacur and Oftanol and had much success in the control of mole crickets. There are many obvious advantages to contract applications: from not having to store the restricted-use chemicals on site, not having crew members apply restricted-use chemicals for mole crickets, basically a one-time control application and the list could go on.

But as everyone should be well aware of, we are rapidly moving into an environmentally sensitive world where golf course superintendents are being perceived as bad guys who just go around dumping toxic chemicals on the ground. I know that this image is wrong and for this reason we have made the following changes at Seminole.

We have decided to accept the fact that some mole crickets are tolerable. Our main goal is to prevent major turf damage from mole crickets by making spot treatments when necessary.

Like most facets of golf course maintenance, this requires constant observation of the golf course so that no area becomes too damaged before treatment. I compare this spot treatment for mole crickets to vs. wall to wall treatment of mole crickets to hand-watering greens vs. using sprinklers to water the greens.

In both cases (wall to wall and sprinkler irrigation), I feel that too much chemical and too much water is being applied.

The big negative to spot treatment is that this control program is harder. It takes more observation time and labor effort to work properly. The trade-off is that we are using fewer chemicals than ever before mainly because we are not trying to control every mole cricket.

As far as chemicals used for the control of mole crickets, we use several chemicals in rotation to maximize control such as: Orthene, Crusade, Dursban and Oftanol. These chemicals are safer to use and are effective whether they are sprayed on or used in bait form.

Timing and proper application are the critical factors in a successful program.

***These nematode products will help reduce our mole cricket population when it gets too high and allow us to continue our spot treatment program, thereby reducing total pesticide usage.***

Everybody knows the chemicals that are labeled for mole cricket control and the rates applied.

**Hal Hicks**  
Seminole CC, Palm Beach Chapter

### **Take the IPM approach**

Collier's Reserve uses an Integrated Plant Management (IPM) approach to mole cricket control.

The golf course is scouted in a consistent manner (every week). Areas of mole cricket activity are recorded and soap flushes taken. Damaged areas are mapped because the female mole cricket seems to return close to where she was hatched, as a nymph, to lay her eggs.

Crickets taken by means of soap flushes are measured by length and the average size is determined. This data will help us select which compound we will use for their control.

In mapped areas, during the fly-in period, a bait formulation will be used. We chose a bait formulation because at the time of fly-in, mole crickets will be mature, mobile and hungry. With any liquid product, the tank water pH will be adjusted which ensures maximum pesticide efficiency, thereby saving money and time on costly second applications.

At present, we are lucky to have only a small cricket population needing only spot treatment. In some areas where the mole crickets are not too numerous, a soap-and-water flush is used instead of pesticide application. Late season mole cricket fly-in on the greens will be flushed out rather than using a pesticide treatment.

When necessary, we use Crusade 5G for spot treatment and are experiencing excellent results.

Recently, we began looking at all bio-

logical products as an alternative method in mole cricket population control. Two specific biological products we are looking at are Vector and ProAct. These nematode products will help reduce our mole cricket population when it gets too high and allow us to continue our spot treatment program, thereby reducing total pesticide usage.

Our program will change each season to accommodate the variation in mole cricket density; however, we will always map and soap flush to determine what is going on in the field.

**Michael Litton**  
IPM Specialist,  
Collier's Reserve CC

### **DowElanco, BMP**

1) Target treatments... Map and record areas of greatest mole cricket activity throughout the year.

2) Control the younger generations

• Scout and soap flush in late spring and early summer.

• Wait until eggs have hatched... Treat 2 weeks after first hatch.

3) Treat with a good residual like Pag-eant\* 50DF insecticide or Dursban\* 50WSP insecticide (4-5 pounds per acre) or at least 2 pounds active ingredient per acre of Dursban granular.

a) It's best to apply in late evening to moist soil.

b) Irrigate 1/4 to 1/2 inches after application to move the chemical into the control zone.

4) Make spot treatments throughout the year to control hot spots/new hatchings.

5) Bait formulations of Dursban are effective against adult life stages.

**John Demaree**  
DowElanco

### **BioControl, Inc.**

Proact is the biological mole cricket control consisting of the patented beneficial nematode, *Steinernema scapteriscus* (Ss).

This nematode was found by IFAS nematologist Dr. Grover Smart back in

*This year, unlike last, the crickets started to come out much earlier. The first soil flush was conducted the first week in May. We counted approximately 30 crickets in a 2 x 4 sq. ft. area.*

1985. The nematode was tested for seven years by the University of Florida in both laboratory and field trials, and was made commercially-available by BioControl, Inc. in 1991.

Since then, Proact has been applied on well over 4,000 acres of golf course turf, with at least 80-90% success rate.

Proact is most effective against adult Tawny, Southern and Short-winged mole crickets. When the nematodes find a mole cricket host, they enter the body through the mouth or spiracles and make their way to the digestive tract.

Once in the digestive tract, the nematodes release a bacterium that kills the mole cricket within 24-48 hours. The male and female nematodes then mate inside the body of the dead cricket, with up to 80,000 offspring emerging from the mole cricket cadaver within three to five days.

Ss can survive 8-16 weeks in the soil without a mole cricket host, which represents the minimum residual of Proact (obviously, the offspring nematodes are also expected to survive 8-16 weeks).

Proact is best used as a biopesticide against adult mole crickets during the spring and fall seasons.

With the spring application, the goal is to kill the adult mole crickets before they lay their eggs. As a result, Proact should be applied between February and April for optimal results.

The fall application is meant to dramatically reduce the population of adult and later-stage juvenile mole crickets before they start the overwintering process (i.e. burrowing deep for the winter). For best results, golf courses should perform the fall application between August and November.

The key to success when applying Proact is to get the nematodes into contact with

the mole crickets beneath the soil surface. In other words, water is imperative to attain the desired results.

When applying Proact with a spray rig, BioControl recommends the golf course superintendent irrigate prior to the application to cool the grass and moisten the soil, as well as afterward to water the nematodes into the soil.

The general rule of thumb for sandy soils is 1/4 inch of water before and 1/2 inch after (although some golf courses would flood half of Florida if they used this much water).

A carrier volume of 50 gallons per acre has proven successful for spray applications. As an alternative to the somewhat traditional method of spraying the product, many golf courses are turning to fertigation, especially for larger applications. Fertigation is ideal because it enables the superintendent to water the product in as he/she is applying it.

### **Mole Cricket Brigade**

Each summer we await the arrival of the mighty Mole Cricket.

Recently, we went out as we do each year and conducted soil flushes with soap and water. We start this procedure around the first week of May and continue each week until the crickets start to emerge. Last year the crickets started to come out in the middle of June.

This year, unlike last, the crickets started to come out much earlier. The first soil flush was conducted the first week in May. We counted approximately 30 crickets in a 2 x 4 sq. ft. area.

I thought this is crazy — it is too early for these guys to start coming out. That was the start of our Mole Cricket Brigade.

We started spraying the course in three- to four-hole clusters using different insecticides. Each area is documented

for the product used and evaluated for effectiveness. This continues until we have covered both courses.

At that point we continued to spot-spray hot spots. Our objective is to knock down as many crickets as we can early while they're still small. This has proven most productive and efficient over the years.

This year we have been asked by Miles Chemical — like several other courses in the area — to conduct a test evaluation on a particular insecticide. This is being done with the possibility of adding mole crickets to the label.

We are conducting this test on several plots on our driving range. I hope with the limited insecticides to choose from for cricket control, this one proves to be beneficial for all of us.

**John Gallagher**  
Boca Woods CC, Palm Beach Chapter

### **Can't use the calendar**

A warm winter, like the one that just passed sure helps to evaluate the success or failure of your mole cricket control methods. At our course, the warm winter kept our non-overseeded greens in great shape but it did little of anything to suppress our mole cricket activity.

The best method for control that I have found begins with getting as many nymphs as possible immediately after hatching. This early kill will greatly reduce the amount of adult activity you will receive past the initial hatching.

Every course is different and timing is critical! You can't rely on the timing of the treatment used by the golf course down the road or by using a calendar.

I have heard of treatment dates anywhere from late winter to early summer for this first hatching. Then of course there's the potential for a multiple hatching, an often occurrence in South Florida!

I have found the most successful method for mole cricket control starts with periodically checking the soil temperature, beginning in late winter. When soil temperatures begin to rise, we use soap flushes at a minimum of once a week until we begin bringing up nymphs.

We use the maps that we keep of trouble areas (adult activity sites) to determine where we do the soap flushes. Once the