GET TWO FOR LESS THAN THE PRICE OF ONE.

If you're using more than one product to kill mole crickets and nematodes, you're wasting money. Because, in Florida, there's one product — CHIPCO® MOCAP® insecticide/nematicide — that effectively and consistently controls both for less cost than products that control only one. CHIPCO MOCAP works fast, not only on nematodes and mole crickets but also on

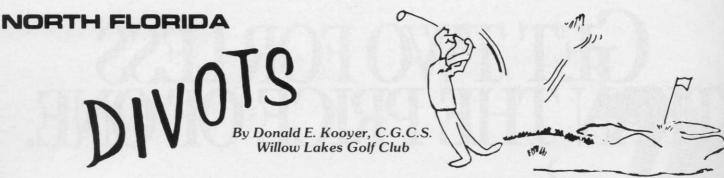
a broad spectrum of grubs and surface insects. It can be used on Bahia, Bent, Bermuda, Centipede, Fescue, St. Augustine and Zoysia turfgrasses. And now it's formulated for lower oder, too

formulated for lower odor, too.

Ask your supplier for CHIPCO

MOCAP... the one and only product
that gets your two biggest turf pests for less than
the price of one. Rhône-Poulenc Inc., Agrochemical
Division, Monmouth Junction, NJ 08852.





Consulting the Professionals

Recently, while attending the Golf Course Superintendents Association Conference in San Fransisco, I had the chance to once again meet and consult with many of my friends throughout the United States. While attending one of the many educational classes available I had the opportunity to talk with a friend from St. Louis Missouri. Denny asked me how I had been able to make the transition from the St. Louis area to north Florida. The very first thing that came to mind was consulting your superintendents association. (Incidentally to obtain my job in Florida, I consulted with our national Golf Course Superintendents. Association by using our job referral service. For a small fee our headhunter service will let you know of positions opening all over the world. What else could you ask for but a world wide consulting service!) I told Denny that the first thing you have to do is contact your local superintendents chapter, in my case the North Florida Superintendents chapter. By consulting with my local chapter I had access to valuable information that I would need to set up and manage my golf course maintenance operations. Talking with my fellow superintendents via the telephone and chapter meetings I soon had information that only the local superintendents could help me with. This included staffing, discovering if there golf course personnel available in the area, what the average wage is for course personnel, if there are any golf course training centers in the area, etc. Also weather information such as the average amount of rain fall, what months are the hottest, if there is water allocation now or will be in the future. By consulting with your local professional superintendent that have used the services of and equipment distributors you will save suppliers, such as sand companies, irrigation, fertilizer many hours and steps in the wrong direction.

There is one organization with which I have consulted in the north Florida area that is invaluable. This is the extension service which is available in all the areas I have worked from Minnesota to Florida. Your local state agriculture extension service is invaluable in the agricultural service provided, they will have all the current laws and regulations that you will need to study to obtain your pesticides license. I have had to study and take examinations in Minnesota, Winsconsin, Illinois, Missouri and Florida, all of which were different, all of which I used the services of the agricultural extension service to help me. By consulting with the extension service you can obtain information concerning soil types in your area. You can also discover which grasses are dormant, what types of pests you will have the most problems with and of course, what type of controls are available and what type can not be used under the laws in your area. Each state has laws

that set and regulate the types of pesticides you can use in your turf program. Federal and state environmental agencies are continuously changing regulations by adding and changing existing laws. By contacting the extension service often you can stay on top of these changes. This will not only allow you to have the information needed for a proper pesticide program and records, you will also have the information needed to renew your license when the time comes. You will also have the piece of mind knowing that you have the knowledge to handle and use pesticides properly. Don't forget it is your responsibility to inform and instruct your crew on the safe use and handling of pesticides.

By consulting with the professional staff of the north Flordia extension service you can attend the continuing education classes offered for the turf industry. When I first obtained information from the service in another state I have worked in, the information pamphlets were excellent. Also the reference manuals, training films, and slides were very good as training aids. The Florida agricultural extension service not only has these training aids it also has entered the computer age along with Lake City Community College.

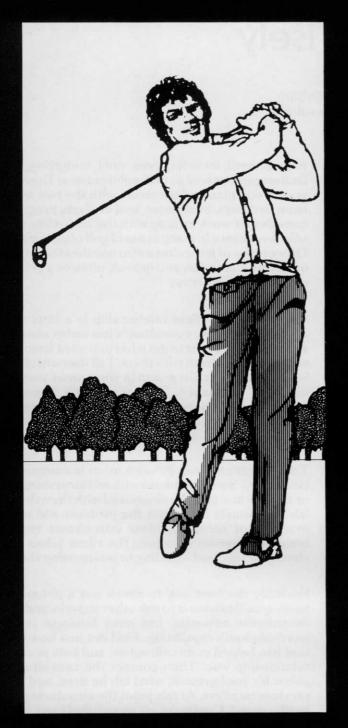
You can consult with the educators of the best golf coure training facilities in the United States and Canada and I believe as superintendents we are very fortunate to have such facilities to consult with in our own back yard.

With the joint computer programs that these organizations have started we can look forward to more and continuing technical information. Now that Mr. Jones at the extension service has had the forsight to bring the best in training aids to his facility. We can not only consult with Harold but we can also consult with his computer.

Computers are an excellent consulting tool. While in San Fransisco at the continuing educational classes I was attending. Dr. Short flashed the computer programs on the large screen in front of hundreds of professionals from all over the world. It made me proud to be part of the Florida association.

Now that Denny and I have arrived back to our respective courses, we have gained knowledge through consulting with the professionals and technical people of our association. By meeting and sharing our knowledge at our local meetings and on a daily basis we will all continue to grow as professionals through consulting with each other. "You have taught therefore I have learned."

We work at ground level...



so you can play on top!

The fact is, Central Florida Turf is working hard to provide you with superior workmanship in construction of new golf facilities, irrigation with all turf installations or renovation of existing golf courses ...

and all at a competitive price!

Registered dealer for:

Warren's TerraCover

Polyester Geotextile Ground Blanket: an alternative to annual resodding.

For more information, call Dennis or Dan at (813) 452-2215 or (813) 452-1222.



Dennis Crews



Dan Winter

Central Florida Turf, Inc.

Specialists in Bermuda Grass
47 Lake Damon Dr., Avon Park, FL 33825
Telephone: (813) 452-2215

Using A Turf Consultant ... Wisely

By Lyn Griffith Soils Consultant

Growing grass is not easy. If it were, the golf industry wouldn't need to hire the trained, educated, dedicated professionals it currently employs. Instead, we would use lawn maintenance services (or even livestock) to groom fairways and roughs. For greens, we could simply set the rotary mower setting a little lower, and cut out a putting surface.

The fact is, of course, that grass is not easy to grow. The quality demands of the members at today's public and private courses make the job of golf course superintendent demanding indeed. The better courses are required to look top-notch all the time, regardless of weather, heavy play, mechanical problems, or inadequate course construction. Superintendents occasionally need outside help, and the turf consulting industry is there to provide the service.

Perhaps the first obstacle to overcome when hiring a consultant is to convince the membership committee or owners that outside help is justified. Why should a trained turf professional need assistance? Doctors get second opinions, lawyers consult with their associates, and businessmen bring in outside experts. Another pair of eyes, a different perspective, or some specialized expertise can be a great help in any complex, technical field. The best minds in every discipline utilize consultants, and paid advisors for hire exist in every industry. Using other peoples' brains and experience in order to do a better job is admirable and productive, not demeaning or defeatist.

Superintendents most often use consultants in a trouble shooting capacity. Serious turf problems can come up at anytime, and a rapid, accurate diagnosis of the problem is critical. Consultants can usually provide such help. Often help is brought in after initial efforts to treat the disorder have failed. Usually other superintendents are then called, and finally the paid expert. If the consultant can diagnose and advise correct treatment, he is usually worth his fee and then some. If not, he can be just another blind alley.

Other superintendents prefer to bring in outside advice every so often to monitor the course and help guide its progress. Often the expert is called simply to inform the superintendent of new ideas, products, or techniques. Such timely information can be valuable in tanglible as well as intangible ways.

Other times, consultants are seen on a frequent, regular basis to oversee and advise on many aspects of golf course

management, including personnel, budgeting, design and landscaping, as well as turf maintenance. The relationship is very complex and personal, with the two working as a team to design, implement, and evaluate programs. Some consultants work strictly with the turf, while others may offer assistance in many areas of golf course management. Other types of agriculture also use these services, including farms, nurseries, and groves, often to a greater extent than the turf industry.

The consultant-client relationship is a little different in each case, and the consultant's job varies somewhat with each client. In order to get what you want from consulting services, be up front with them. Tell the consultant what it is you want to achieve, and in what areas you would like technical assistance. That way, each knows what to expect from the other, and what the objectives are. At the same time, the consultant should inform the superintendent of the available ways in which he can help.

Turf consultants usually work for or in conjunction with a laboratory. Some problems with soil structure, chemistry, or disease just can't be diagnosed with the naked eye. The lab can usually figure out the problem and monitor the progress of recovery. Most consultants regularly use laboratory services, helping the client select what tests should be run, and assisting in interpreting the results.

Probably the best way to check out a potential consultant's qualifications is to ask other superintendents. Some consultants advertise, but most business is gained by word-of-mouth reputation. Find out just how the consultant has helped your colleagues, and how productive the relationship was. Then contact the consultant and ask about his background, what lab he uses, and the type of services he offers. At this point the structuring of fees can be discussed. Contracts are sometimes used, but we have found them to be generally unnecessary. They can protect both parties at times, but they can also be a hindrance.

A good, inexpensive way to try a consultant out is to call him in to trouble-shoot a problem you are having. From this, you can evaluate his knowledge, approach and effectiveness. If he solves or at least figures out the problem, then he can probably do the same for many of your other problems. This way, you can see just how it would go having an advisor around, and just how productive the arrangement might be.

Ransomes Introduces 54" RIDER

This new rider from Ransomes, Inc. can tackle the big jobs. A powerful 16HP Kohler gasoline engine with cast iron cylinder block for long term, dependable service. The 54" outfront floating cutter deck cuts the grass before it can be compacted and neatly accommodates undulating terrain with its front and rear rollers.

Single rear wheel steering provides excellent maneuverability. Adjustable high back seat is positioned forward of rear steering wheel for smooth operator ride.

Ideal for parks, parkways, municipal grounds, cemeteries, campuses and golf courses.







An Improved "Home-Made" Mole Cricket Bait

By Charles H. Peacock and Don E. Short

An improved formula of the malathion bait has been developed. It is the result of several years work by an IFAS graduate student, Dr. Rod Kepner.

The new bait has consistently proven to be as effective and in most field evaluations more effective than commercially prepared baits.

Formula and directions for mixing the bait in 50 lb. batches are as follows:

50 lbs. crumbalized laying mash (similar to Purina layena)

2 qts. 50-57% and malathion EC

3 pts. CRUDE cottonseed oil

6 lbs. table sugar



Thoroughly stir and dissolve sugar in 2 qts. hot water. Add cottonseed oil and malathion to sugar water.

Use a 2-3 gallon knapsack sprayer with nozzle tip removed to spay ingredients on laying mash while turning in cement mixer.

Put bait into laying mash bag lined with a plastic bag and store for 1-2 days before application.

Bait will absorb moisture during this time and application will be less difficult.

Calibrate a three-point-hitch cyclone fertilizer spreader to apply 12.5 to 15 lbs. bait/acre.

Cost of ingredients is approximately \$4.50/acre at the 12.5 lb. rate. Apply bait as late in the afternoon as possible.

Optimum time of year for application would be during July prior to the extensive damage that occurs in August, September and October.

The crude cottonseed oil must be obtained from an oil mill from the list below. There are no refining plants in Florida. It is hoped some agricultural supply companies in the state will be stocking the oil in the near future.

The following is a partial list of suppliers of crude cottonseed oil in the southeast:

> Hartsville Oil Mill PO Box 1925 Hartsville, SC 29550 803/332-3526 813/484-9416 (Branch Office) Mr. Dick Kopein

Albany Oil Mill PO Box 548 Albany, GA 31702 912/435-4501

Ninety Six Manufacturing PO Box 128 Ninety Six, SC 29666 803/543-2711

Southern oil Co. Division of ADM Mills PO Box 95 Montgomery, AL 36101 205/263-4747

Yazoo Valley Mills Locks Drawer 1320 Yazoo City, MS 38930 601/453-4312

For additional information contact Dr. Don Short, Dept. of Entomology-Nematology, IFAS, University of Florida, 904/392-1938.■



and present...



GROUNDSMASTER® 217-D AND GROUNDSMASTER® 220



These durable riding rotaries, powered by air cooled gasoline or water cooled diesel engines, mow with exceptional maneuverability, trim close like walk mowers with a choice of 52" or 62" cutting units, and produce maximum results in a variety of applications.

Toro engineering makes our Groundsmaster 217-D and Groundsmaster 220 deliver superior performance. And Toro durability keeps them that way longer.

DURABILITY FEATURES:

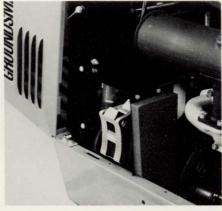
POWER TO SPARE FROM ENGINES PAINSTAKINGLY TESTED AND SELECTED BY TORO ENGINEERS to fit the machine and its applications:



Groundsmaster 217-D has a 17 hp, 46.6 cu. in., water cooled Mitsubishi diesel engine. To protect the engine, standard features include high temperature shut down and oil pressure warning light/buzzer.



EXTRA CAPACITY COOLING SYSTEM: Groundsmaster 217-D has an industrial type radiator with tube and fin construction; 7 fins per inch to reduce radiator plugging. 6 quart capacity.



ROOSA-MASTER WATER SEPARATOR is standard on diesel model. It removes 95% of the water inherent to diesel fuel, protects you from costly repairs and parts replacements.



Groundsmaster 220 is powered by a 20 hp, 47.7 cu. in., twin cylinder, air cooled Onan engine for strong, quiet performance. Features include:

- · High temp shut off
- · Low oil pressure shut down
- Crankcase oil cooler
- Remote oil filter



HEAVY DUTY DONALDSON AIR CLEANER is industrial type. Keeps your engine running longer by filtering out dirt and other contaminants before they can cause excessive wear. Allows dirt to be removed easily at the end of each day.



HYDROSTATIC DRIVE provides single pedal operation for forward/reverse speeds. Easy, smooth maneuverability with no clutch to wear out. Also, your operator gets superb speed control for all conditions. Infinitely variable speed up to 8.5 mph.

PERFORMANCE FEATURES:



RUGGED ROTARY BLADE SPINDLE to stand up to bombardment of rocks and other debris. Toro uses a cone rather than a cylinder housing, and splines rather than keys, to better absorb shock loads. Tapered bearing assembly used. All for greater durability.



P.T.O. DRIVE SHAFT more efficient than most hydraulic drives, with mechanical engagement for decks or accessories. Avoids belt misalignments and makes changing from one accessory to another a breeze.



OFFSET DECK OUT FRONT AND REAR WHEEL STEERING for

superior maneuverability. And the 52" and 62" decks are just right in size. Big enough to get the job done quickly and small enough to get into those tight spots. Both decks are offset 10¼ inches to give you one pass trimming around trees and obstacles. It's also ideal along curbs and beneath overhanging shrubs.



from 4 wide stance wheels plus low center of gravity. Front drive wheels and rear wheels are equipped with 4 ply rated tires. Both drive wheels have drum brakes controlled by individual pedals.



CUTTING HEIGHT ADJUSTS EASILY from 1 to 4 inches without tools. Simply pull four pins.

FLOATING DECK means more consistent cut, even over irregular terrain, because the cutting unit is suspended within a carrier frame. And, the entire deck raises hydraulically for fast, easy transport over obstructions like curbing.

COUNTERBALANCE SPRINGS provide adjustable deck floatation while improving front wheel traction.

operator station features adjustable, molded cushion seat, or deluxe suspension seat for a smooth ride all day long. Is inch steering wheel, hour meter and ammeter, all located for maximum comfort, convenience and efficiency. Safety interlock stops engine when operator leaves seat with PTO or traction pedal engaged.

Team your Groundsmaster 217-D or Groundsmaster 220 with any of these deck combinations.

GROUNDSMASTER® 217-D PRIME MOVER.

Shown with floating 62" deck. Driven by a 17 hp, 46.6 cu. in., water cooled Mitsubishi engine. Designed for mowing up to 3.4 acres/ hour. Ideal for mowing small to medium sized open areas, and for trimming in medium to large areas. Variable ground speed up to 8.5 mph. Hydrostatic drive for single pedal forward/ reverse. Four wide stance wheels with 4 ply rated tubeless tires. Front wheel traction drive. Rear wheel steering for greater maneuverability. Individual drum brakes for left and right traction wheels to allow for brake assist steering that makes possible trimming up to a 0" uncut circle. Operator controls designed for easy access and operation. Molded cushion seat or deluxe suspension seat offer operator comfort even on the toughest terrain. Remote mounted air cleaner standard. Tough commercial strength construction. PTO drive shaft for easy interchangeability of decks and accessories.



This three bladed, front mounted rotary unit offers full floatation in all directions, with rollers in front and back for reduced scalping. Ideally suited to cutting situations that involve hilly, uneven terrain. The Groundsmaster with floating 52" deck is capable of mowing up to 2.8 acres an hour at 5.5 mph. Deck offset $10^{1/4}$ " to the left for greater trimability. Capable of a 0" uncut circle with brake assist. Has a $51^{3/4}$ " width of cut. Can cut from a height of 1" to 4" in $\frac{1}{2}$ " increments and has simple adjustment without tools. 5" deep, 12 gauge stamped steel Wind-Tunnel® housing for easier cutting and clippings discharge even on wet grass.



GROUNDSMASTER 52" STANDARD DECK.

The Groundsmaster with 52" standard deck is capable of mowing up to 2.8 acres an hour at 5.5 mph. Unit has $51^{3}4''$ width of cut with the three blade front mounted rotary deck. Deck offset $10^{1}4''$ to the left. Can cut a 0" uncut circle with brake assist. Can be adjusted easily for a height of cut, from $3^{4}4''$ to 4'' in $1^{1}4''$ increments, without tools. Has 5" deep, 12 gauge stamped steel Wind-Tunnel® housing for easy cutting even on wet arass.



GROUNDSMASTER 52" FLOATING REAR DISCHARGE DECK.

Designed for controlled discharge of clippings to the rear center between wheels. Has full floatation design with front rollers to reduce scalping. Constructed from 12 gauge steel and is 3" deep. The 51¾" deck can mow up to 2.2 acres/hour at 4.5 mph. Three bladed front mounted rotary is offset 10¼" to left for close trimming around obstacles and under overhamgs. Adjusts from 1" to 4" in ½" increments without tools. Lifts hydraulically for transport.



GROUNDSMASTER 217-D and 220

62" floating cutting deck

52" floating cutting deck

52" standard cutting deck

52" floating rear discharge cutting deck



GROUNDSMASTER FLOATING 62" DECK.

Capable of mowing up to 3.4 acres an hour at 5.5 mph. Front mounted, three bladed, rotary deck has 61%" width of cut. Deck is offset 101/4" to the left for greatly increased trimability. Capable of 0" uncut circle with brake assist. Deck easily adjusts without tools for a height of cut from 1" to 4" in 1/2" increments. Rugged 5" deep, 12 gauge steel welded construction for greater durability even in tough mowing conditions.



GROUNDSMASTER GRASS COLLECTING SYSTEM.

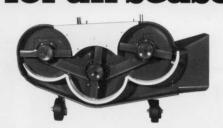
Designed to fit the Groundsmaster 52" floating deck, the Grass Collecting System allows on-the-unit bagging of grass clippings. Utilizes a separate 16" diameter blower attached to the deck's discharge port that virtually eliminates clogging. A

durable one-piece, high-density polypropylene chute directs the grass clippings back through a hinged hood mounted to the bag support system. A rear-mounted polyester bag for clippings is positioned inside the path of the cutter deck for easy maneuverability. Hinged hood on top of bag support opens easily for quick removal of grass bag. The grass collecting system comes standard with a polyester bag capable of holding 7 bushels of grass clippings. An optional dry condition polyester bag that will hold up to 10 bushels of clippings is also available.





These accessories make our Groundsmaster 217-D and Groundsmaster 220 professionals for all seasons.



gauge steel, the leaf mulcher mounts under side discharge decks allowing blades to vacuum and pulverize fallen leaves.



ROLL OVER PROTECTION SYSTEM. Certified roll over protection system (ROPS) for greater operator safety conforms to OSHA regulations, includes seat belt for greater safety.



SPARK ARRESTOR MUFFLER. Minimizes spark emissions.



PNEUMATIC WHEEL/TIRE ASSEMBLY provides cushioned cutting unit transport and smoother operation over uneven surfaces.



CAB WITH ROPS. Completely enclosed vinyl cab turns your Groundsmaster into an all-weather vehicle. Includes ROPS. Heater and light kit available.



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 which includes tire chains.



SNOWTHROWER. Big 48" two stage snowthrower with adjustable side skids and discharge chute. Electric chute rotator comes standard. Driftbreaker auger and oversized second stage clears snow in a hurry and prevents clogging.



HIGH LIFT BLADES. Provides additional lift for improved appearance in wet or heavy grass.



WHEXL WEIGHTS/REAR
WEIGHTS/TIRE CHAINS. Toro
offers wheel weights and tire chains for
better traction when using accessories.
Rear weights will help counterbalance
front mounted accessories for better
operation.



ROTARY BROOM. Tough 48 inch rotary broom sweeps parking areas, paths and walkways, saves hand labor.



SEAT OPTIONS. Choose from high back, adjustable cushion seat or deluxe suspension seat for operator comfort.

PLUS, OUR MOST IMPORTANT ACCESSORY OF ALL. YOUR FULL SERVICE TORO DISTRIBUTOR.

When you need reliable maintenance and repair service, turn to your full service Toro distributor. He has highly trained people ready to serve you fast. A complete inventory of replacement parts. Plus other valuable services, like technical training for your operators. Whatever your needs in professional turf equipment, call your full service Toro distributor.

Groundsmaster Specifications

	GROUNDSMASTER 220 PRIME MOVER (MODEL NO. 30790)
ENGINE	Onan twin opposed cylinder, 4 cycle, air cooled, 20 hp @ 3600 rpm, electric start. 47.7 cu. in. (782 cc) displacement. Gear driven oil pump for full pressure lubrication, remote mounted replaceable oil filter, and remote mounted engine oil cooler. 2 quart (1.9 g) oil capacity. System also incorporates low oil pressure shut-off switch and high cylinder head temperature shut-off switch. Alloy aluminum connecting rods. Pearlitic iron cylinder liners cast into block. Mechanical flyball governor limits speed to 3200 rpm. Vacuum fuel pump. Heavy duty, remote mounted air cleaner. Extra large muffler for reduced noise level. Optional Spark Arrestor Muffler, part no. 46-2390.
ELECTRICAL FEATURES	12 volt, 42 plate, cold cranking 300 amperes at 0°F (-18°C), 50 minute reserve capacity at 80°F (27°C), maintenance free battery. 15 amp alternator with regulator/rectifier. Automotive type electrical system. Seat switch, PTO and traction interlock switches.
WEIGHT	825 lbs. (374 kg) prime mover.
FUEL CAPACITY	6.0 gallons (22.7 ♀) gasoline.
CONTROLS	Foot operated traction and brake pedals. Hand operated throttle, PTO, parking brake, implement lift, and ignition switch. Low oil pressure/high cylinder head temperature by-pass switch.
GAUGES	Hour meter, ammeter.
	GROUNDSMASTER 217-D PRIME MOVER (MODEL NO. 30793)
ENGINE	Mitsubishi, Model KE75-611G, water cooled, diesel engine. 17 hp @ 3000 rpm. 46.6 cu. in. (764 cc) displacement. Heavy duty remote mounted air cleaner. Electric (transistor type) fuel pump, 12 volt, mounted on frame with replaceable fuel filter. High water temperature by-pass switch. Roosa-master water separator. Optional Spark Arrestor Muffler, Part No. 56-2180.
RADIATOR	Rear mounted industrial radiator with tube and fin construction; 7 fins per inch. Approximately 6 quarts (5.7 \$\mathbb{Q}\$) capacity. Stamped bras top and bottom tanks.
ELECTRICAL FEATURES	12 volt, 54 plate, cold cranking 390 amperes at 0°F (-18°C), 70 minute reserve capacity at 80°F (27°C), maintenance free battery. 35 amp alternator with regulator/rectifier. Automotive type electrical system. Seat switch, PTO and traction interlock switches.
WEIGHT	1000 lbs. (454 kg) prime mover.
FUEL CAPACITY	6.0 gallons (22.7 ♣) diesel fuel.
CONTROLS	Foot operated traction and brake pedals. Hand operated throttle, PTO, parking brake, implement lift, glow plug switch and ignition switch.
GAUGES	Hour meter, ammeter, glow plug indicator, low oil pressure light and warning buzzer, and coolant temperature switch-gauge to preven overheating.
S	PECIFICATIONS COMMON TO GROUNDSMASTER 220 AND 217-D
TRACTION DRIVE	Sundstrand hydrostatic U-type Model 90-1239, Series 15 mounted on Dana Model GT20 axle 20.9:1 ratio. Single foot pedal control of forward/reverse ground speed. 25 micron filter mounted directly on transmission housing. Axle is used as reservoir for hydrostatic transmission. Lubrication, SAE 10W-30 Mobil oil, approx. 5 quarts (4.7 &) capacity.
GROUND SPEED/CLEARANCE	0-8.5 mph (0-13.7 km/hr) forward, 0-4 mph (0-6.4 km/hr) reverse. Ground clearance 6 inches (15.2 cm).
TIRES/WHEELS/PRESSURES	Two rear steering tires 15 x 6.00-6, tubeless 4-ply rating. Two front traction drive tires 20 x 8.00-10, tubeless 4-ply rating. Demountable rims. Recommended tire pressure 10-15 psi (69-103 kPa).
MAIN FRAME	All welded formed steel reinforced with square tubing.
BRAKES	Individual 7" x 1-3/4" (17.8 x 4.4 cm) drum type wheel brakes and parking brakes on front traction wheels. Dynamic braking through traction drive.
STEERING	Automotive steering gear assembly. 15" (38 cm) steering wheel.
IMPLEMENT DRIVE	1" (2.5 cm) diameter splined PTO shaft clutched by two "HA" torque team section tight-slack V-belt.
CERTIFICATION	Certified to meet ANSI specifications B71.4-1980 with 62" (157 cm) deck, ANSI B71.1b-1977 for all 52" (132 cm) decks, and applicable Federal and State OSHA regulations based thereon.

	52" FLOATING CUTTING UNIT (MODEL NO. 30555)	62" FLOATING CUTTING UNIT (MODEL NO. 30562)		
TYPE	51-3/4" (131 cm) width of cut, three blade, front mounted rotary.	61-5/8" (157 cm) width of cut, three blade, front mounted rotary.		
MOWING RATE	Mows up to 2.8 acres/hr (1.1 hectares/hr) at 5.5 mph (8.9 km/hr) depending on conditions.	Mows up to 3.4 acres/hr (1.4 hectares/hr) at 5.5 mph (8.9 km/hr) depending on conditions.		
TRIMMING ABILITY	Deck offset 10.25" (26 cm) to the left from centerline; deck offset 10.75" (27 cm) to the left from outside of tire to trin side; 26" (66 cm) uncut circle left. 0" uncut circle with use of individual wheel brakes.	Deck offset 10.25" (26 cm) to the left from centerline; deck offset 16" (41 cm) from outside of wheel to left trim side; 18" (46 cm) uncut circle left; 0" uncut circle with use of individual wheel brakes.		
HEIGHT OF CUT	1-4" (2.5-10 cm) adjustable in .5" (13 mm) increments by relocating four pins at each corner of cutting unit.	1-4" (2.5-10 cm) adjustable in .5" (13 mm) increments by relocating four pins at each corner of cutting unit.		
CONSTRUCTION	12 gauge steel construction, 5" (13 cm) deep. Wind-Tunnel® housing.	12 gauge steel, 5" (13 cm) deep; welded construction.		
CUTTER DRIVE	PTO driven gearbox with 1.26:1 spiral bevel gears. "AA" section belt drive to spindles. 1" (2.5 cm) diameter spindles mounted in two greaseable tapered roller bearings. Anti-scalp cup located on each blade.	PTO driven spiral bevel gearbox. "AA" section belt drive to all spindles. 1" (2.5 cm) greaseable spindles with two tapered roller bearings. Anti-scalp cup located on each blade.		
BLADES	Three 18" (46 cm) long, 3/16" (4 cm) thick, heat-treated steel blades.	Three 21.5" (55 cm) long, 2.5" (6 cm) wide, 3/16" (5 mm) thick, heat-treated steel blades.		
CARRIER FRAME SUSPENSION	Two 8" (20 cm) phenolic resin front wheels with greaseable roller bearings. Suspended off prime mover at rear. Two front and two rear antiscalp deck rollers. Counterbalanced by spring between cutting unit and prime mover providing better floatation of cutting unit and more traction on prime mover. Adjustable for H.O.C. and ground conditions.	Two 8" (20 cm) phenolic resin front wheels with greaseable roller bearings. Suspended off prime mover at rear. Front and rear anti-scalp rollers. Deck counterbalanced by spring between cutting unit and prime mover providing better floatation of cutting unit and more traction on prime mover.		
LIFT	Twin hydraulic cylinders.	Twin hydraulic cylinders.		
WEIGHT	200 lbs. (91 kg)	285 lbs. (129 kg)		
CERTIFICATION	Certified to meet ANSI B71.1b-1977 Safety Specifications, and applicable Federal and State OSHA regulations based thereon.	Certified to meet ANSI specifications, B71.4-1980, and applicable Federal and State OSHA regulations based thereon.		

	52" STANDARD CUTTING UNIT (MODEL NO. 30545)	52" FLOATING REAR DISCHARGE CUTTING UNIT (MODEL NO. 30568)		
TYPE	51-3/4" (131 cm) width of cut, three blade, front mounted rotary.	51-3/4" (131 cm) width of cut, three blade, front mounted rotary.		
MOWING RATE	Mows up to 2.8 acres/hr (1.1 hectares/hr) at 5.5 mph (8.8 km/hr) depending on conditions.	Mows up to 2.2 acres/hr (.9 hectares/hr) at 4.5 mph (7.2 km/hr) depending on conditions.		
FRIMMING ABILITY	Deck offset 10.25" (26 cm) to the left from centerline; deck offset 10.75" (27 cm) to the left from outside of tire to trim side; 26" (66 cm) uncut circle left. 0" uncut circle with use of individual wheel brakes.	Deck offset 10.25" (26 cm) to the left from centerline; deck offset 10.75" (27 cm) to the left from outside of tire to trin side; 26" (66 cm) uncut circle left. 0" uncut circle with use of individual wheel brakes.		
HEIGHT OF CUT	.75"-4" (2-10 cm), adjustable in .25" (6 mm) increments in front and 1" (2.5 cm) increments in rear.	1-4" (2.5-10 cm) adjustable in .5" (13 mm) increments by relocating four pins at each corner of cutting unit.		
CONSTRUCTION	12 gauge steel construction, 5" (13 cm) deep, Wind-Tunnel® housing.	12 gauge steel construction, 3" (7.6 cm) deep.		
CUTTER DRIVE	PTO driven spiral bevel gearbox. "AA" section belt drive to all spindles75" (2 cm) greaseable spindles with two ball bearings.	PTO driven spiral bevel gearbox. "AA" section belt drive to all spindles. 1" (2.5 cm) greaseable spindles with two tapered roller bearings. Anti-scalp cup located on each blade.		
BLADES	Three 18" (46 cm) long, 3/16" (5 mm) thick, heat-treated steel blades.	Three 18" (46 cm) long, 3/16" (5 mm) thick, heat-treated steel blades.		
CARRIER FRAME SUSPENSION	Two 8" (20 cm) front wheels. Suspended off the prime mover at rear. Deck counterbalanced by spring between cutting unit and prime mover.	Two 8" (20 cm) phenolic resin front wheels with greaseable roller bearings. Suspended off prime mover at rear. Front and rear deck rollers. Deck counterbalanced by two springs between cutting unit and prime mover. 11 gauge high strength, low alloy channels provide strength and flexibility.		
LIFT	Twin hydraulic cylinders.	Twin hydraulic cylinders.		
WEIGHT	190 lbs. (86 kg)	200 lbs. (91 kg)		
CERTIFICATION	Certified to meet ANSI B71.1b-1977 and applicable Federal and State	Certified to meet ANSI B71.1b-1977 Safety Specifications, and applicable		

	IMPLEMENT AND ACCESSORY COMBINATIONS											
	30545 CUTTER	30555 CUTTER	30568 CUTTER	30562 CUTTER	30570 SNOWTHROWER	30750 V-PLOW	ROTARY	CAB W/ROPS	ROPS	30764 CUSHION SEAT	30786 DELUXE SEAT	SPARK ARRESTO MUFFLER
PRIME MOVER MODEL NO. 30790	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.
PRIME MOVER MODEL NO. 30793	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.
GRASS COLLECTING SYSTEM MODEL NO. 30557	-	Opt.	-			_	_	-	-	-	_	_
LEAF MULCHER MODEL NO. 30700	Opt.	Opt.	-	_		-	-	_	-	-	_	_
LEAF MULCHER MODEL NO. 30792			_	Opt.		-	_	-	-	-		_
V-PLOW MOUNTING KIT MODEL NO. 30755		-		_	-	Req.	_	-	-	-	-	=
SNOWTHROWER ADAPTER KIT MODEL NO. 30572	-	-	-	-	Req.		-	-	-	-	-	-
TIRE CHAINS PART NO. 28-5470	-	-		-	Opt.	Incl.	Opt.	-	-	-	_	
WHEEL WEIGHTS MODEL NO. 30762	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	-	-	-	-	_
REAR WEIGHT KIT PART NO. 24-5780	Opt.	Opt.	Opt.	Req.	Req.	Opt.	Opt.	-	-	_	_	_
HIGH LIFT BLADE MODEL NO. 44-5480	Opt.	Opt.	Opt.	-	_	-	-	-	-	_	_	_
PNEUMATIC WHEEL & TIRE ASSEMBLY PART NO. 54-8820	Opt.	Opt.	Opt.	Opt.			_	-	-	-	-	
GRASS SHIELD KIT W/GROUNDSMASTER 220 MODEL NO. 30563	-	_	Req.	-	-	_	_		-	_	_	-

GRASS COLLECTING SYSTEM (MODEL NO. 30557) FOR 52" FLOATING CUTTING UNIT (MODEL NO. 30555)

CONSTRUCTION

Blower assembly housing is 16" (41 cm) diameter; three piece welded construction. The blower assembly attaches to the discharge port of Model No. 30555 cutting unit. Impeller speed is 1650 rpm max. @ 3300 rpm engine speed.

Chute is one piece, made of black, high density polypropylene material used to direct debris into bag.

Hinged hood, mounted to bag support assembly, is made of black high density polypropylene. Air exhausted through riveted metal screen in hood.

Rectangular bag support is welded to frame of steel tubing. Bottom pan is black high density polypropylene riveted to a welded tubular steel frame. The bag support assembly mounts to the right side of traction unit and supports a reuseable polyester grass bag or disposable plastic garbage bag.

Bumper of steel tubing is bolted to deck suspension frame to protect blower housing.

icludes deck battling an	d mounting bracket.
CAPACITY	Polyester bag 20" (51 cm) dia. x 46" (117 cm) high—approximately 7 bushels (247 \$\mathbb{k}\$). Optional dry condition polyester bag 24" (61 cm) dia. x 46" (117 cm) high—approx. 10 bushels (352 \$\mathbb{k}\$). Part No. 43-0980.
OPTIONAL ACCESSORIES	18" (46 cm) high lift blades for improved wet grass bagging. Part No. 44-5480. Elastic retaining cord allows use of 39 gallon (148 2) plastic trash bags, Part No. 36-7770.
DIMENSIONS	(See table opposite).
WEIGHT	123 lbs. (56 kg) — grass collecting system only.
CERTIFICATION	Certified to meet ANSI B71.1b — 1977 and applicable Federal and State OSHA Regulations based thereon.
	V-PLOW (MODEL NO. 30750)
CONSTRUCTION	48" (122 cm) wide heavy gauge steel construction with front skid and reversible/replaceable scraper blades.
WEIGHT	185 lbs. (84 kg)
V-PLO	W MOUNTING KIT (MODEL NO. 30755)
CONSTRUCTION	Consists of push arm attaching brackets and tire chains. Required for mounting V-Plow.
WEIGHT	50 lbs. (23 kg)
ACCESSORIES	Tire chains included (Part No. 28-5470.)
SNOWTHROW	/ER (MODEL NO. 30570; 30572 ADAPTER KIT)
TYPE	48" (122 cm) two stage with adjustable side skids and discharge chute.
WEIGHT	285 lbs. (129 kg)
ACCESSORIES	Two optional rear weight kits required (Part No. 24-5780)
	LEAF MULCHER

Optional attachment of 12 gauge steel with .5" (13 mm) diameter staggered holes. Mounts under side discharge deck. Model No. 30700 fits cutting unit Model No. 30555. Model No.

30792 fits cutting unit Mo	del No. 30562.
	CAB WITH ROPS
CONSTRUCTION	4 post ROPS all steel tubular frame construction with contrasting steel canopy. Includes seat belt, seat retention kit and perforated foam headliner. OPTIONAL Vinyl enclosure kit consists of reinforced heavy duty vinyl fabric with left side heavy gauge wire frame door. Enclosure kit includes tinted safety glass windshield, velcroe fastening kit, latching door handle, and floor mat.
CERTIFICATION	Certified to meet OSHA standard 1928.51(b)(1).
ELECTRICAL FEATURES	OPTIONAL Light kit includes front headlight, rear work light, and roof-mounted flashing amber beacon. OPTIONAL Single speed windshield wiper and defroster fan for cab installation.
WEIGHT	4 post ROPS with canopy — 110 lbs. (50 kg); enclosure kit — 60 lbs. (27 kg).

PNEUMATIC WHEEL & TIRE ASSEMBLY PART NO. 54-8820 (two required)

WHEEL/ Demountable two piece rim with open cage roller bearing and **HUB ASSEMBLY**

4-ply, $8.62\times2.80/2.50$ sawtooth tread tire with tube. 10-15 psi $(69-103\,\mathrm{kPa})$ recommended pressure. Two wheel/tire assemblies required per deck.

OVERALL SETUP DIMENSIONS AND WEIGHTS (APPROX.)

	LENGTH	WIDTH	HEIGHT	WEIGHT
TRACTION UNIT #30790	79"	42"	50"	825 lbs.
	(201 cm)	(107 cm)	(127 cm)	(374 kg)
W/52" CUTTING UNIT #30545	99"	65"	50"	1,000 lbs.
	(251 cm)	(165 cm)	(127 cm)	(454 kg)
W/52" CUTTING UNIT	101.5"	65"	50"	1,030 lbs.
#30555	(258 cm)	(165 cm)	(127 cm)	(467 kg)
W/52" CUTTING UNIT	101.5"	53.5"	50"	1,030 lbs.
#30568	(258 cm)	(136 cm)	(127 cm)	(467 kg)
W/62" CUTTING UNIT	106"	74"	50"	1,145 lbs.
#30562	(269 cm)	(188 cm)	(127 cm)	(519 kg)
W/GRASS	101.5"	68"	57"	1,160 lbs.
COLLECTING SYSTEM	(258 cm)	(173 cm)	(145 cm)	(526 kg)
W/SNOWTHROWER	106"	51"	50"	1,110 lbs.
	(269 cm)	(130 cm)	(127 _. cm)	(503 kg)
W/V-PLOW	103"	48"	50"	1,185 lbs.
	(262 cm)	(122 cm)	(127 cm)	(538 kg)
TRACTION UNIT	79"	42"	50"	1,000 lbs.
#30793	(201 cm)	(107 cm)	(127 cm)	(454 kg)
W/52" CUTTING UNIT	95"	65"	50"	960 lbs.
#30545	(241 cm)	(165 cm)	(127 cm)	(435 kg)
W/52" CUTTING UNIT #30555	101.5"	65"	50"	1,200 lbs.
	(258 cm)	(165 cm)	(127 cm)	(544 kg)
W/52" CUTTING UNIT #30568	101.5"	53.5"	50"	1,200 lbs.
	(258 cm)	(136 cm)	(127 cm)	(544 kg)
W/62" CUTTING UNIT	106"	74"	50"	1,285 lbs.
#30562	(269 cm)	(188 cm)	(127 cm)	(583 kg)
W/GRASS	101.5"	68"	57"	1,228 lbs.
COLLECTING SYSTEM	(258 cm)	(173 cm)	(145 cm)	(557 kg)
W/SNOWTHROWER	106"	51"	50"	1,285 lbs.
	(269 cm)	(130 cm)	(127 cm)	(583 kg)
W/V-PLOW	103"	48"	50"	1,185 lbs.
	(262 cm)	(122 cm)	(127 cm)	(538 kg)

DESCRIPTION	MODEL/ PART NO.	DESCRIPTION	MODEL/ PART NO.
CUSHION SEAT KIT	30764 TIRE CHA		Maker Williams
DELUXE SUSPENSION		20 lbs. (9 kg)	28-5470
SEAT KIT	30786	WHEEL WEIGHTS	
SPARK ARRESTOR MUFFLER MODEL NO. 30790	46-2390	(2) 25 lbs. = 50 lbs. (2) (11 kg) = (23 kg)	30762
MODEL NO. 30793	56-2180	REAR WEIGHT KIT	
HIGH LIFT BLADE (ONE BLADE)	44-5480	(2) 35 lbs. = 70 lbs. (2) (16 kg) = (32 kg)	24-5780

*Specifications and design subject to change without notice.

COMMERCIAL PRODUCTS



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New Preemergence Herbicides For Turf

By Tim R. Murphy Extension Agronomy Department Griffin, GA

Several herbicides have recently been granted registration and will be marketed in 1986 for the preemergence control of annual weedy grasses in established turfgrasses. The herbicides and manufacturers are:

XL 2G - Elanco Products Company

Surflan 75W and 4AS - Elanco Products Company

Prowl 60DG - American Cyanamid

Pre-M 60DG - Lesco

Southern Weedgrass Control 2.45G - Scotts

Turf Weedgrass Control 1.7G - Scotts

Weedgrass Control 60WDG - Scotts

Recommended application rates for these herbicides are shown in Table 1. These herbicides do not control emerged weedy grasses, and applications should be made at least two weeks prior to annual weedy grass seed germination.

XL 2G is a selective preemergence herbicide that controls large crabgrass, goosegrass, and other annual grasses in established bahiagrass, bermudagrass, centipedegrass, St. Augustinegrass, and zoysiagrass. This herbicide is a 2% granular formation and is a prepackaged mixture of benefin (1%) plus oryzalin (1%). Benefin is the active chemical ingredient in Balan 2.5G, which has been used for a number of years for annual grass control in established turf. Oryzalin is the active chemical ingredient in Surflan 75W and 4AS. Surflan is now labeled for the control of annual grases in established bermudagrass (excluding green), bahiagrass, centipedegrass, tall fescue, St. Augustinegrass, and zoysiagrass.

XL, Surflan, and the various formulations of pendimethalin are currently being evaluated at the Georgia Experiment Station (B. J. Johnson, personal communication). Only one year results are available; however, XL. Surflan, and pendimethalin provided excellent control of large crabgrass with a single application in late Febraury at recommended rates. Control of goosegrass was fair to good for XL and the various formulations of pendimethalin. A single application of Surflan was not as effective as XL or the pendimethalin formulations in controlling goosegrass. Continued evaluation with these herbicides will be conducted in 1986 at the Georgia Experiment Station.

Table 1. Recommended application rates for selected preemergence herbicides.

Herbicides	Formulation	Amount of formulated product/acre
XL	2G	100 to 150 lbs.
Surflan	75W	26.7 lbs.
Surflan	4AS	2.0 qts.
Prowl DG	60DG	4.5 lbs.
Pre-M	60DG	4.5 lbs.
Weedgrass Control	60WDG	5.0 lbs.
Southern Weedgrass Control	2.45G	113 lbs.
Turf Weedgrass Control	1.71G	88.5 lbs.

Nine Ways To Negotiate A Raise

Many people who have no trouble dealing with their superiors in most day-to-day situations find it very difficult to ask for a raise. If your fainthearted at negotiation time, consider these reccomendations to ease the process:

- Know your worth. Ask yourself how valuable you are to the course, how much would it cost to replace you, what have you done lately to help the organization.
- Pick your place. Get your boss outside of the office to listen to your request. Take him to lunch if possible.
- Detail your reasons. Tell your boss why you deserve a raise.
- Suggest an amount. You, not your boss, should propose the amount of your possible raise.
- Set your figures high. Ask for more than you expect to get. This leaves room for bargain.
- Compromise—but not to easily. Since you've started with a high figure, realize you probably won't get it. Let your boss make a counter-offer, and be ready to compromise.
- Rehearse. Don't go into negotiation cold. Be sure to be in top mental and physical condition when the actual talks begin.
- Get it in writing. If possible, get your boss to put it in writing—for both signatures—the raise he agrees to.
- Don't wait—ask. Don't wait around for the company to recognize your value and give you a raise. Ask for it. Your aggressiveness may pay off.

LANDSCAPERS EXPO 1986 Seminar And Trade Show

By Jeanne Minnock

There will be a unique Landscaping Trade Show and Seminar that wll be held in the Manatee Civic Center August 22-24, 1986.

Exhibits will comprise of Nursery stock, Plants, Trees, Fertilizers, Chemicals, Garden Supplies, Ornamental Products, Lawn Equipment, Skid Steer Loaders, Growers Supplies, Patio Stones, Potting soils, Top soils, Irrigation systems and other allied products too numerous to mention.

We are planning on conducting Workshop Sessions starting at 9:00 AM on Friday and Saturday, August 22 and 23rd. These sessions will be conducted by experts in the Landscaping field.

Manatee Civic Center is just north of Bradenton, actually on the border line on US 41/301 in Palmetto just a few miles south of Tampa. It is a new facility and has ample free parking areas; it's so clean and neat you will enjoy the total environment.

The Hours that the exhibits will be open are Friday and Saturday from 9:00 AM until 6:00 PM, Sunday 9:00 AM until 3:00 PM. There will be Free admission to the show, but registrations are required and badges must be worn by all attendees.

It is advisable to preregister for the Workshop Sessions, to enable us to plan for an appropriate size room. Free Coffee will be served at the sessions. More information is available from Merchandise World, Inc., P.O. Box 1374, Venice, FL. 34284- Telephone 813-485-5888. Just send in your name and mailing address to preregister. Plan to be present at 9:00 AM sharp.

Host hotel is Holiday Inn Riverfront, 100 Riverfront Drive, Bradenton, FL. 33505 (813) 747-3727. Special reduced rates are available until August 1, 1986. Be sure to mention Landscapers Expo 1986 for reduced rates. ■

1986 Poa Annua Classic

by Bob Shelvin

In 1986 Poa Annua Classic was held at the Naples Beach Hotel and Golf Club in Naples, FL, on May 18 & 19. As in the past the event was a big success.

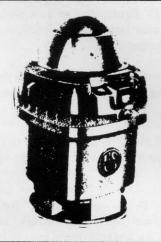
Our appreciation goes out to all who attended along with our desire to see them all again next year for an even bigger and better time.

Sunday night, May 18th was our fantastic luau set up on the grounds, along with the nights entertainment, Cary Lewis did his own version of "Along Came Sam" - start planning for next year Cary!

A crystal engraved paper weight was presented to Tom Burrows, President of The Florida Golf Course Superintendents Association, by David Moote, President of The Everglades Chapter of the GCSA. Also presented were crystal engraved plates to Dick Naccarato, Superintendent; Jim Duffy, Pro and Henry Watkins, Owner; all of The Naples Beach Club and Hotel, in appreciation for hosting the 1986 Poa Annua.

The golf tournament was held on Monday, May 19th. The winner, in with a 70 for low gross was Gary Smithers; low net division, Rick Kaiser. The Poa Annua Trophy went to The Everglades Chapter this year with thanks to Mark Tallmage, Rick Kaiser, Buddy Carmouche and Dan Hall Jr., with an over all score of 274. In the Calloway Division for suppliers and guests the winners were Dick Bessire, low gross and Butch Gill, low net.

Preceding the presentation of various forms of engraved crystal to all of the winners, was a golf clinic given by Patty Berg. As usual she captivated her audience with her informative, fun-filled exhibition. We would like to thank Patty Berg for her participation in our event. We would also like to thank the Sponsors for their donations and participation. Most of all we would like to thank Henry Watkins - Owner; Dick Naccarato - Superintendent and Jim Duffy - Pro, all of the Naples Beach Club & Hotel for being wonderful hosts. See you next year!!



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