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The Syngenta people who call on you are highly trained, experienced professionals who will be focused on your business. They will understand the pressures you feel, the uncertainties you face, the best solutions you can use.

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The Syngenta commitment goes beyond products and solutions. We will also maintain strong connections with your industry's associations, including the Golf Course Superintendents Association of America, the Professional Lawn Care Association of America, the National Pest Management Association, Inc., the National Roadside Vegetation Management Association, the Southern Nurserymen's Association and the American Seed Trade Association, among others.

Having a healthy industry, we believe, is a responsibility to be shared by you and us.

We know there will always be parts of your business that are hard to manage.

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Syngenta Professional Products

No doubt you will see familiar names on this list of products from the Syngenta Professional Products portfolio. And this is just a small sample. In all, Syngenta Professional Products now provides more than 40 products for turf and ornamental, professional pest management, vegetation management and seed treatment applications. To learn more about specific products for your needs, talk to your Syngenta Professional Products representative.

Turf & Ornamental

Avid[®]

Banner[®]
MAXX[®]

Barricade[®]

Daconil[®]
Fungicide

FUSILADE[®] II
Herbicide

Heritage[®]
FUNGICIDE

Primo[®]
MAXX[®]

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PRO[®]

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Professional Pest Management

DEMAND[®] CS
INSECTICIDE

Demon[®] EC
INSECTICIDE

Demon[®] TC
INSECTICIDE

Talon[®]-G
RODENTICIDE

WeatherBlok[®] XT
RODENTICIDE

Vegetation Management

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Apron XL[®]

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RTA[®]

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Questions?

For more information on Syngenta Professional Products, call 1-800-395-8873.

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Important: Always read and follow label directions before buying or using these products.
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CM1190

SCP 910-00292A



Isuzu's 2002 low cab forward Crew Cab (NPR-HD and NQR)

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- ▶ Accommodates landscaping dump bodies in the 13- to 14-ft. range and lawn service bodies up to 16- to 17-ft.

Toyota

Product: 2001 Tundra full-size pickup truck

Best features:

- ▶ I-Force V-8 engine is the only double overhead cam (DOHC), 32-valve V8 ever offered in a full-size pickup
- ▶ Electronic Throttle Control System with intelligence (ETCS-i)
- ▶ Toyota Direct Ignition system (TDI)
- ▶ Standard V-6 engine with four-speed automatic or five-speed manual transmission
- ▶ Optional V-8 engine with four-speed automatic transmission

Product: 2001 Tacoma Stepside

Best features:

- ▶ Part of a value package that includes several upgrades
- ▶ Available on regular and Xtracab 4x2 Tacoma models, powered by either four-cylinder or V-6 engines

- ▶ Cargo box is a solid steel unit

Isuzu

Product: 2002 NQR

Best features:

- ▶ A gross vehicle rating of 17,950 lbs. and a body/payload range from 11,733 to 11,965 lbs.
- ▶ Body lengths range from 12 to 20 ft. with a choice of four different wheelbase lengths
- ▶ A straight channel ladder-type frame with a section modulus of 7.20 cu. in. and a Resistance Bending Moment (RBM) of 316,800 lbs.
- ▶ Equipped with front and rear semi-elliptical, multi-leaf springs and shock absorbers
- ▶ A front stabilizer bar contributes to greater handling and steering capabilities
- ▶ Equipped with ABS
- ▶ 4.75-liter, 4HE1-TC, four-cylinder diesel engine
- ▶ It incorporates an overhead cam engine design and direct fuel injection. This 4HE1-TC is rated at 175 gross hp @ 2,700 rpm and 347 ft.-lbs. gross torque @ 2,000 rpm
- ▶ NQR offers a choice of transmissions

Product: 2002 Low Cab Forward Crew Cab (NPR-HD and NQR)

Best features:

- ▶ Seats a crew of seven people comfortably

- three across in front and four abreast in back
- ▶ Available in two wheelbase configurations — a 150-in. wheelbase accommodates 12-ft. bodies and a 176-in. wheelbase handles 16-ft. bodies
- ▶ The Crew Cab's diesel engine, coupled with a four-speed overdrive automatic transmission, delivers 175 hp at 2700 rpm
- ▶ Visibility is enhanced with an oversized panoramic view front windshield
- ▶ The NPR-HD Crew Cab is rated at 14,500 lbs. GVWR. The NQR is rated at 17,950 lbs.
- ▶ NPR-HD Crew Cab features 4,500 lb. GVWR; 150-in. wheel base and 176-in. wheel bases; accommodates 12-ft. bodies
- ▶ NQR Crew Cab features 17,950 lb. GVWR; 150-in. wheel base and 176-in. wheel base; accommodates 16-ft. bodies.

Product: 2002 Class 6-7 F-Series commercial trucks

Best features:

- ▶ Class 6 FSR, Class 6 to 7 FTR and Class 7 FVR are powered by an Isuzu 6HK1-TC diesel engine in two horsepower configurations
- ▶ The 7.8-liter overhead cam engine is turbocharged, intercooled and equipped with electronic fuel injection
- ▶ Installed in the FSR and FTR, the six-cylinder diesel develops 200 hp at 2400 rpm and 441 ft.-lbs. gross torque at 1500 rpm. The version used in the higher payload FVR diesel engine develops 230 hp at 2400 rpm and 506 ft.-lbs. gross torque at 1500
- ▶ All F-Series models include as standard an Isuzu MLD6Q six-speed manual overdrive transmission, synchronized in gears two through six. The transmission has a standard power take off (PTO) opening. Optionally available in the FSR and FTR is an Allison

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"The most valuable truck we use...was custom built to accommodate our needs for large landscaping contracts."
 — Ryan Hughes, Hughes Nursery

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AT545 four-speed automatic transmission

Textron Golf, Turf & Specialty Products

Product: Cushman Turf-Truckster work vehicles

- ▶ Added power, bigger payloads and durable, unibody construction
- ▶ Easily withstand the rigors of daily use without neglecting operator comfort
- ▶ Carrying capacity is 2,500 lbs. for the three-wheel version and 2,850 lbs. for the four-wheel version
- ▶ Improvements include 30% more cargo capacity, an independent-axle front end for a smoother ride and tighter turning radius, and stiffer molded plastic unibody construction
- ▶ The floorboard, hood, front end and instrument panel resist damage from rust and impact
- ▶ Powered by a choice of 18- to 34-hp gas or 22.3-hp diesel engines
- ▶ Operator amenities include car-style foot pedals, a console shifter, increased legroom, a 12-volt power plug outlet and a dashboard storage tray

John Deere

Product: E-Gator utility vehicle

Best features:

- ▶ Powered by a quiet electric motor
- ▶ Designed for customers concerned with operational sound levels and exhaust emissions, the electric utility vehicle is a clean, quiet and efficient option for a variety of landscape applications
- ▶ The electric utility vehicle provides the same advantages of the gas and diesel models — low ground pressure to help prevent ground compaction, smooth operation that's easy to learn, safety protections, durability for long life and easy access to service points

for convenient maintenance

▶ Designed for quick acceleration and steady performance between chargings, the electric utility vehicle offers numerous features, including overspeed and roll-away control

▶ A speed control feature governs the vehicle at a top speed of 15.5 mph and helps maintain a constant speed when traveling up or down inclines. Top reverse speed is 8 to 10 mph. The vehicle retains full torque even when on an incline

▶ Equipped with a directional change control

that's designed to slow the vehicle to a stop when changing direction from forward to reverse

Product: 6x4 Gator

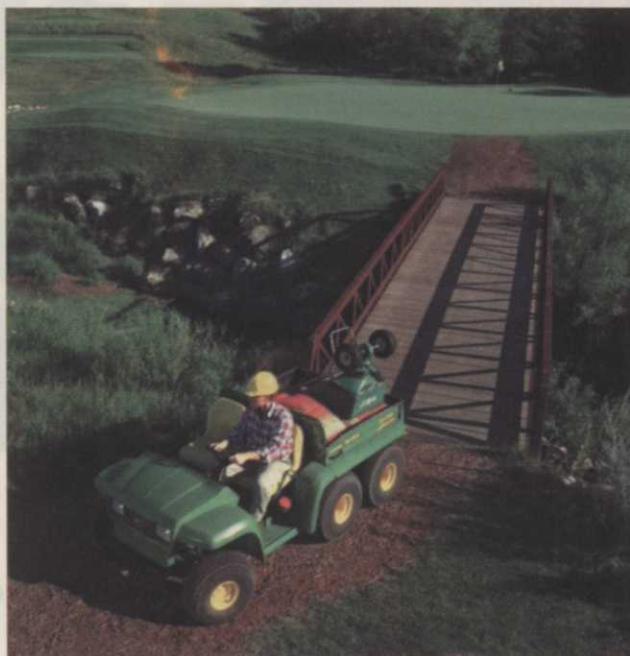
Best features:

- ▶ An 18-hp, liquid-cooled engine
- ▶ For extra traction, the 6x4 provides full-time four wheel drive and differential lock
- ▶ Arc-welded unibody design and front suspension
- ▶ 1,200-lb. towing capacity
- ▶ Low ground pressure and a low center of gravity

Product: 6x4 diesel Gator

Best features:

- ▶ Three-cylinder, 18-hp liquid-cooled Yanmar diesel engine
- ▶ Towing capacity of 1,400 lbs.
- ▶ Low ground pressure and a low center of gravity allow these heavy-duty haulers to



6x4 Gator

work on turf without leaving ruts or marks

Sterling (a subsidiary of Freightliner LLC)

Product: Acterra

Best features:

- ▶ Available in four different models, covering each of the weight classes from Class 5 to mid-range class
- ▶ Can be customized to fit customers' needs. Models are: the 5500, with a GVWR of 19,500 lbs.; the 6500 at 26,000 lbs.; the 7,500 at 33,000 lbs.; and the 8500 at 64,000 lbs.
- ▶ Chassis lowering tires and wheels
- ▶ Horizontal, vertical or transverse exhaust
- ▶ Radiator mounted grille
- ▶ Quick access hood openings
- ▶ Tow hooks—front, rear or both
- ▶ Back-of-cab access package for tractors
- ▶ Two-person passenger seat with tool box



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The HitchHand provides short bed truck and SUV owners with a safe, low cost alternative for transporting lengthy, off-balanced cargo loads. The HitchHand measures 59 1/2 in. long, 27 to 49 in. in adjustable width; fits any standard t2-in. box receiver hitch; extends a truck bed an extra 38 in. (from edge of the downed tailgate); supports more than 750 lbs. in cargo load; weighs 46 lbs.; and fits behind the seat of a truck when not in use. It can convert any truck into a hauler of ATVs, motorcycles, canoes, kayaks, surfboards and sailboats. For more information, visit their web site at www.hitchhand.com/ / Circle no. 277

Well-received

Draw-Tite's Titan receivers are designed for full size long wheel base trucks, vans and utility vehicles with full frames and heavy duty suspensions. It has a 12,000-lb. Gross Trailer Weight (GTW) capacity and a 14,000-lb. GTW weight distributing capacity. The sturdy receivers are constructed with a secure heavy duty side bracket design, a 2 1/2-in. square receiver tube opening and an all frame attachment. The receiver unit has a pin, clip, receiver tube cover and welded electrical bracket. For more information contact Draw-Tite at 800/521-0510 or visit their web site at www.draw-tite.com/ / Circle no. 278

Lots o' trailin'

Bri-Mar Manufacturing's DT 612-

12 LPHD carries and dumps 4.6 cu. yds. of material. It features D-ring tie downs to secure equipment like skid loaders, small backhoes and other large payloads. With a 12,000-lb. GVWR, it also features a 6-ft. x 12-ft. bed size and twin telescopic cylinders. For more information, contact Bri-Mar Manufacturing at 800/732-5845 / Circle no. 279

Spray trucks

Westheffer Company, Inc. offers a wide range of spray trucks, from enclosed truck bodies to stainless steel truck beds, all sizes and configurations of tanks,

gas engines or PTO-powered pumps. For more information, contact Westheffer Company, Inc. at 785-843-1633 or visit www.westheffer.com / Circle no. 280

Equip yourself

The 2001 Adrian Steel pickup truck equipment catalog features all kinds of pickup toolboxes, each with a three-year/36,000-mile product warranty. The toolboxes are constructed of diamond tread aluminum with low profile domed lids and push-button locks. Low profile side mount boxes, single lid saddle boxes and double lid crossover boxes are available to fit both full-size and compact trucks. For more information contact Adrian Steel Company at 800/677-2726 or visit www.adriansteel.com / Circle no. 281

Tool and fuel

Northern Tool & Equipment Company's combo tool box and built-in auxiliary fuel tank is available in four styles in bright diamond tread plate aluminum. Tanks have a withdraw tube, return and drain fitting and a blank plate to mount a fuel pump or gauge sending unit. For more information contact Northern Tool & Equipment Co. at 612-894-9510 / Circle no. 282



Sturdy steel

Reading's Redi-Dek is a sturdy steel platform offering the ability to use 2x4 stake posts or pull a gooseneck trailer. All body parts are electrically welded into one integral unit. The Redi-Dek receives Reading's Lectro-Life immersion priming to protect against rust. In the Lectro-Life® process, the platforms are submerged in a vat of electrically-charged primer adhering the paint to the steel. The Redi-Dek (including understructure) is finished with a black top coat. For more information contact Reading Body Works, Inc. at 610/775-3301 or visit www.readingbody.com / Circle no. 283



8300/8800



- Our Model 8300 and 8800 (not shown) utilize a high torque fully reversible Eaton hydraulic motor.
- The Model 8300 attaches to the bottom or side of your front-end loader.
- The Model 8800 attaches to a Category I 3-point hitch.

8900



- The Model 8900 utilizes a high torque fully reversible Eaton hydraulic motor with a planetary gear driven system.
- The 8900 attaches to a Category I or II 3-point hitch, skid-steer or on the side of your front-end loader.

G20/40 (Not Shown)

- Designed for Category I 3-point hitch 20 to 40 HP tractors.
- The G20/40 gearbox contains a forged ring gear and pinion equipped with Timken bearings.

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Components are manufactured and assembled in the U.S.A.

F8



- Our F series has been digging holes since 1943. The F8 is ideal for farm or commercial work.
- Designed for Category I or II 3-point hitch 40 HP and above.
- The F8 gearbox contains a spiral ring gear and pinion equipped with Timken bearings.

POST DRIVERS



- Our drivers have been in the field since the 1950's.
- You maintain control of the driving head with the control handle.
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- Model BMDH easily leveled from boom support.

Models MDH1 and MD6 level with tractor 3-point hitch.

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- Can drive 8' or 10' (depending upon model) length, up to 6" diameter wood or steel T-Posts.
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- Category I or II 3-point hitch.

- MD6** - PTO driven
- MDH1** - Hydraulic driven
- BMDH** - Boom mounted, hydraulic driven

RETROFIT SAFETY GUARDING is available for all older Danuser models! We encourage you to get current guarding installed on your older machines.

Why insecticides fail

When an insecticide fails, it's rarely the insecticide's fault.

Knowing the real reasons for failure might reduce callbacks

BY JOHN C. FECH and FREDERICK P. BAXENDALE

You walk on a lawn you sprayed a week ago for sod webworms and it looks horrible. In fact, the homeowner is loading up a howitzer in the driveway, and you're not sure if he's aiming at the bugs or you. If this scenario is something you can relate to; if getting maximum effectiveness out of insecticide applications is of interest to you; if saving money on pesticide purchases is important; and if pleasing your customers is a goal for your company, read on.

Measuring success

There are four ways to measure success after applying insecticides:

1. Start counting insects, looking for ones that are still alive. Compare the ratio of live insects to dead ones. Also, inspect the turf in several areas. Begin by looking at the dead and dying parts of the lawn, then move out to the edges of the damaged areas. Inspect the "good-looking" parts of the turf as well.
2. Look for the absence of live insects. This method is especially useful when counting surface feeding insects such as aphids or chinch bugs. If the insecticide application was successful, these insects will be dead and shriveled up.
3. Notice the life stage of the insect. Some insecticides are considered insect growth regulators (IGRs). These products may not kill the pest outright, but instead may interfere with the insect's normal developmental process, such as changing from one life cycle stage to another. In some cases, insects in the earliest life stages are only a small worry in terms of the potential amount of turf that can be consumed, while ones in the later life stages are much more damaging. If the IGR prevents the insects from developing into



You can't solve a turf problem until you identify it. With insect pests that means getting down on your knees and identifying and counting them.

these larger, more damaging stages, the product has been successful.

4. Once the number of living and damaging insects has been determined, sketch a "quick and dirty" map of the affected and unaffected parts of the lawn. Draw circles or ovals in heavily affected areas and write in the average number of insects found per unit area (sq. ft., sq. yd., etc). Make similar notations for other lawn areas.

All of these ways to measure success must be put in the context of damage or treatment thresholds. These thresholds are flexible guidelines that are usually defined in terms of insect abundance or

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Why insecticides and miticides fail

BY BAL RAO, PH.D.

Several factors may be responsible for poor insect and mite control on ornamental trees and shrubs in the landscape. Some of the following factors may be involved in a specific pest control failure situation. By following label specifications and by process of elimination one should be able to narrow down or identify the cause(s) of failure. Generally, it is not the insecticides or miticides which fail; instead it is the conditions to which these pesticides are exposed and people expecting the unreasonable:

A. Failures related to label: not reading and/or following label specifications

B. Failures related to identification: not knowing the pest or plants well

- Improper plant, insect and /or mite identification
- Pest is difficult to manage due to its morphology and/ or high reproductive potential
- Insect and/or mite resistance from repeated use of a specific pesticide-resistant biotypes
- Sensitive plants
- Pest is known to be very difficult to manage - people may not be aware of this
- Pests blown or moved from near by untreated areas after treatment
- The pest is managed but the damage remains- concern for failure from uninformed person
- Life cycle of insects and number of generation

— Rao is with The Davey Tree Expert Company. See his column, "Ask the Expert," in next month's issue of this magazine for more details on ornamental insecticides.

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damage that can be tolerated before taking action. They're based on many variables including pest species, abundance and life stage; species and cultivar, vigor and value of the plant or turfgrass; relative effectiveness and cost of control measures; and time of year. The site's location and function will also impact the damage threshold. Low maintenance sites such as cemeteries, school grounds and parks can usually tolerate much higher levels of insect infestation than turf areas associated with banks, insurance buildings and theme parks. Threshold guidelines for specific insects on a variety of landscape plants and turfgrasses are available from many sources, including your local cooperative extension office.

Perception vs. reality

You may have heard the phrase, "For the uninformed, perception is reality." It means that if you don't know the significance of what you're looking at, you may jump to false or irrelevant conclusions.

The first aspect of this phenomenon to consider is misdiagnosis. Did the insecticide application actually fail, or did other factors injure the turf? For example, many stressors such as drought stress, summer patch disease and soil compaction can adversely impact the health and appearance of a turf stand. In many cases, these factors are more responsible for turf damage than the number of insects present.

Dealing with multiple stressors is difficult, and what makes things more difficult is that most clients tend to be one dimensional in their understanding of turf problems. To them, their crummy lawn just has to be the fault of an insecticide failure and/or their lawn care company. They don't consider the traffic stress on their lawn, or that they're trying to grow Kentucky bluegrass on a hot, dry, sloped, wind exposed site.

Another component of misdiagnosis is misdiagnosis. An example of misdiagnosis is when the lawn care technician or grounds manager identifies a problem as grub damage when it's really billbug damage. For more information on this subject, read "Controlling Turfgrass Pests (2nd Ed.)" by T.W. Fermanian, M.C. Shurtleff, R. Randell, H.T. Wilkinson and P.L. Nixon, and "Integrated Turfgrass Management for the Northern Great Plains" edited by F.P. Baxendale and R.E. Gaussoin.

Other reasons why insecticides fail

Assuming the insect has been properly identified, that there are many of them feeding on the turf and that no other site-related or customer-related factors (dumping ice cream freezer salt on the lawn, etc.) seem to be causing the turf to decline, consider the following factors that can affect insecticide performance:

► **Photodegradation** — This occurs when the insecticide formulation is exposed to light. Photodegradation occurs primarily when surface feeding insects (aphids, sod webworms) are the targets. The botanical insecticides, older pyrethroids, *Bacillus thuringiensis* and entomopathogenic (beneficial) nematodes are particularly susceptible.

► **Microbial degradation** — This occurs when tiny soil-inhabiting organ-

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