Immaculate weed-free turf not only looks better, it also costs less.

Read how Trimec® Turf Herbicide can save you time and money, and make your work more fun.

It costs less to go first class. How many times have you heard that old truism? You know it's a fundamental fact of everything in life, but in no other phase of today's economy is it more graphically demonstrated than in the world of weed control in professional turf management.

When a turfman tries to skimp along with a narrow-spectrum herbicide on the theory that it will control the major eyesores like dandelions and chickweed, and will cost less per gallon than Trimec — he opens the door to an endless chain of problems and expenses.

Perhaps the worst consequence is the emergence of some ugly weeds of the hard-to-kill variety that he once considered to be so rare that he didn't even think of them as a problem in his area. And, when these weeds come, they come as a crowd... out of nowhere.

Of course, you know where they came from and why they came. They're the natural consequence of using a narrow-spectrum herbicide in an area that is fertilized and watered.

The hardy weeds (which were not controlled by the narrow-spectrum herbicide) are nourished by the fertilizer and water, and fight with the grass to fill the vacancy left by the demise of the sensitive weeds. Some of them win, and weeds that were once obscure become prominent.

There's really only one efficient way to cope with the problem, and that is the Trimec way.

Trimec is the one turf herbicide with a broad enough spectrum to get those hard-to-kill weeds right along with the common, sensitive ones. How many species of broadleaf weeds will Trimec control? We are still looking for the economic broadleaf weed that Trimec will not control when applied at the right times and rate. If we ever do find such a weed, we will be very surprised. No other selective herbicide can match the broad spectrum of Trimec.

Yet, with all this power, Trimec is friendly to the environment in terms of safety to grasses, because no ingredient in Trimec is at a phytotoxic level.

And when you get to the bottom line, Trimec is less expensive than its less-effective contemporaries because it requires less chemical per acre for maximum weed control, and it saves labor costs because it does it right the first time so you don't have to do it over. Thus, when you use Trimec, you not only look good to the greens committee... you also look good to the finance committee.

Only Trimec gives you all of these benefits

- Controls the widest range of broadleaf weeds
- Gets hard-to-kill species with one treatment
- Wide safety margin for lawn grasses
- Minimum hazard from root absorption
- No vapor action after application
- Effective weed control in wide temperature range
- Unique formula overcomes water hardness problems
- Treated areas may be seeded within two weeks
- Non-flammable and non-corrosive in use
- Product stable several years above 32°F.
- Biodegradable: friendly to the environment
- Bentgrass formula also is available.

In summary

The Trimec record speaks for itself. No other turf herbicide available today is the equal of Trimec, not only in providing superior broadleaf weed control, but also in terms of safety to grasses — and in total cost. No wonder an overwhelming majority of golf course superintendents agree: Dollar for dollar and acre for acre of immaculate, weed-free turf, Trimec is the most efficient broadleaf herbicide on the market... period.

See your authorized Gordon distributor, today.
survival of bermudagrass. The laboratory tests also showed that short and duration of dormancy may hinder the prolong dormancy may lessen winter injury in the field.

D.R. Chalmers and R.E. Schmidt investigated the effects of deacclimation, freezing temperatures, and dormancy after exposure to freezing temperature on "Tifgreen" bermudagrass. They deacclimated the grass from zero to eight days at 27/13 degrees C. (day/night), subjected rhizomes and stolons to temperatures of +2 to -6 degrees C. for 24 hours, and kept one-third of the samples in dark storage for 0, 45, and 90 days at about 2.7 degrees C. Prolonging dormancy after exposure to low temperatures reduced the viability of both stolon and rhizome node buds. This suggests that continuation of the dormant condition on into spring could be an important contributing factor to the decrease in winter survival of both bermudagrass rhizome and stolon buds.

ALCA will lobby at construction conference

The Associated Landscape Contractors of America, co-sponsors of the 1980 Construction Industry National Legislative Conference, hope to influence the Federal government on a number of important issues at the three-day meeting. The program, which will be held at the Sheraton Washington Hotel, Washington, D.C., on March 16-18, includes workshops on equal employment opportunity, collective bargaining, pension law, labor legislation, multi-employer certification, and the role of the Federal government in aiding small business. Senators, Representatives, and high-ranking officials of the executive agencies will speak.

"Our overall intent is lobbying," says John Shaw, executive director of ALCA. "We hope to influence the governmental environment in which landscape contractors operate, and secondarily, make members more aware of the governmental environment they work in and more aware of what influence they can have on it."

Californians plan first landscape show

The first annual Landscape Industry Show ever produced by the California Landscape Contractors Association has been scheduled for April 3-4 at the Long Beach Convention Center. The show will feature the latest in equipment and plant materials for landscape and irrigation contractors, landscape maintenance contractors, nurserymen, landscape architects, and anyone else connected with or interested in the landscape industry. The event will also contain exhibits on business methods, machinery, and products to help the industry cope with the rapid growth and expansion it has experienced in recent years.

SALES

Toro reports quarter of $101.6 million sales

The Toro Co. has announced record first quarter sales for the period ending Oct. 31, 1979. Its earnings of $101,596,000 are an increase of 52.8 percent over the same quarter last year.

Toro Chairman David T. McLaughlin said a 59.6 percent increase in sales of snow removal equipment was a major factor in the quarter. Sales of snow removal equipment in the first quarter accounted for 64 percent of total sales, consumer lawn equipment for 18 percent of the total, professional turf equipment for 9 percent, and irrigation equipment for 8 percent.

HERBICIDES

Devrinol labeled for ornamentals, liners

Devrinol, a surface-applied herbicide, has been federally registered for weed control in ornamentals, field-grown nursery stock, liner stock, ground covers, and dichondra. The Stauffer Chemical Co. product has been labeled to control eight annual grasses, including barnyardgrass, bristly fox-tail, and large crabgrass, as well as 12 annual broadleaf weeds, including common purslane, lambs-quarter, and redroot pigweed.

It can be applied as a broadcast treatment over young nursery stock or as a directed spray to larger stock either as a band or broadcast application, and is recommended on several different container potting soil mixtures. Application can be made any time of the year to weed-free soil.

WEEDS

National program hits weeds from every angle

The multidisciplinary National Research Program is designed to develop weed control technology that will reduce the losses weeds cause and the cost of their control. The research is organized into 122 projects at 45 locations and is conducted by 64 scientists in cooperation with several Federal agencies, State Agricultural Experiment Stations, private universities, and industrial research organizations.

During the decade 1977 to 1986, the technology form this program is expected to produce total net benefits that include:
1. Reduction in the crop losses caused by weeds from 10 percent to seven percent resulting in an annual savings in production valued at $2 billion.
2. Reduction of 10 percent in the current cost of weed control resulting in a net annual savings of about $620 million.
3. Improvement in the quality of crops by one percent resulting in a net increase crop value of $101.6 million per year.
4. An increase of four percent in crop production efficiency valued at an estimated $2 billion each year.
5. Reduction of 4 to 8 billion gallons per year in diesel fuel re-
We put a lot into our Turf-Truckster.

One of the most dependable vehicles for moving your crew around is the 3- or 4-wheel Cushman® Turf-Truckster. But it was also designed for more than just transportation.

Equipped with an optional PTO and hydraulic system, both models accept a wide range of special, add-on turf maintenance equipment. So with just one Turf-Truckster you can haul, dump, grade, seed, spray, spread, top dress, aerate and more.

But there's more to a Turf-Truckster than versatility. There's a rugged 18-hp engine that's built to take on your turf. It comes with a standard 2 to 1 auxiliary transmission. A transmission built to allow a gear driven PTO to be attached directly to it. And common sense engineering makes the Turf-Truckster steer clear of the repair shop, too.

The 3-wheel model gives you the maneuverability of a tight 17' turning circle, while the 4-wheeler has seating room for two. And it just takes minutes to add any of the Turf-Truckster's accessory pieces, thanks to Cushman's pin-disconnect system. No bolting, no hitching. Just snap two or three pull pins in place and you're ready to hit the turf.

If a good transportation/hauling vehicle is all you need, though, look at the Cushman Runabouts. There's an 18-hp two-seater, and a fuel-stingy 12-hp one-seater model. Both Runabouts are economical to own. And like any Cushman vehicle, they're built tough.

There's nothing like a Turf-Truckster or Runabout to get more work done, in less time and with less manpower. For a closer look at what goes into, or behind, a Cushman vehicle, return this coupon today.

Show me what you put into a vehicle, Cushman.

☐ I'd like a demonstration of the Turf-Truckster (3-wheel or 4-wheel). (Circle One)
☐ I'd like a demonstration of the Runabout (12-hp or 18-hp). (Circle One)
I'm interested in seeing these Turf-Truckster attachments: ☐ Aerator; ☐ Sprayer; ☐ Top Dresser; ☐ Grader/Scarifier; ☐ Flatbed/Dump Box; ☐ Cyclone Seeder/Spreader.
☐ Send me your new 1980 catalog.

Name

Title

Address

City

State

Zip

And a lot behind it.
Law orders labeling of service containers

Regulations have been adopted in California to require that service labels include the identity of the person responsible for the containers, the identity of the pesticide byproduct or common name and concentration, and the signal word which describes the toxicity of the pesticide.

Regulations for all service containers, those other than the original labeled containers that are used to hold, store, or transport pesticides or pesticide dilutions. In addition, the regulations require that a copy of the registered label be present at each mixing and application site where service containers are used.

In the case of spills or other contamination, the labels will permit prompt identification of the pesticide involved so that appropriate action can be taken to protect public health.

Tax credit program helps hiring unskilled

Mike Jones, owner of a professional landscaping and grounds maintenance company in Tacoma, WA, will be receiving tax credits for hiring employees who might not be able to find full-time work or have a chance to learn a valuable skill.

Jones has hired disabled people, ex-felons, and those without proven abilities for years in his Grow It Green business. The Employment Security Department in Washington State will now be giving him and other private employers tax credit for training and providing opportunities for people who need jobs and want to work.

The credit can mean a tax savings totaling as much as 50 percent of wages up to $6,000 for each eligible employee in the first year of employment. In the second year, the tax credits amount to 25 percent of that amount.

According to Dr. Eugene Wiegman, commissioner of Employment Security, the Targeted Jobs Tax Credit paperwork is straightforward in application. An eligible worker is given a voucher informing potential employers that he or she is a member of a "targeted group." When the person is hired, the voucher is endorsed by the employer and returned to the Employment Security Department. There are no other obligations or restrictions. Employers receive the tax credit directly through the Internal Revenue Service.

Targeted Jobs Tax Credit is a national program available in all states. Information on the Targeted Jobs Tax Credit is available from your state Employment Security Department or the local office of the Internal Revenue Service.

Strip miner group wins in land restoration suit

A federal judge in Abingdon, VA, has ruled that strip miners don't have to rebuild mountains after they remove coal from them.

In the early January ruling, Judge Glen Williams also declared unconstitutional portions of the U.S. Surface Mining Control and Reclamation Act that let the government halt mining and assess penalties without a hearing and that allowed anyone complaining the land was unsuitable for mining to stop the operation.

The Virginia Surface Mining and Reclamation Association filed the suit in 1978, claiming the federal government had overstepped its bounds.

Executive Director of the Virginia association, B.V. Cooper, said the ruling overturned three important parts of the 1977 federal law. The major gripe of strip miners was the provision that strip-mined land had to be restored to original contours. In many cases, that meant rebuilding mountains, Cooper said.

The federal government—the suit was filed against the Secretary of the Interior—is expected to appeal.

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Girl Scout cooky sales will build a forest

In the San Francisco Bay area, Girl Scouts are helping the park system when they sell cookies in the annual January-March sale this year.

The 1980 sale will fund a new forest of native California trees in the East Bay Regional Parks, the 40-parkland system stretching along the eastern side of San Francisco Bay.

The hope for this first year is for 150 new trees, each to be planted in the name of a Girl Scout who ranks among the top sellers, according to Linda L. Chew, director of development and public information for the East Bay Regional Park District.

The forestry project is being conducted in all five Bay counties — Alameda and Contra Costa, home of the Regional Parks, and across the Bay in Marin, San Francisco, and San Mateo counties.

Research changes view on succulent growth

Cacti and other succulents grow better when watered and fertilized more frequently than generally done, say researchers at Cornell University.

Their findings run contrary to the popular belief that these plants do best in a desert-like environment. Good light is essential, but it does not have to be as intense as that found in the deserts, nor is it necessary to keep the temperature high at night. In fact, succulents do well at cool temperatures ranging from 50 to 60 degrees F. at night.

Since production may now be possible anywhere in the northern United States and in Canada, more exotic varieties of succulents may become available to consumers. Home gardeners can also benefit from the findings because they can grow them easily at home and can provide better care.
Time tested, field tested, this rugged front mounted 72" mower is built for high capacity mowing, day in and day out, and with our "O" turning radius, you have the trimming capabilities of a small push-mower in congested or confined areas. A commercially constructed hydrostatic transmission enables the operator to establish a ground speed conducive to his varied mowing conditions.

Other sizes manufactured are 48", 60", 82" and 180" plus a full line of attachments. Are you looking to get the most for your mowing dollar? Call your local Turf Blazer distributor and ask for a demonstration.

Circle 168 on free information card

18155 Edison Avenue
Chesterfield, Mo. 63017
Chipco® 26019 is getting the word.

The word is spreading fast and it’s all good. “With Chipco 26019 we’ve pretty well licked our disease problems and it lasts up to 21 days!” said Larry Bunn at Blue Hill C.C.

Jim Anderson, Lost Spur C.C., emphasized 21 day residual control saying “The longer time between spraying has saved money and labor to keep us within budget.” And Firestone’s Jim Loke said, “With 200 to 300 players per day, the long spray interval adds extra convenience.”

They’re all impressed with just how effective Chipco 26019 is against the toughest disease problems like dollar spot, (including benomyl resistant dollar spot) brown patch, Helminthosporium (leaf spot, and melting out) and fusarium patch in the Northwest.

Bent Tree C.C. Superintendent Warren Stringer said, “Leaf spot was epidemic in proportions here last Spring. Weeks of rain left our usual fungicides ineffective. Chipco 26019 turned the tide.”
Jim Bunn noted, “we controlled dollar spot and brown patch with two applications.” And Chris Myers of Bloomfield Hills C.C. said that Chipco 26019 controlled dollar spot “longer than any other fungicide he used last year.”

This season, ask your Chipco distributor or Rhône-Poulenc representative about Chipco 26019 . . . the turf fungicide that outperforms anything else you can use, with about half the number of sprays. Who says so? You, the turf care professional. And as far as we’re concerned, that’s the last word.

Rhône-Poulenc Chemical Co., Agrochemical Division, Monmouth Junction, NJ 08852

Circle 166 on free information card
DEFENDING THE GOLF COURSE: IT'S MORE THAN JUST A GAME

By Mike Hurdzan, Golf Course Designer, Kidwell & Hurdzan, Columbus, OH.

To most of the 92 percent of our population who are non-golfers, the golf course is a physical symbol of the affluent few who enjoy greater wealth and more leisure time. The golf course represents a playground for the rich and the idle even if it is a public golf course. This false but prevalent negative connotation explains why golf courses have become prime targets for controversy involving pesticide pollution, rising property taxes, and, in some cases, restricted water usage. Further the precedent of discriminating against golf courses has gathered momentum because the value of the golf course as an asset to other members of the community, both golfers and non-golfers, may not have been established. The stock rebuttal to golf course critics has been "that the golf course has improved property values near it" and "grass plants produce lots of oxygen". Neither of these reasons are very convincing to people who are committed to a pollution free environment, more tax dollars, or water conservation. But there indeed is a great number of reasons that can be given to support the existence of a golf course as a protector of the environment and an asset to all people. Then Golf began on the links of Scotland where man put his skill up against natural hazards for recreation and enjoyment of being outdoors.
the point of this article is to examine the value of the golf course in the landscape and provide you, the golfer, with more thoughts with which to defend the golf course.

There are those environmental advocates who say nature can only be protected by the total exclusion of man; and for some special environments, I believe this is a valid approach. However, not to recognize man as part of the environmental equation, or to recognize man as only the exploiter of the environment, demonstrates an unrealistic perception of natural processes. Equally unrealistic are those deeply concerned and committed environmentalists who fail to recognize that all environments are dynamic and changing, and to preserve an environment does not mean freezing it in time and place. In fact, if we separate the term "Environment", meaning a sum expression of physical forces, from the term "nature", which means occurring inherently, then we find that nature herself is a poor "wife" to the environment. Nature is constantly exploiting the environment by permitting overproduction of natural species of both plant and animal life that is held in check only by slow starvation or extreme predation. And nature herself has universally altered the environment with catastrophic powers unequalled by man in the form of glaciers, floods, earthquakes, droughts and, on a smaller scale, lightning.

Many people approach nature in numerous ways, and to different intensities of experience. For some it is the long trips into remote regions carrying a backpack or paddling a canoe. For others at a less intense level, a short weekend or day trip to a reserved area. For others it is the casual experience of a walk in the woods, a park or a flower garden. Each of these experiences can be effective in allowing man to learn to respect nature.

Golf falls into the latter category of casual experiences; but golf as a recreation, does attract man into nature. It attracts him into regions that he, by his personal nature, may not otherwise be exposed to. Examples of how golf has expose man to nature are many, one such area is remote seashores.

Remote Seashores—Golf started on the links of Scotland and the land was used exactly as it was found. The wind-protected depressions supported growth of fine bentgrasses that were kept mowed short and fertilized by the rabbits and these became the first greens. Fairways followed natural land forms which supported turf growth. Other areas remained hazards. Early town records show golfers may have selfishly been the first conservationists for they argued in town council to protect their course from those who wished to graze herds of sheep that would have completely changed the character of the dunes. Golf was played on natural links land for 500 years until about 1700 when the first inland course was built. The architecture of this first inland course and all that were to follow for the next 200 years were attempts at reproducing the natural links character. However, as the industrial revolution allowed more citizens to play golf, changes in architecture were required to accommodate increased play, but always the attempt was to keep nature.

Even today in seashore settings, man is attempting to protect nature as shown at Amelia Island, Florida.

Golf has moved man into the:

**Deserts**, where the shear contrast of man battling to keep a small amount of ground against the ever incessant encroachment of nature provides every visitor with a humbled sense of how strong natural forces are compared to man. It takes only minutes to realize that without constant care and effort, all desert developments would again become deserts. Most men are awed enough by this spectacle that they feel strongly in using the desert resources at sensible rates.

**Swamps**, which have always been areas feared by men because of the associated dangers of snakes, crocodiles, quicksand, insects, disease and black water. Few men were mentally able to relax enough to view the swamps not as hostile areas, but rather as concentrated pockets of natural processes. Today more people have been moved into swamps by the lure of golf than any other single mechanism. And further golf has moved man into
these areas in a relaxed frame of mind so that he feels safe on the course per se, but is constantly probing the edges to experience the swamp environment. To reiterate this casual experience will in no way teach golfers about swamp ecology, but it may move him to support efforts to preserve wetlands designated by experts. For my opening premise was that for man to respect nature; He must meet Her, sense Her beauty, realize Her complexities and then resolve to protect Her.

**Mountainous regions**, where golf is far removed from its birth-place along the sea, but nonetheless, golf is at home in the mountains and is in harmony with its surroundings. Mountain valleys converted for golf places an economic value on mountain land that causes responsible people to use it at a sensible rate and hopefully in a sensible way.

**Golf has adapted itself well to wasteground or land currently unusable for other purposes.**

But not all golf is confined to scenic or valuable land. Golf has adapted itself well to wasteground or land currently unusable for other purposes. **Floodplains** have always been avoided for development not only because of the potential for total flood damage to crops and buildings, but also because of damage of erosion or silt deposition. Golf courses, if properly planned, can not only withstand the flood threat and reduce erosion but also they convert wasteground to a valuable recreational property or a community asset. **Landfills** and their resulting ground water and visual pollution. Such areas, when converted to golf course use, not only reduce the visual objections but also cause money to be invested in ground water control. A converted landfill or strip-mine also provides more tax revenue for municipal works and schools.

Golf has made use of land otherwise restricted for another use such as landing approaches to airports and utility right of ways. Placement of golf courses in these areas not only improves the aesthetics of such land, but also removes a need for clearing cutting or the use of defoliant sprays.

Preservation of large tracts of historically significant land can be costly, and when the interested group of preservationists is small, there may not be enough money or political impact to save a site from a developer. Many times a golf course can be built on the historical site with little disruption to the special feature of the site and thus allow some site preservation. A classic example is the Mound Builders golf course in Neward, Ohio, built in and around the great Octogon Earthworks. Some purists may feel that the symbiotic use of this ground is more of a sacrilege than a salvation. But one need only look at the rest of the mound complex not occupied by the golf course and see that virtually all vestiges of the earthworks have lost to housing.

To summarize to this point it should be evident that golf does move man into nature and allows him to casually experience various habitats. However, the best part of it is that man pays to do it. Golf is unique in that it can produce thousands of dollars of annual revenue that can be used to produce or improve other natural or recreational areas. Many government agencies that operate golf courses use the profit from golf to provide free tennis courts, ball fields, trails, parking lots and other non-revenue producing recreational facilities. Further, golf doesn't obliterate nature like some forms of recreational developments, rather, it only causes a shift in the ecosystem that favors other types of organisms and populations.

Studies have shown golf courses to have improved populations of rabbits, fox, raccoons, skunks, opossums, deer, small birds, and numerous lower animals. In fact the Audubon Society produced a book many years ago called Golf Clubs as Bird Sanctuaries, that went into great detail about aviary populations on or near golf courses. By constructing ponds as hazards, water storage areas, and aesthetic installations, man has reduced erosion, improved plant growth conditions by better drainage, improved aquatic populations of everything from beavers to frogs and fish and to great blue herons and ducks, and has attracted man out into nature.

Many times the alteration to the ecosystem caused by a golf course development has other benefits as well:

1) Actively growing turfgrass acts as an air filter and can produce oxygen at the rate - 1 A/day = enough O₂ for 1742 people/day.
2) Tightly grown grass swards eliminate erosion.
3) Large grass areas have a cooling effect on surroundings.
4) Noise pollution is reduced.
5) Property value is improved.
6) Serves as a receptor of human wastes for many golf courses use sewage sludge fertilizers, compost, and unpotable water sources.

The American Society of Golf Course Architects in conjunction with the U.S.G.A. through its' research foundation has contracted the University of Florida to study the use of sewage effluent for golf course watering.

Golf courses have year round alternative uses other than golf. Constructed ponds in the summer may provide fishing, bird and waterfowl study areas, small boating, swimming or scuba diving. In the winter these ponds become skating or hockey rinks. The golf cart paths make excellent jogging or walking trails and bicycle paths in both winter and summer. The fairways and rough areas make good areas for crosscountry skiing or sledding with a minimum of snow cover. Perhaps the greatest alternative use for a golf course occurs on soft, warm, nights by couples - both young and old.

Speaking of young and old brings to mind the fact that golf is a game for all ages, all physical abilities and all income levels. In very few physical sports