Some expert (and unbiased) opinions.

"Disease resistance was good, it had an attractive color, texture, and a good growth habit. The most significant item was its good performance under relatively low levels of fertility."

"In our trials, Pennstar has been the best variety for which seed is available."

"Average quality ratings (9 = best) based on density, color and uniformity placed Pennstar highest with a score of 5.6 as compared to other varieties such as Geary 5.0, Merion 4.0 and Windsor 3.8. These particular plots have been under minimum maintenance and care."

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**Turf Buyers’ Checklist**

1. **IDEAL**
   
   1. It should be able to survive periods of drought.
   2. It should be able to survive with moderate fertility.
   3. It should be decumbent in growth habit so it can be mowed short without thinning out.
   4. It should not be overly aggressive—should not crowd out companion grasses.
   5. Its color should not be so dark or so light as to give a mixture a mottled appearance.
   6. It should not “go wild” when fertilized. Emergence and growth rates should be moderate.
   7. It should not produce excess thatch, even after years of establishment.
   8. It should be highly resistant to common diseases, and particularly to “killer types” such as stripe smut and leaf spot.
   9. It should be widely adapted throughout the zone of species adaptation.
   10. It should be well tested for a period of years over many locations so that its characteristics are well understood.

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**Pennstar**

1. In field tests, Pennstar has survived extended periods of drought.
2. Pennstar requires only the moderate management typical of most bluegrasses.
3. Pennstar’s decumbent growth habit permits it to be mowed very short without thinning out.
4. Pennstar will hold its own against overly-aggressive varieties, but does not crowd out less aggressive types.
5. Pennstar has a pleasing medium blue-green color that blends well with all other varieties.
6. Pennstar’s rate of growth is not overly affected by increased use of fertilizers; its emergence and growth patterns are moderate.
7. Pennstar produced practically no thatch in 11 years of testing.
8. Pennstar is practically immune to leaf spot, highly resistant to stripe smut.
9. Pennstar is widely adapted from California to the East Coast, in all the normal bluegrass areas.
10. Pennstar has been tested for 15 years in locations from coast to coast.

After you’ve checked them all... Pennstar

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**Pennstar Kentucky Bluegrass.**

TO: Pennstar Kentucky Bluegrass
P.O. Box 923, Minneapolis, Minnesota 55440

Please send me prices, availability, test information, purity and germination data on Pennstar Kentucky Bluegrass.

Name__________________________

Club or Company________________

Address________________________

City_________________State______Zip__________

For more information circle number 255 on card
red thread, Fusarium Roseum and Pythium. Also offered are Cad-Trete turf fungicide, MCP-2,4-D herbicide for broadleaf weed control, Bromosan fungicide and All-Wet non-ionic wetting agent among others.

Cloro-Spray Corp. makes No-Wilt vinyl-acrylic copolymer that forms a clear film on trees, shrubs and other plants. It prevents excessive moisture loss during dry periods. Ferro-Spray Plus is a water-soluble liquid fertilizer combined with an iron chelate solution, a non-ionic organic wetting agent and chlorophyll. Dew Down Xtra reduces surface tension of water.

Diamond Shamrock Chemical Company's Dacthal line of herbicides includes W-75 for preemergence control of annual grass and broadleaf weeds. It comes in a wettable powder which can be applied with portable or power sprayers. G-5 is a granular herbicide for annual grass and broadleaf control. Daconil 2787 broad spectrum fungicide is recommended for Helminthosporium leaf spot, Curvularia leaf spot, dollar spot, brown patch, gray leaf spot, stem rush of bluegrass, copper spot, pink snow mold (Washington and Oregon only) and Alternaria leaf spot (California only). Dadamine herbicide gives post emergence control of perennial broadleaf weeds and Daconate post-emergent herbicide controls weeds.

*J.J. Dill Company

Dow Chemical Company offers the turf insecticide Dursban 2E for mosquito control, and Zectran 2E and 25W for all ornamental shrubs.

Eagle Picher makes Dialoam turf conditioner, which is said to cut compaction, improve drainage and retain moisture. It is non-toxic and compatible with all fertilizers.

*Information unavailable at press time

E.I. DuPont de Nemours & Company, Inc., features a new Tersan 1-2-3 turf disease program which consists of Tersan LSR maneb fungicide for brown patch and rust control; Tersan 1991 benomyl fungicide for dollar spot, large brown patch and Fusarium patch control, and Tersan SP chloroneb fungicide for snow mold and Pythium control.

Elanco Products Company offers Balan granular pre-emergent herbicide for controlling annual weed grasses. Treflan, available in both liquid and granular formulations, controls annual grasses and annual broadleaf weeds. Dymid is available in a wettable powder and granular form and controls annual grasses and broadleaf weeds, particularly winter-germinating weeds. Parnon liquid concentrate fungicide prevents the establishment of powdery mildew organisms on certain ornamentals.

Enzyme Industries, Inc., introduces Grozyme soil conditioner. The biocatalytic action of this product relieves soil compaction and aerates the soil, allowing nutrients and moisture to penetrate the root system. Another product is Sanzyme, which eliminates waste odors. Its catalytic action digests organic wastes by splitting fats, starches and proteins into water-soluble components. It can be used in drains, grease traps or septic tanks. Both products are bio-degradable and harmless to plants, animals and humans.

*Geigy Agricultural Chemicals

Hercules, Inc., makes Nitroform 38-0-0 nitrogen ureaform fertilizer in two forms: Blue Chip granular for use in mechanical spreaders and Powder Blue, a sprayable ureaform. Under the theme, “It’s Your Bag,” the exhibit will also feature in four-
Warren's® A-20 Kentucky Bluegrass will bring it back fast!

Warren's A-20 Kentucky Bluegrass, developed for all turf purposes, has proven to be the finest grass for tees, fairways, and approaches. It is rated first in disease resistance by leading turf research organizations and universities. This characteristic makes the turf easier to maintain; lessening costs.

A-20 is a medium-bladed grass that grows upright with a more pronounced stiffness for a better lay of the ball. It thrives under short mowings down to ½ inch. Warren's A-20 greens up earlier in the spring and stays green longer in the fall enhancing the beauty of any course. It is drought tolerant and does well in southern areas previously considered too far south for bluegrass.

Write for a list of golf courses now using Warren's A-20 Kentucky Bluegrass. Available only as Sod or Sod Plugs.
Through professional planning

Superintendents decide what a course needs to be healthy, look better and play better

like using ACTI-DIONE® in a Tees Greens Fairways program

Fungus diseases can bring disaster to a golf course. That's why professional superintendents decide every year to follow a complete disease control program.

Besides the direct damage caused by fungi, unchecked disease can ruin the investment made in fertilizer, weed control, water and management practices (verticutting, aerifying, mowing and the labor they require). This investment can range up to $80,000 a year and deserves the protection of a complete disease control program.

DISEASE CONTROL PROGRAMS PAY
Many superintendents have discovered Tees Greens Fairways programs of disease control pay their own way. They help eliminate the problems and costs which arise when turf is lost. They help eliminate golfer dissatisfaction. The increased play from growing numbers of golfers is too much of a challenge for anything less than healthy turf.

FOLLOW APPLICATION SCHEDULE
Although the level of control on fairways is not so critical as that required on greens, prevention of disease is always less expensive than cure. Start your fairway spray program in the spring as soon as possible after the first mowing. Continue on a scheduled basis—usually an interval of 21 to 30 days. Acti-dione turf fungicides can eradicate many turf diseases, but you will save time, money and many headaches by establishing a program of prevention.

TRAINED TUCO PERSONNEL
Just a call will bring one of our highly trained and expert field representatives to help you in your program of scientific turf management. He can help with more than just fungus diseases, too.

ACTI-DIONE ADVANTAGES
It's biodegradable and non-mercurial. It does not harm beneficial bacteria that are necessary for the breakdown of thatch and release of nitrogen and other nutrients. It is absorbed into plant cells through locally systemic action. It is water dispersible for uniform coverage when sprayed on the grass.

DISEASES CONTROLLED
Leafspot, Dollar spot, Melting-out, Fading-out, Going-out, Brown patch, Pink patch, Powdery mildew, Rust

Acti-dione TGF®
New formulation from TUCO. Easy-to-open 15-ounce zip-top package. Easy to use. Easy to handle. Easy to dispose of. Treats three average greens. For fairway use, check with your supplier.

Acti-dione® Thiram
Broad-spectrum, year-round disease control, including snow mold. Your supplier has complete information.
The man with this cap will tour your course.

He's your VERTAGREEN Turf Specialist from USS Agri-Chemicals. And when it comes to turf grass management, he's a good man to get to know. Your VERTAGREEN Turf Specialist will meet you on your own ground with a Professional Turf Program specifically suited to the needs of your course. Before he discusses the use of fertilizers and turf protection chemicals, he'll want to walk your course with you...to look over your turf...ground contours...and general course condition. Then he'll take a soil sample, at no charge, for a nutrient level analysis and nematode inspection. Then, your VERTAGREEN Turf Specialist will recommend exactly the right VERTAGREEN turf nutrients and VERTAGARD turf protection chemicals that will work hardest for your own climate and course condition. For great turf in the 70's, call the professional today...your USS VERTAGREEN Turf Specialist from USS Agri-Chemicals. He'll meet you on your own ground with a full line of dependable turf products and services.

with the Vertagreen pros.

Score in the 70's with the USS Vertagreen Professional turf program.

For more information on the USS VERTAGREEN Professional Turf Program, visit the 43rd International Turf Grass Conference, Booth C-4, Cincinnati, Ohio, February 13-18, 1972.

For more information circle number 212 on card

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color transparencies all the bags of Hercules’ customers who package Nitroform 38-0-0 under their own names.

J.M. Huber Corp. offers peat moss in bulk; Michigan peat, Sphagnum Peat Moss Horticultural Peat Moss, Organic Top Soil and all purpose Potting Soil.

Kaiser Agricultural Chemicals features #101 Tee and Green Fertilizer, #102 Fairway Fertilizer, #103 Professional Ureafoam Nitrogen and #104 Professional Turf Fertilizer and Weed Preventer.

Mallinckrodt Chemical Works offers a complete line of fungicides and herbicides which includes Auragreen, Cadminate, Calo-Clor, Calo-Gran, Koban, Kroma-Clor, Ultra-Clor, Kromad, Phenmad, Spring-Bak, Thiramad, Thiramad-Plus, Po-San and Pre-San. In addition, the company offers Vitalon Light and Vitalon Dark, turf and ornamentals foliar colorants.

*Malter International Corp.

Milburn Peat Company, Inc. offers peat moss for top dressing greens and maintaining club grounds.

The Milwaukee Sewerage Commission offers Milorganite, a standard organic fertilizer.

Mock Seed Corp. makes the Mock line of grass seed for fairways, greens and tees. It also carries Cura-Lawn, a dry granular fungicide for prevention of snow mold.

Oil-Dri Corp. of America makes Terra-Green Soil Conditioner, which is designed to reduce compaction, increase water infiltration rates, provide better draining and circulating soil system.

Par Ex Professional Products, Swift Agricultural Chemicals Corp., makes a wide range of turf fertilizers which contain the new nitrogen source IBDU (isobutylidene diurea). This source of nitrogen is not dependent on temperature or bacterial activity, but on hydrolysis.

Penncross Bentgrass Assn. promotes a line of putting green grass seed, which was developed at the University of Pennsylvania.

Plant Marvel Laboratories makes the Nutriculture formulas for maintaining turf. Bent Special 28-8-18 contains nitrogen in three forms for fast, medium and slow release. Cal-Mag Special 25-0-20 is a source of calcium and magnesium, nitrogen and potash. Lawn Marvel 28-18-8 is an all-purpose lawn and fairway feed. Potash Special 10-20-30 is recommended to overcome a potash deficiency and to help overcome and prevent melting out and dollar spot. Plant Marvel 12-31-14 is a starting solution for establishing new turf from seeds or stolons.

The Rudy-Patrick Company features turfgrass seed including Pen- cross bentgrass, Pennstar bluegrass, Penfine and Manhattan ryegrasses and Highlight chewing fescue.

O.M. Scott & Sons’ ProTurf Div. offers 40 commercial products designed for golf course superintendents. Weed controls in the line include Fertilizer Plus Diicot Weed Control, Fertilizer IV and Broad Spectrum Weedicide II plus others. Fungicides include Fertilizer Plus Fungicide for brown spot, copper spot, dollar spot, fusarium patch, leaf spot, red thread and snow mold control and Fertilizer plus DSB Fungicide, a non-mercurial systemic fungicide for control and prevention of dollar spot and brown patch. Fertilizers include Fairway Fertilizer and Fertilizer.

*S & D Products, Inc.

Stauffer Chemical Company makes Aspon insecticide for controlling cinch bugs. It is sold under various brand names. Betasan pre-emergence herbicide is used on greens, tees and fairways for control of crabgrass, hairy crabgrass, goosegrass, Poa annua and certain annual broadleaf weeds. It can be used on bluegrasses, bentgrasses, bermudagrasses, zoysiagrasses and other grasses.

Stewart Bros. Company offers a top dressing.

Swift Agricultural Chemicals Corp., see Par Ex Professional Products

*Turf-Terra Div., Koos, Inc.

Tuco, Div. of The Upjohn Company, will exhibit its new turf fungicide, Acti-dione TGF, for golf course (Continued on page 58)
tees, greens and fairways. The broad-spectrum fungicide is packaged in a readily disposable tear-top can and is recommended for the prevention and control of most turf diseases.

Union Carbide Corp. features the insecticide Sevin in sprayable or granular form and Seven Mol-4, which is with molasses.

U.S. Borax features Maintain CF125 for the retardation of turf, control and elimination of broadleaf weeds and annual grasses.

U.S.S. Agri-Chemicals Div., United States Steel Corp., introduces Vertagreen 19-5-9 fairway fertilizer, designed for use through rotary or drop spreader. Also included in the Vertagreen line are Veriagreen 18-0-9 for fairways; Turnament Plus, a slow-acting granular fertilizer; Tee Green for greens, tees and aprons, and Weed & Fee for Professional Turf for Poa annua and crabgrass control. Vertantine Ureaform Fertilizer is a long-feeding, slow-acting nitrogen fertilizer designed for greens, tees and fairways.

Velsicol Chemical Corp. offers Banvel herbicide for control of knotweed, chickweed, white clover, sheep sorrel, curly dock, dog fennel and other weeds. Chlordane insecticide controls soil and surface insects, such as grubs, Japanese beetle larvae, ticks, chiggers and ants, in lawns and turf. The company claims that it does not present a hazard to humans or the environment. Bandane is a pre-emergence herbicide which combines crabgrass control, insect control and safety to desirable grasses, such as bentgrass, bluegrass, bermudagrass, zoysia, St. Augustine and centipedegrass. Accutrol is the company's new air emulation spray system which is said to spray chemicals accurately with little loss into the environment.

Vineland Chemical Company offers Vichem turf products, sold under the trade names Dal-E-Rad, Calar, Rad-E-Cate and Vi-Pex.

Warren's Turf Nursery features Warren's A-20 and Warren's A-34 Kentucky bluegrasses. The A-20 has good to excellent resistance to Helminthosporium, stripe smut and powdery mildew and average resistance to Fusarium roseum. A-34 can tolerate up to 65 per cent shade and still grow well in the sun.

**Accessories**

Container Development Corp. makes the Lewis Line of accessories for the golf course. Included in the line are ball washers (four models), tee markers, fiberglass flagpoles, cup cutters, setters and pullers, plain or numbered flags in cotton or nylon and directional diagonal, pennant and checked flags in cotton.

Fore-Par Mfg. Company carries golf ball shaped tee markers in red, white, blue or yellow as well as tee markers with the club insignia permanently silk-screened on the faced-off portion, available in the club's choice of colors. Tee plaques made of Reonite show hole number, par and yardage in relief and match tee marker colors.

Nelson Nameplate Company manufactures tee plaques.

Par-Aide Products makes a complete line of green and tee equipment, including ball washers, benches, flagpoles, flags, tee markers, cups and hole cutters and spike brushes.

Shur-Way Development Company offers divot fixers.

Standard Mfg. Company makes a portable tee console which functions as a ball washer, tee data sign, Spike Kleener and Litter Caddie. It is available in yellow, red or avocado. A portable ball washer has a three-quarter capacity tank and comes in red, yellow or avocado. Steel plastic-coated tee benches come in colors to match the console and tee markers and are constructed of 16-gauge steel. The Porta-Span bridge is weather-proof and has a maximum vehicle load of 2,400 pounds or 15 persons. Bridge can be assembled by one man in two hours. Litter Caddies are available tapered with or without a turf spike and straight with a turf spike.

**Other**

*Mr. Chain, Div., M-R Products*

*Dacton Instrument Company*

Foley Mfg. Company introduces the Model 384 Bed Knife Grinder for gang, fairway and greens mower knives up to 32 inches long. On display also will be Model 388 Lawn Mower Grinder, Model 398 Rotary Blade Grinder and Model 365 Lopping Machine.

Hancor, Inc., subsidiary of The Hancock Brick & Tile Company, makes Cor-flow corrugated plastic pipe and fittings for golf course drainage systems.

*Lakeshore Equipment & Supply Company*

*The J.H. Spaulding Company*

Vandermolen Corp. makes Rid-O-Ray incineration unit for eliminating insects. The unit is powered by 110-volt house current. Insects, attracted to the light, are incinerated when by the electrically charged grid that surrounds the light.
10 BLADE HIGH SPEED REEL: For the finer groomed creeping Bent in the North and the new improved fairway Bents and Bermudas in warmer climates.

EVEN DISTRIBUTION OF CLIPPINGS: With new scraper-deflector, grass clippings are evenly distributed, eliminating bunching, dropping and windrowing.

PREVENTATIVE MATTING AND THATCH CONTROL: Presents a preventative control of thatch and matting by cutting as low as 1/4 inch with a 1/2 inch frequency of cut.

ELIMINATES SCALPING ON MOUNDS: The 26 inch cutting swath of each unit gives greater flexibility. No “ribbed appearance.” Smoother, more uniform cut.

AVAILABLE in Hollow Roller or Rear Wheel Drive. 3, 5, 7 and 9 gangs.

Gives Putting Green Appearance to Fairways, Aprons and Tees!

ROSEMAN MOWER CORP.

Nation-Wide Sales and Service 2300 CHESTNUT • GLENVIEW, ILLINOIS

For more information circle number 213 on card
When the golf professional packs off to Palm Beach Gardens this year for the annual Professional Golfers' Assn. Merchandise Show to be held January 22d to 25th, he'll be best prepared for his buying spree by taking along a little bit of fashion foreknowledge. After all, it's the soft-goods merchandise which will predominate the displays and occupy most of the selling and buying time of the manufacturers and professionals, respectively. Therefore, more so than ever before, that what-to-look-for fashion know-how is a must when shopping the PGA show.

**Fabrics** are a good place to start. And this year the fabric trend is back to classics. Traditional seersuckers and ginghams are showing up strong in the women's wear market, with chino, linen, denim and even spring tartans in the men's wear. Plaids are big all around, favored by designers for golf slacks and skirts. They're not only done in wovens, but the professional will be sure to find them in the up-to-date knits.

Although GOLFDOM predicted as far back as the January 1970 issue (see: “Spring into Print,” p. 58) that prints would be making their way into the golfwear market, this season it's a whole new way with prints and patterns that the professional will see in the spring/72 lines. For example, prints are showing up in abstracts, geometrics, even in soft impressionistic designs. The variety is infinite. Plus, to add additional fabric interest, many of the prints have been designed to run in vertical stripes. The patterns, on the other hand, are done in big and little checks (often both of them played on the same white ground) and in the traditional jacquards. The latter is featured predominately in men's golf shirts and slacks.

Whatever the design or texture of the spring fabrics, golf professionals note: Look for the fabrics which give the most *au naturel* look. Many manufacturers are going back to cotton and cotton blends in the shirts and tops, giving the man-made fibers some real competition. Golfers have found through trial and error that cotton absorbs best, breathes easily and is easiest to care for in the long run. Keeping up with the natural trend are the subtle doubleknits, which sportsmen are wearing both on and off the greens. It's a knit that doesn't look slinky, will not pill and never leaves the golfer with "baggy knees."

**Color** is splashed bright and clear on all the latest golfwear. Bright yellows, pinks, even light blues show up alone or with bold reds, pine green, oranges, even violets. They're shamelessly thrown together by the golfwear designers, who also forecast using the most vibrant of colors alone or on a clear white ground. The classic favorite combination—red, white and blue—is back on the golf scene for spring, mostly in checks, plaids and patterns. But forget that old idea of color coordination (an over-used term in the golfwear market, editor's note) and freely buy tops and bottoms which blend and match to give an all-over, total sportswear look. Important as well, color-wise, are the subtle pastels, used this coming season for softening up the brights.

**Styles** are the most classically sophisticated ever, in both the men's and women's market. For the women, there are culottes cut fuller than last season to look like walking skirts. Gentle A-line skirts are big, with shorts of many lengths peeking out from under side vents. And the wrap skirt is revised, this time done in plaids, dots and checks often piped with solid contrasting color. Remember the bermuda? Well, that's back too, designed with a wide leg, in a long length to give the effect in look and comfort of skirt plus culotte. Tops continue down into short shorts, becoming jumpsuits, which stay in place under skirts and slacks during active golfing days.

(Continued on page 64)