Pair for the Course

Pennncross Penneagle

Penncross greens are known around the world for their consistent, high quality putting surface. Penncross has genetic diversity assuring disease resistance... germinates fast, establishes quicker... superbly consistent, less grain for true putts... greens up earlier, holds summer color better... great for overseeding winter greens in south.

Penneagle was developed through 18 years of research and 5 years of testing. This new variety of creeping bentgrass has these selected attributes of a great all-purpose grass for the entire course. Penneagle has a broad genetic base for greater climatic adaptability... is not overly aggressive, but competitive with Poa annua... has tight, more upright growth characteristics... is finer leafed than most bents... has excellent putting and playing qualities... was bred for disease resistance.

For more information about Penncross or Penneagle write:

Penncross Bentgrass Growers Assn.
1349 Capitol N.E., Salem, Oregon 97303

Call collect for your nearest dealer
Toll Free 1-800-547-0255 / TWX 510-590-0957

Write 140 on reader service card
March/1981  Volume 55/Number 3

Feature Articles

Routine irrigation system maintenance
Superintendent Dan Jones explains how an hour a day and three tools can prevent disaster ................................................. 12

Northern weed identification
Use these photos to see how many you can identify before checking your answers on the next page .................................... 20

Turf weed research
Professor Arthur Bing sums up his research at Cornell and gives what he feels are the best treatments ........................................... 24

Crabgrass and goosegrass control in bermuda
B.J. Johnson reports that timely applications in March can make the difference in good control ................................................. 30

Calibrate to spray accurately
The cost of pesticides dictate that you must apply enough to do the job, but no more ............................................................... 36

Departments

Clippings .......................... 6  Classified .......................... 46
News ................................ 8  Advertiser index .............. 46
Publisher's point ................ 10  Sales offices .................... 46
New products ..................... 44

EDITORIAL:
RON MORRIS, Managing editor
RAYMOND L. GIBSON, Graphics director
KRIS TAPIÉ PAY, Graphics assistant

FOUNDERS:
HERB GRAFFIS (1895-1979)

BUSINESS:
A. VAL BRADLEY, Publisher
DAYTON H. MATLICK, General manager
JAMES R. BROOKS, Associate publisher and National sales manager
JEFF LAPI, Circulation manager
DAVID HARMAN, Research manager
PATRICIA CARRICK, Advertising production

CORPORATE OFFICERS:
A. VAL BRADLEY, President
DAYTON MATLICK, Vice president
CHARLES QUINDLEN, Vice president

GOLF BUSINESS (USPS 049210) (formerly Golfdom), published monthly and copyright© 1981 by The Harvest Publishing Company, a subsidiary of Harcourt Brace Jovanovich, Inc. All rights reserved. No part of this publication may be transmitted or reproduced in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the publisher. Address: 7500 Old Oak Blvd., Middleburg Heights, Ohio 44130. Subscriptions sent free to qualified management personnel at golf facilities. All others, including elected club officials: $18 per year in U.S. and Canada; foreign, $24 per year. Single copy price: $1.50. Send subscription requests and change of address notice to above address. Controlled circulation paid at Cleveland, Ohio. Postmaster: Send Form 3579 to GOLF BUSINESS, Circulation Dept., 7500 Old Oak Blvd., Middleburg Heights, OH 44130.

FRONT COVER: A simple, short routine can erase worries about your irrigation system and prevent coming to work to the bottom scene. Photos courtesy of Dan Jones, Superintendent, Banyan CC, Miami Beach, Florida.
"Here are five important advantages of granular fungicides the bag won't tell you..."

Dr. Milton Kageyama
Program Mgr., Chemical Development

© 1981, O. M. Scott & Sons Co., Marysville, Ohio 43041. All rights reserved.
1 Product flexibility

"Whatever your fungicide needs, chances are Scotts has the products to answer them. You can choose from a selection of straight fungicides or from products that combine fungicides and fertilizers for both feeding and prevention/control.

"With such built-in adaptability, you can design an exact turfcare program for your course."

<table>
<thead>
<tr>
<th>Straight Fungicides</th>
<th>Fertilizer/ Fungicide Combinations</th>
<th>Active Ingredient(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systeric Fungicide</td>
<td>H.D. Fertilizer Plus DSB Fungicide</td>
<td>Topan-M</td>
</tr>
<tr>
<td>Broad Spectrum Fungicide</td>
<td>Fertilizer Plus Fungicide</td>
<td>Thiram &amp; PMA</td>
</tr>
<tr>
<td>101V Broad Spectrum Fungicide</td>
<td>Fertilizer Plus Fungicide</td>
<td>Deaconil</td>
</tr>
<tr>
<td>None</td>
<td>None Fungicide II</td>
<td>PCNB</td>
</tr>
<tr>
<td>None</td>
<td>None Fungicide III</td>
<td>Chloroneb</td>
</tr>
<tr>
<td>None</td>
<td>None Fungicide VI</td>
<td>Dyrene</td>
</tr>
</tbody>
</table>

2 Improved convenience

"Applying fungicides can be easy or complicated. It all depends on the type of product you use and the time, equipment and manpower you’re willing to invest. Ideally, you want a product that requires minimal preparation, is fast and easy to apply and, most of all, effective.

"A granular fungicide requires no mixing . . . just pour it into the spreader, adjust to the proper setting and go. Leftover material won’t be a problem . . . simply return it to the bag, with little cleanup or waste. And one man can normally do the job with minimal instruction, in less time than with liquid applications.

"Also, granular fungicides can be applied: 1) when the ground is too soft to support heavy spray equipment; 2) for spot control before a big tournament, and 3) during cold weather when sprays are difficult, if not impossible, to use."

3 The cost factor

"How much does your present application method cost? It’s wise to know. You could be wasting hundreds of dollars each year.

"Although granular fungicides usually appear to be more expensive than their liquid counterparts, some significant related costs should be considered before a final buying decision is made:

- Cost of equipment
- Gasoline consumption rates
- Water consumption rates
- Costs of equipment repair and maintenance
- Manhours involved in preparation, treatment and cleanup

"Labor costs will vary according to your method, location and equipment used (spray tank, boom, hose, gun, pump and nozzles vs. granular spreaders of various sizes) for application. However, application of granular fungicides requires only one person with nothing more complicated than a spreader. And, in general, granular application requires less time than liquid.

"The bottom line is this: Material costs are only part of the total picture."

4 Three-way protection

"The best way to fight disease is to prevent it from ever starting. The active ingredients in Scotts fungicides provide control through one of three modes of action: 1) Foliar contacts give moist leaf blades a protective coating to fight against fungi; 2) Soil-active fungicides control diseases at ground level by retarding fungal growth in the thatch and soil areas, and, 3) Systemics protect the plant from

5 Proven performance

"Each product is formulated, tested, reformulated and retested countless times before it goes to market. Not only has it passed the rigid tests at research headquarters, but also those at five other Scotts research stations and many other sites, including golf courses, across the country

... under many different kinds of conditions. All done so you know you’ll get the results you want, when you need them."

Your Scotts Tech Rep has the training and experience to help you maximize the efficiency of your disease control program. Call him today.
Clippings

Brief bits of news from in and around the golf business...

Nancy Gammon, head professional at Wolf Creek Golf Club and wife of Hunter Gammon, CGCS, has been voted Golf Professional of the Year by the Ladies Professional Golf Association. The Gammons are responsible for the entire history of Wolf Creek, a semi-private, 9-hole layout, and Nancy has been instrumental in many of the design changes and supervised construction. She has many achievements to her credit, including directing the local Jaycee Invitational tournament, and has served as Area Representative in the Teaching Division of LPGA since 1980. Nancy recently co-chaired the first National Teaching Division Seminar.

The not-so-golden goose who laid the big slippery spot is starting to get his. Dr. Jim Kennelly of the Wildlife Service's Wildlife Health Laboratory in Madison, Wisconsin, is heading an experimental project which involves performing vasectomies on non-migratory geese. The project is strictly experimental, but does offer some alternative to killing the geese or allowing the population to grow. Canadian geese often live 10 or more years in the wild and have three to six offspring per year after reaching three years of age.

Mike O'Connell, Maketawah CC, has been elected president of the Greater Cincinnati chapter of the GCSAA for 1981. Terry Frey of the Beckett Ridge CC is the new vice president and John Hamilton, Jack Nicklaus Sports Center, is the secretary/treasurer.

1981 officers of the Long Island GCSA are: Ed Fufaro, Fresh Meadow CC, President; Pete Bass, Hauppauge CC, Vice president; Richard McGuiness, Woodmere Club, Inc., Secretary, and Pete Ruggieri, Inwood CC, Treasurer. Directors are: Joe Alonzi, Huntingdon Crescent Club; James McCormick, Merrick GC; Jim Manka, North Hills CC; Bob Matthews, Fox Run CC, and Kay Ovian, Glen Oaks CC.

Michael R. Bavier, CGCS, (left), superintendent of Inverness Golf Club in Palatine, Illinois, was elected President of GCSAA at the annual membership meeting. James A. Wylie, Beyview CC in Thornhill, Ontario, is Vice president. Eugene Baston, CGCS, Birmingham (Ala.) CC, and Riley Stotter, CGCS, Jeremy Ranch CC in Salt Lake City, were elected directors. Outgoing President Melvin B. Lucas Jr., CGCS, Piping Rock Club on Long Island, will serve on the Board of Directors for an additional year.

Ruben Aragon, superintendent at Horizon City CC, was elected president of Rio Bravo Turf and GCSA at their annual meeting. Elected Vice president for the coming year is Fred Haiman, owner of Valley Earthworm and Compost Company in El Paso. Thelma Palmer, President of B and C Turf in El Paso, became the first woman elected to office since the organization formed in 1968. Palmer and Bill Weaver, superintendent of Vista Hills CC, were elected to two-year terms as directors. Holdover officers include Dale Notgrass, Past president, and Charlie True, Secretary/treasurer. Directors completing their terms are: Frank Felix, Superintendent of Ascarate Park GC, and Fred Torres, Grounds superintendent for El Paso Independent School District.

The Michigan Association of Public Golf Courses recently held elections and Marti Coulman from Genesee Valley GC in Swartz Creek is claimed to be the first woman president of a state daily fee golf course association. Charlie Scott, Gull Lake View in Richland, is the new vice president. Jack Grossnickle, Perry GC in Perry, is the secretary/treasurer. Directors are: Dan Burgess, Don Beavers, Jeff Hoag, Walt Jasiak, Pat Bowersock, and Walt Tamulis.

Five superintendents received GCSAA Citations of Performance during the International Conference. Award winners were: Joseph Flaherty, CGCS, Baltusrol GC, Springfield, N.J., for the U.S. Open Championship last June; Sherwood Moore, CGCS, Winged Foot GC, Mamaroneck, N.Y., for the inaugural Senior Open last June; Steve Siebel, Edgewood Tahoe GC. Stateline, Nevada, for the Amateur Public Links Championship last July; Douglas Petersen, CGCS, Prairie Dunes CC, Hutchinson, Kansas, for the Women's Amateur Championship last August, and Fred Reese, Virginia Hot Springs Golf and Tennis Club, for the Senior Amateur Championship in September. The awards were presented during the USGA Green Section Conference held in conjunction with the 52nd International Turfgrass Conference and Show.

FBC Chemicals, Inc. is the name of the new company formed to market and distribute products in the United States formerly marketed by Fisons, Inc. of Bedford, Massachusetts, and the Boots Hercules Agrochemicals Co. in Wilmington, Delaware.

The National Golf Foundation's 1981 Golf Operations Handbook is ready for distribution. The Handbook is a 400-page publication specifically planned for golf course operators and golf facility developers. It includes 35 revised information sheets and 35 new information sheets. The book contains eight major sections on business, the clubhouse, the golf course, golf services, personnel, promotion, research and player development. More information is available from: Mark Boorman. Assistant Director. Information Services, 200 Castlewood Drive, North Palm Beach, FL 33408, or phone 305/844-2500, ext. 212.

The University of Florida Turfgrass Research Field Day will be held April 1, 1981 in Ft. Lauderdale. For more information, contact: Dr. Bruce Augustine, University of Florida Agricultural Research Center, 3205 SW 70th Ave., Ft. Lauderdale, FL 33314, or phone 305/475-8990.
EMERALD OR PENNCROSS?

ONLY THE SUPERINTENDENT KNOWS FOR SURE.

Turf experts usually agree: Penncross and Emerald are the two great creeping bent-grasses. There's a reason. Penncross and Emerald perform and look very much alike. More often than you know, Emerald has been used to repair damaged Penncross greens without changing putting surface quality, texture or color.

That's why some very shrewd Superintendents now blend Emerald and Penncross to overseed greens that were originally planted in a pure Penncross stand.

Do so and you too will retain quality and have a green of championship caliber that will recover rapidly from injury and be disease-resistant.

There's yet another bonus. You'll discover that Emerald creeping bentgrass is just possibly the greatest value in the grass seed business today.

In fact, Emerald is such a great buy it is now widely used not only on tees and greens, but on fairways as well.

Emerald. It's a very good grass. Use it. You may be the only one that knows for certain it's not Penncross.

A Product of

INTERNATIONAL SEEDS, INC.

PO. Box 168, Halsey, Oregon 97348
Telephone (503) 369-2251 TWX 510/590-0765

Write 146 on reader service card
PESTICIDE

Two new phenoxy studies are introduced by NFPA

The National Forest Products Association (NFPA) has introduced two new studies, which they believe document the fact that there is little likelihood of significant exposure to 2,4-D and that products with less than 0.1 part per million of dioxin can be used safely. One of the studies, a follow-up to a 2,4,5-T study, broke the study group up into aviators, mixers, loaders and observers who took no special precautions, referred to as the T1 group, and a second which wore disposable overalls and took other precautions. The second group was referred to as T2.

Quoting NFPA: “It appears then that the 500-1000 fold ‘worst case’ safety margins announced by EPA in Section IV B.3. of its April 22, 1980, 2,4-D Fact Sheet are quite conservative. The Exposure Study clearly demonstrates that actual field applications without extraordinary precautions (i.e. T1) can substantially exceed the 500 to 1000 fold safety margins EPA found adequate in the April 22 document.

Although crew safety factors were substantially improved by the special precautions observed in T2, there seems to be little point in adopting the T2 special precautions in day-to-day field operations since the safety margins in T1 were already substantial.

“Worst case estimates based on 2,4,5-T applicator exposure data collected by Lavy (1978) and independent calculations by a New Zealand group (McQueen, 1977) suggest that there are very substantial safety margins under conditions of proper 2,4,5-T usage. TCDD (dioxin) degrades photochemically in the environment at a fairly rapid rate, which reduces the opportunity for exposure. There is no evidence that TCDD is accumulating in animal tissues nor in vegetation at a rate which would lead to significant human exposure through ingestion.

Meanwhile, EPA has contracted with a company for disposal of about 15,000 to 18,000 tons of dry silvex containing (2,4,5-T) products. These are to be buried in a waste landfill in a rural area of Sumter County, Alabama. The contract was valued at $2.1 million.

REGULATION

FIFRA amendment effect not drastic says EPA

An analysis of the 1980 FIFRA Amendments, which gives Congress veto power, prepared by Robert Wayland III of the EPA Office of Legislation, concludes that there will probably not be a “radical departure” from present agency practice. However, Wayland said, “We must not fail to obtain post hoc Scientific Advisory Panel review of any future emergency suspension.”

The amendments now make it mandatory for the Administrator of EPA to submit any action taken to suspend a pesticide to the advisory panel for comment on impact to health and environment. Previously, the Administrator was allowed to waive review by SAP in issuing a cancellation notice if the suspension was based on human health hazards.

PRIVATE CLUBS

Labor depart’s final rules on private club fees frozen

The Labor Department’s final rules setting guidelines for federal contractors who pay employee dues to private clubs with discriminatory membership policies have been frozen by the Reagan administration.

Ray McMicken, President of B. Hayman Co., Inc. in Santa Fe Springs, receives the Smithco ‘White Hat Award’ during the GCSAA International Trade Show for Distributor of the Year in the West from William Kenney, Smithco Western Marketing Manager. Eleanor, Ray’s wife, is beside him.

Sandy McLaughlin is receiving the Smithco ‘White Hat Award’ from Donald H. Smith, for Debra Turf Equipment, Hollywood, Florida, as Distributor of the Year in the East. In the background, from the left, stands Jud Debra, David Debra and Mike McLaughlin.

Orra Surret of the H.B. Carter Co. in Oakland, California, received the Smithco ‘Outstanding Salesman of the Year’ award.

Mike McLaughlin, shown with his wife Sandy, received the Smithco ‘Special Award’ recognizing his contributions to the Smithco Hydra-ject Sprayer project.

James R. Brooks, GOLF BUSINESS’ Associate Publisher, was elected to membership in the O.J. Noer Research Foundation during its annual meeting in Anaheim, California. The objectives of the foundation are to promote scientific research in turfgrasses and related fields and to train graduate students by offering financial assistance from donations and endowments. The O.J. Noer Foundation is a not-for-profit, tax-deductible foundation.

James R. Brooks, GOLF BUSINESS’ Associate Publisher, was elected to membership in the O.J. Noer Research Foundation during its annual meeting in Anaheim, California. The objectives of the foundation are to promote scientific research in turfgrasses and related fields and to train graduate students by offering financial assistance from donations and endowments. The O.J. Noer Foundation is a not-for-profit, tax-deductible foundation.

Orra Surret of the H.B. Carter Co. in Oakland, California, received the Smithco ‘Outstanding Salesman of the Year’ award.

Mike McLaughlin, shown with his wife Sandy, received the Smithco ‘Special Award’ recognizing his contributions to the Smithco Hydra-ject Sprayer project.
WE'VE GOT THE DRIVE TO KEEP YOU CUTTING.

WITHOUT CLUTCHING.

We go all out to give you the kind of riding rotary mower you want most.
A mower that keeps you cutting. Gets the job done.
So we equip our Toro Groundsmaster 72® and Groundsmaster 52® mowers with hydrostatic drive. For greater durability in four ways.
One, it keeps you cutting without clutching. Which means no downtime to replace belt, chain or clutch. Because there are none to replace.
Two, you get easy, one-pedal operation of forward and reverse. No costly gear stripping caused by improper shifting.
Three, our drive is constantly lubricated by hydraulic fluid. Reducing friction and parts wear even more.
Four, unlike other hydrostatic drives, ours has direct drive coupling. And combines motor and pump in a single housing, without the usual hoses and belts connecting two units.
And we add more durability with other features designed to keep you cutting. Like a Donaldson air cleaner and a unique cone shaped spindle.
Call your Toro® distributor. He'll tell you all you want to know about Toro riding rotary mowers.
Without clutching.

THE PROFESSIONALS THAT KEEP YOU CUTTING.
for further study. Assistant Secretary for Employment Standards Donald Elisburg explains that the regulations would eliminate the unfair job advantage which members of discriminatory organizations have over non-members.

Instead of going into effect February 17, as originally scheduled, the regulation will not become effective until at least mid-April. The National Club Association has launched a major campaign to have the regulation withdrawn completely.

**REGULATION**

NACA says pesticide regs lack scientific basis

A top spokesman for the agricultural chemicals industry called on federal regulators to begin basing their pesticide policies on scientific rather than political judgments.

In a speech before the 35th Annual Meeting of the Northeastern Weed Science Society, Dr. Jack D. Early, President of the National Agricultural Chemicals Association (NACA), said that the pesticide industry was not adverse to government regulation "as long as the regulators base their decisions on scientific principle instead of political expediency.

"Unfortunately," he added, "in the political setting of the recent past, we have found that the latter supersedes the former more often than not."

**Publisher’s Point**

It was everywhere at the GCSAA Anaheim conference and show. I heard it discussed in registration lines, in exhibit booths, in hotel lobbies, restaurants, and hospitality rooms, on the shuttle bus, at the Golf Business Superintendents Advisory Committee meeting, inside and outside educational sessions...the water shortage and anticipated drought for many sections of the country. The expressions of concern and frequent questions seemed like echoes as I moved from one group to another. "How are you coping with the situation?" "How do you plan to conserve and use less water while trying to maintain adequate playing conditions?" "How will your maintenance program be affected?" "What's your plan?" "Have you heard any good ideas from anyone who has come through a drought?"

Opinions were expressed, suggestions were given, past experiences were outlined...and then the same questions were tried on another individual or group. Definitive answers are hard to come by. Occasional suggestions of "rain dances" and "prayers" were accepted in the same spirit as they were given; light heartedly.

However, not everyone in the profession had the opportunity to express concern and gather suggestions in Anaheim. Fortunately, there are several local associations and chapter newsletter editors working hard to bring about an exchange of ideas, techniques, and programs that will help all superintendents in their area. I commend the approach that Pat Lucas, editor of Tee To Green Newsletter (Metropolitan GCSA) has taken. Through the newsletter, Pat is asking all members to share their ideas on coping with the serious water shortage. Survey cards printed with "my ideas on coping with less water are:" have been enclosed with the latest newsletter. In turn, these ideas will be published in succeeding issues of Tee To Green.

Golf Business wants to join this collective effort of sharing ideas and suggestions for coping with the serious water shortage, by communicating your ideas nationwide among our 17,000 monthly readers. Commencing with the April issue, Golf Business will devote as much editorial space as necessary to communicate the ideas, suggestions and opinions submitted by you, the readers; whether you be superintendents, distributors, suppliers, educators, associations, etc. Additionally, water management will be a regular editorial topic in Golf Business throughout this critical period. With your individual help and input, Golf Business can put these ideas and suggestions to work on a nationwide basis.

Write or call Ron Morris, Managing Editor, with your ideas and suggestions. Ron’s address is: 7500 Old Oak Blvd, Middleburg Hts., OH 44130, phone: 216/243-8100, ext. 370. Don’t put it off; others are depending on you.

The distributors’ role in turf maintenance will continue, with individual interviews presented in the April issue of GOLF BUSINESS.