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Elanco's dependable weed-control crew.

(Balan^(TM)—benefin, Elanco) (Treflan^(R)—trifluralin, Elanco) (Dymid^(R)—diphenamid, Elanco)



Bowie Hydro Mulcher - as exhibited at the American Sod Producers meeting and in action on the Greenbrier golf course.

Grass Seed Sprayed on Kentucky Golf Estates

IN JUST 2½ MONTHS, between August and November, Greenbrier Country Club and Golf Estates at Lexington, Ky., was converted from 400 acres of idle land into an 18-hole golf course that was built and seeded and staked lots for 170 residences and a clubhouse.

Hydro-mulching was used by landscape agronomist Ken Arnold to establish golf greens and to stabilize golf tees for the winter. The bentgrass greens were seeded with Penncross. The tees were seeded with rye; zoysia will be plugged in the spring.

Fertilizer was applied in the hydro-mulching operation. This permitted two jobs to be done at once. For the seedbed, Arnold recommends a 5-20-20 at the rate of 15 lbs. per thousand square feet and "Nitroform" organic nitrogen 38-0-0 at the rate of 5 lbs. per thousand square feet. Good seed germination was apparent in 2 to $2\frac{1}{2}$ weeks.

According to Arnold, "By use of modern hydro-mulching techniques, not only can turf establishment be achieved almost any season of the year, but the man-hours can be cut as much as two-thirds.

"With slow-release, high-nitrogen fertilizer like Nitroform in the seedbed, the tender young turf has a constant source of food without danger of burning and without added labor for subsequent fertilizer applications to the seedbed."

"Conwed" hydro-mulch was ap-

plied at the rate of 1,500 lbs. per acre or 300 lbs. to each of the 6,000-sq. ft. greens.

Arnold used the same seedingfertilizing - hydro - mulching t e c h nique to complete the landscaping of sample houses at Greenbrier. The Conwed hydro-mulch, he said, holds the seed, plant nutrients, and moisture on the soil surface for rapid germination and protects the seedbed from temperature extremes. Fertilizer rates were the same as for the golf course.

With 170 homes to be built and lawns to be seeded before new owners can move in, Arnold will continue to use hydro-mulching to establish the turfgrass as efficiently as possible.

Florida Pesticide Group Backs Up on Sodium Arsenite Ban

A Florida pesticide regulation committee has reversed its decision to ban sodium arsenite from all herbicide uses.

The decision affects the nationwide use of a specific product, a non-leaching grade sodium arsenite, made by Sheff Chemical & Supply Co., Bradenton, Fla. After reviewing documented research of safe usage over a 13-year span, the Pesticide Technical Council unanimously accepted an amendment to allow continued use of the product on golf courses. The amendment was presented by Dick Sheff, president of Sheff Chemical.

The council had banned sodium

arsenite, effective Jan. 1, 1970. The amendment was accepted after a public hearing at the University of Florida, June 12. An earlier hearing in February produced no action.

The product, NO-GRO Liquid Concentrate, was described as a selective herbicide that would not leach, even from sandy soil or pure sand. Extensive testing to prove the label for the State Department of Agriculture by Turf Grass Specialties, Inc., Ft. Lauderdale, was introduced as evidence.

Sheff credited this independent documented research and "strong customer testimonials" for bringing about the reversal.

"Considering the state of public opinion, Sheff said, "the decision was a courageous and intelligent action on the part of the Florida Pesticide Technical Council to reverse the ban and pass the amendment. When the evidence was all in, the Council acted with conviction."

NO-GRO is sold in most states east of the Mississippi River, Sheff said. It also is manufactured in Marietta, Ohio, at the Alfco Rokeby Co., Inc., he added, under licensing agreement and is sold in northern areas under the trade name of STOPZ.

Golf Course Builders Form National Trade Association

Men who build the nation's golf courses have formed a trade association.

Golf Course Builders of America, with headquarters in Washington, D.C., has been created by golf course contractors as an organization to permit golf course builders to meet and solve business and industry problems.

Officers of the association are: David Canavan of Moore Golf, Inc., Culpepper, Va., president; Robert T. Vincent, Jr., of the Robert Vincent Co., Benton, Pa., vice-president; and J. James Shipe of Turf Industries, Bel Air, Md., secretary-treasurer.

Golf Course Builders has retained Harry J. Lambeth of the Washington firm of Barton and Lambeth to serve as executive director of GCBA. Its offices in the Shoreham Building are in the heart of Washington's financial district.

Membership in the golf contractor's group is open to golf course contractors who have constructed at least three golf courses. There also are associate and commercial membership classifications. Associates may be subcontractors such as irrigation specialists or others. Commercial members are industry suppliers such as equipment manufacturers, turf growers, and other firms whose products are used in constructing golf courses.

Association members will meet at periodic intervals to discuss mutual business and industry problems and have an opportunity to become acquainted with other leaders in their industry.

Contractors interested in joining the new trade group should write its executive director, Suite 632, Shoreham Building, Washington, D.C. 20005.

Sprinkler Companies Negotiating Merger

Turf Irrigation Corporation, Commack, N.Y., and Melnor Industries, Moonachie, N.J., have entered into preliminary negotiontions for Turf Irrigation to join Melnor.

Proposed terms, according to a joint statement, are for Melnor to purchase for cash the assets of Turf Irrigation equal to about \$2 per share of Turf stock with possible additional payment based on future earnings.

Turf Irrigation would operate as a division of Melnor with the same management.

Turf Irrigation makes under-

ground sprinkling equipment for residential and commercial uses. Melnor's principal products include traveling water sprinklers, oscillating, revolving and specialty sprinklers, garden hose accessories, hose reels, lawn edgers, and garden cutting tools.

Davey Tree Acquires Campe Tree Service

Davey Tree Expert Co., Kent, Ohio, has purchased the Campe Tree Service Company of Richmond, Va.

Campe Tree Service, which has

specialized in residential and estate tree maintenance and landscaping services for the past 20 years, will be operated as the Campe Tree Service Division of Davey Tree. Former owner Carl Campe will be the District manager.

Davey Tree Expert Company, called the original and largest complete tree service organization, operates from coast to coast and in Canada. Besides tree care service to residential, municipal and industrial customers, Davey offers landscape and tree-moving services, and is a leader in utility line clearing.



MOBILE AERIAL TOWERS, INC. . Dept. N 2314 BOWSER AVENUE . FORT WAYNE, INDIANA 46803



A record crowd of 447 attended the field day at the H & E Sod Farm, Momence, III.

COSTS, QUALITY SEED SUPPLIES, INDUSTRY GROWTH

These Stories Were Heard At Record Meeting Of American Sod Producers



New president of the American Sod Producers Association is Tobias Grether, Cal-Turf, left, discussing field day procedure with host Dale Habenicht, H & E Sod Farm, center, and Dr. Henry Indyk, executive secretary, ASPA. Habenicht is a newly elected director.

MEMBERS of the American Sod Producers Association staged their 4th annual conference and field day the last week of July. This 1970 version was the most sophisticated to date. It verifies the fact that ASPA has become a viable organization.

A new feature was a pre-conference tour — a bus tour of Warren Turf Nurseries at Palos Park, Ill. attended by 187 growers plus additional guests. President Ben Warren of the Warren organization served as host for the entire ASPA annual meeting. An educational tour proved more successful than ever. Registration at this second day climbed to 253. The annual field day demonstration — always a big event for ASPA drew 447, a record count. Held at the H & E Sod Farm, Momence, Ill., the field day produced 31 special machinery demonstrations. Dale and Carl Habenicht of H & E served as hosts.

Growers are joining this assocition and more quality-conscious producers need to take this step. They are being encouraged to do so by present members of ASPA in order to better serve the industry. Much of the business meeting was devoted to means by which the group could further enhance the "instant lawn" idea. Along these lines, many feel that communication among growers is tantamount to more realistic pricing and marketing procedures. Robert Daymon, Emerald Valley Sod F a r m, Howell, Mich., enlarged on steps Michigan growers have taken in regular communications with each other. Via a unique reporting system, each reports on sod sales each week. Put together in a communique, the weekly reports eliminate some buyers from shopping and playing the alleged price of one grower against that of another.

During the educational program, Michigan County Extension Director Don Juchartz, Wayne County, discussed in detail how growers in that state organized this system and established it as part of their own



A similar crowd gathered a day earlier for educational sessions.

marketing program.

Also on the educational program, Art Edwards, editorial director of WEEDS TREES AND TURF magazine, released information on a new sod survey made in conjunction with ASPA. The new data shows considerable growth in the industry, when compared with a study made two years earlier. Biggest increase is in size of farms and the subsequent acreage of sod sold per farm. Two years ago, sod farms were averaging about 180 acres. Today, the average is 220. Total acres in the earlier study of 1968 amounted to 161,000 grown by just under 900 growers. Today an estimated 938 cultivated sod producers (an increase of 42 growers) in this country grow 217,298 acres. They market (on an annual basis) about 102,000 acres or an average of 109 acres per farm. Applying wholesale field rates to this total marketed acreage gives some indication of the growth of this industry. The wholesale price of sod alone pushes the industry value to more than \$125 million. At installed prices, this figure may be doubled or tripled. (Complete data on this survey will be printed in a coming issue of WTT.)

Dr. Fred Grau, Grasslyn, Inc., State College, Pa., gave the group his views on the future of the turfgrass industry. As banquet speaker, Dr. Grau related steps taken in founding the H. B. Musser Turfgrass Fellowship, Inc., an international turfgrass foundation which is commonly becoming known as the International Musser Turfgrass Foundation. The organization has been established to raise funds for teaching and research in the turfgrass industry throughout this nation, and the world as well. The name chosen is in honor of the late H. B. Musser, professor emeritus of agronomy at Pennsylvania State University, who was known throughout the world for his leadership in this industry.

Seed availability which affects the success of every sod producer was discussed at length by Doyle Jacklin, Jacklin Seed Company, Dishman, Wash. "More Fylking than ever will be available this year," he said. "To elaborate somewhat." Jacklin continued, "We have had extremely hot temperatures in spells during the month of June and early July which has reduced the set of seed in the panicles or seed heads. Within the florest are many blanks instead of seed. Most of the fields produced good seed with good weight and fill, however, some fields in some areas are producing some withered seed of light test weight per bushel."

Jacklin continued by saying, "Although the common Kentucky bluegrass varieties were affected some by the higher temperatures, Merion seemed to be the variety hurt the most. We expect, therefore, a shortage of Merion seed this year and a continued strong Merion market. It's hard to believe, I know," he said,

(Continued on page 26)



"particularly when only 14 months ago Merion was less than half the price of what it is today. It demonstrates further, however, the influence of not only weather, but the grower's ability and desire to switch from crop to crop, depending on price, which creates major market fluctuations based on supply and demand.

"As expected," Jacklin pointed out, "We are learning more and more about Fylking Kentucky bluegrass seed production and expect a slightly higher than average crop this year.

"The heat didn't affect it nearly as much as Merion. This will mean a continued stable price and as we continue to learn more about this variety's seed production idiosyncrasies, we naturally expect a somewhat higher seed yield sometime in the future, providing we can find a substitute for field burning."

Jacklin reported harvesting about 40% completed as of July 29, and, barring any unforeseen windstorms or long, rainy spells, he believes the crop essentially made in the swath, and ready for cleaning.

In summary, he said, total availability will be lower this year and generally stronger prices across the board will predominate.

In an informal night session, Glenn Hadfield, Hadfield Sod Farms, Oxford, Mich., showed a movie of his new sod loader. The unit attaches to the truck frame and picks up rolled sod from the field, passing it directly to the truck bed. Unloading is accomplished by a specially designed dump bed. Hadfield is now producing and marketing the loader.

A major action at the meeting this year was addition of two directors, bringing the total to nine. New directors elected were George Stewart, Karandrew Turf Farms, Suffield, Conn., and Dale Habenicht, H & E Sod Farm, Momence, Ill., and the site of the field day. Officers for 1971 are: Tobias Grether, Cal-Turf, Inc., Camarillo, Calif., president; Joe Mc-Dermott, Loveland Lawns Sod Farm, Omaha, Neb., vice-president; J. E. Ousley, Sr., Ousley Sod Company, Pompano Beach, Fla., secretary; and Jack L. Kidwell, Kidwell Turf Farms, Culpeper, Va., treasurer. Dr. Henry Indyk, Rutgers University, New Brunswick, N.J., continues as executive secretary. Other directors are: Ben O. Warren, Warren's Turf Nursery, Palos Park, Ill., Robert Daymon, Emerald Valley Sod Farm, Howell, Mich., and Wiley Miner, Princeton Turf Farms, Inc., Highstown, N. J. Miner is the outgoing president.



Gieringer Mfg. Co. showed its "Sod-Cropper," built around a lawn-garden size tractor.



Mowing equipment ranged from this three-gang flail . . .



Four companies operated sweepers and grounds groomers. The one above is made by Giant-Vac Corp.



Beck Mfg. Co. demonstrated a new concept in sod rolling. Its Sod-O-Matic rolls three strips at a time, each 16" wide and up to 60 ft. long. Improved versions of big equipment, such as the Princeton Harvester, also performed for field day visitors.



... to 9-, 11-, and 13-gang reels cutting up to a 28-ft. swath.



Larson Machine, Inc., Princeville, Ill., demonstrated several models of seeders, fertilizer spreaders and sprayers.



This is the Wade Rain Poweroll sprinkler irrigation system. Thirty-one companies displayed products.





Wide-swath coverage in seeding and fertilizing was the feature of this equipment shown and demonstrated at the American Sod Producers Association. The spreader at left, distributed by O. M. Scott & Sons, Marysville, Ohio, lays down a strip of fertilizer about 30 feet wide. Jacobsen Manufacturing Co., has ganged the Rogers Seeder it bought recently and offers hydraulic lift capability for turn-around and transporting.

Washington Seed Quality Law Likely Sod Industry Standard

Sod growers are quality conscious. They want lawngrasses that are free of serious lawn weeds and coarse field grasses. Better quality seed is the norm. Growers expect far superior seed than that of a few years ago.

To this end, Washington State's new sod quality standards right now promise to become the standard for the industry. The Washington regulations, released May 18 of this year, are somewhat more stringent than p r e v i o u s certification programs. However, this is in keeping with the general march toward quality which has had a great effect in building the "instant lawn" business. It promises to do even more.

In a late June meeting at Lake Tahoe, the Lawn Seed Division of the American Seed Trade Association gave tacit approval to the Washington State regulations. At this time the group also discussed a seed purchase agreement proposed by the Midwest Turfgrass Growers Association, Inc. The Midwest organization comprises leading sod producers in a six- or seven-state area with headquarters at Kansas City, Mo. Better seed quality was but one of several goals of this association at its inception some two years ago.

The American Seed Trade industry group at Lake Tahoe in its discussions of the Midwest Seed Purchase Agreement questioned three of Midwest's proposed requirements. First, a 60-day period for testing of seed by an independent laboratory before acceptance of any lot of seed proved to be a primary objection among seed suppliers. Suppliers said samples, if not correctly or uniformly drawn from a lot of seed, can produce varying test results. Price may change radically during any 60-day market period. Turfgrass seed on the commodity market varies from day to day, week to week, and so on. Suppliers do not feel they can assume the risk of a changing market over a two-month period.

A second objection among suppliers was the requirement proposed by Midwest growers for grass seed free of some 73 weed seeds in addition to any other weeds declared noxious in the state where the seed is to be planted. The objection here was primarily the requirement to rid the seed of weed seeds which are not noxious, some examples being dandelion, shepherds purse, peppergrass, and pennycress. These broadleaf weeds are not considered serious and can be controlled with the regular chemical weed control programs. Further, since these broadleaf types are already present in most or many sod growers' soil, suppliers believe the chemical treatment will be mandatory in any case. Even in situations where methyl bromide is used to fumigate the soil, the broadleaf problem must be faced within about two years. Native weeds are quickly reestablished by wind, traffic, birds, machinery, etc. By this time, however, sod is generally well established in the lawn and chemical spraying is simply a maintenance factor.

A third facet of the Midwest proposal which suppliers felt would be difficult to meet in some years was an 85% germination standard. Generally, if the seed production season is fair or better, seed will germinate at 85% or higher. But in some years because of variables such as high or low temperatures or rainfall, 80% is

Washington State Sod	Quality Certi	fied Seed	Standards	
	Min.	Min.	Max.*	Max.***
Variety	Purity	Germ.	Other Crop	Weed
Special Turf Varieties				
Merion, Fylking and				
Sodco Kentucky Bluegrass**	95%	80%	0.1% **	0.03%
Other Varieties of				
Kentucky Bluegrasses	97%	80%	0.1%	0.03%
Red Fescue	98%	90%	0.1%	0.03%
Chewings Fescue	98%	90%	0.1%	0.03%
* Must be free of ryegrass, orch	nardarass, ti	mothy, be	ntarass. Bia	bluearass.
Canada bluegrass, Poa trivialis,				

fescue, and clover. * Kentucky bluegrass in Merion — maximum 2%. Canada bluegrass in Merion

maximum 0.1%.
*** Must be free of dock, chickweed, crabgrass, plantain, Black medic, Annual bluegrass, velvetgrass, and prohibited noxious weed seeds.

more likely to be the norm. Neither growers nor suppliers have found this to be a major factor, so long as they have an accurate test as a basis for planting.

Contrasting with the Midwest group's proposals, the Washington State regulations are tougher in some requirements. For example, Washington State allows only .03% weed seed content in Merion. Midwest proposed .10%. Purity, crop and weed content are identical.

As things stand at this point, the Washington regulations listed below will likely prove to be the accepted standard. A spokesman for the Midwest growers at the recent American Sod Producers Association field day said that certain stipulations in their sod purchase agreement would be changed. At the same time, this group and others as well will insist on superior quality — a situation which bodes well for the industry. Few suppliers, if the Lake Tahoe discussions are indicative, will object.

The Washington State SOD QUALITY CERTIFIED SEED standards as promulgated by the Washington State Department of Agriculture order provide that:

(1) The general rules for seed cer-

tification and grass seed certification standards are basic and together with the following specific rules constitute the rules for sod quality grass seed certification.

(2) The varieties eligible and certification scheme of each; the certification fees; the land requirements; the isolation requirements and field tolerances shall be listed in grass seed certification standards.

(3) Seed standards for sod quality grass seed are as illustrated in the accompanying table.

(4) A sod seed analysis certificate which is a 25-gram purity, and includes noxious, all weed, all crop, 10-gram Poa annua check, and germination will be the basis of determining seed standards.

(5) In addition to the certified tag, seed meeting sod quality certified seed standards will be tagged with a special "Sod Quality Seed."

These Washington State sod quality standards came about because existing standards for certified seed have been considered too lenient in their minimum mechanical purity, and maximum allowable crop and weed allowances for the high quality seed demanded by sod growers. Industry support for the new regulations should provide great assurance to these growers.

This move in the industry has to be a step in the right direction. The commercial sod grower has every reason to be concerned with serious lawn weeds and coarse field grasses that deface or foul the field prior to lifting. The homeowner consumer shares the same concern when associating with the finished product.

Help Offered on Turf For Athletic Fields

A publication on turf for athletic fields has been written by agronomists Carl T. Blake and William B. Gilbert at North Carolina State University. They describe how to design football fields, baseball fields and general playgrounds for best survival of the grass. They tell how to prepare the soil and care for the grass, and have outlined the best grasses for the Mountains, Piedmont and Coastal Plain.

Copies are available free from local offices of the Agricultural Extension Service, or by writing to the Department of Agricultural Information, N.C. State University, Raleigh, N.C.



HADFIELD AUTOMATIC PICKUP Sod Roll Loader



Pat. Pending

- Sodloader easily attaches to any sod truck.
- 2. No worker needed on ground when loading.
- 3. Will load up to three rows of sod at one time.
- 4. Cross conveyor runs lengthways of loader.
- 5. Loader may be backed rapidly on short rows.
- 6. Why palatize sod when you can slide sod out of any stack dumpbox with small modification, if they are stacked right? Have been doing it for three years. My customers are mostly homeowners.
- 8mm movie film on how to modify stack dump box and stack sod, will be sent C.O.D. for \$50.00.

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Demonstrations included Amchem's Slinger, in this case TVA-owned, and, Amchemdesigned granular applicator built by West Point Products.



New Hyacinth Society officers are, from the left: Gordon Mobley, director; Brandt Watson, director; Robert Gates, secretary-treasurer; Paul Cohee, vice-president; Stan Abramson, president; Robert Blackburn, editor; and William Dryden, director. The group hired Mrs. Blanch Farrow, Ft. Lauderdale, to assist Blackburn in publishing a newsletter and the Society Journal.



The field day was at the Tennessee Valley Authority Guntersville Lake water impoundment. A record 173 persons registered.

A GROUP which for the past 10 years has led the fight to control water weeds—the Hyacinth Control Society, dedicated to the control of all noxious aquatic weeds—has truly become a national organization.

Started in the Southeastern U.S. and pulling a membership largely from Florida, the Society has steadily grown. Membership is now 527 and comprised of custom applicators, commercial and educational researchers, public officials, and others responsible for keeping water clean and usable for whatever its intended purpose.

This year—a first for the Society —the annual convention and field demonstration — was held outside the state of Florida. A whopping 70 percent of the membership, 173, registered. Another 80 guests and family members attended. This 250 plus figure set a new attendance for this event. The group on hand represented four countries, 20 states, and Puerto Rico.

Tentatively, the 1971 annual event is to be held at Cocoa Beach, Fla. However, a Tampa, Fla., site is also being discussed following election of Stanley C. Abramson as president. Abramson is technical representative for Southern Mill Creek Products Co., with headquarters at Tampa. Dates for '71, also tentative, are July 11-14.

On the educational program, Paul R. Cohee, president of the Society for the past year, and a professional weed technologist with Hercules Inc., headquartered at Birmingham, Ala., discussed the goal of the Society in helping return waterways to a healthy and functional status. Cohee pointed out that freeing water of water weeds is a major step in restoration of lakes and srteams. He emphasized that a public majority, motivated by emotion and sincere concern, but lacking patience, foresight or wisdom cannot always be aware of consequences of their action. In further alluding to restrictive legislation demanded by a majority public and rampant throughout the country right now, Cohee said there is good sound logic in recognizing that on some issues, the minority-made up of professionals (such as in this Society) can be better equipped to speak and act for the majority. "If you have doubts about this," Cohee said, "ask your doctor or dentist." He further pointed out that Society members are a minority group, and also a professional group; a group seeking a methodical, scientific approach and drawing on both experience and research to halt the takeover of waters by aquatic weeds.

Cohee, in one of his last duties as president, presided over the formal 1970 business session. A memorial section of the 1970 Hyacinth Journal will be dedicated to four members and the wife of another, all of whom died during the year. These are: Dr. Lyle W. Weldon, USDA, ARS, Fort Lauderdale, Fla.; John D. Rogers, Pahokee Drainage District, Canal Point, Fla.; Harold J. Elser, Maryland Fishery Biologist, Annapolis, Md.; William A. Galletta, Vero Beach, Fla.; and Mrs. Fred John, wife of member Fred John, Belle Glade, Fla., Drainage Dist., Belle Glade, Fla.

Some 35 technical papers were presented by participants at this