

## 11 States, Canada Represented at Penn State Field Day

By H. B. MUSSER

Pennsylvania State University played host in September at its annual field day to 200 supts., municipal parks supervisors, turfgrass equipment and supply dealers and others interested in turfgrass production and management. They came from 11 states and Canada.

Those attending saw field plot trials of 110 strains and varieties of creeping bentgrass maintained under putting green conditions. Testing to determine the value of creeping bent strains and a breeding program to produce superior types has been underway in Pennsylvania for almost 20 years. As a result of this program, the Experiment Station has released the Pennlu variety which is a single plant selection vegetatively propagated, and the Penncross variety, a seed propagated hybrid of 3 selected parents.

Visitors to the field day also saw the trials of 56 types and mixtures of grasses used primarily for lawns and general turf areas. In this series of tests they had an opportunity to see and compare the quality of the new creeping red fescue variety, Pennlawn, with other creeping red fescues and grasses adapted to general turf production. Penn State developed the Pennlawn fescue.

Fertilizer tests of nitrogen sources on Kentucky bluegrass, red fescue, and bentgrass were popular objects of comment and discussion. The residual effects of the new urea-formaldehyde fertilizers compared with other nitrogen sources were of particular interest. These plots were closely studied by many supts. who recognize the value of fertilizer materials carrying nitrogen in slowly available form.

### Examine Crabgrass Control

The group saw tests of chemicals for crabgrass control. Two series of 468 individually treated plots compared the effectiveness of both pre-emergent and contact materials applied at different rates and periods. A feature of this experiment that attracted attention was a late series of chemical treatments to determine their effect on reducing seed production and viability.

Members of the Station staff described the layout of a new series of thatch control experiments on a 12,000 sq. ft. badly thatched area of creeping bentgrass maintained at putting green height. First treatments had been made about three weeks prior to the meeting and consisted of various combinations of aerating, verticutting, liming, fertilizing and top dressing.



H. B. Musser (left), in charge of Penn State's turf research program, describes strain turf test during annual field day.

The control of turfgrass diseases also was discussed in detail. An area of 16,000 sq. ft. of Merion Kentucky bluegrass is maintained for study of rust susceptibility and control. Excellent progress was made in the 1955 season when a severe rust infection was obtained by inoculating the area with a water suspension of rust spores. During the 1956 season, however, rust infection was not sufficient to permit control studies. The Merion turf was clean and of outstanding quality at the time of the meeting when rust infection should have been severe.

Several research institutions, including the Carnegie Institution of Washington and the Pennsylvania Agricultural Experiment Station, have breeding programs beamed toward the development of better strains of bluegrasses. Visitors at the meeting saw pilot tests of 44 new hybrids and selections of several species of bluegrasses. These showed very wide variations in turf quality. Some are promising enough to justify more detailed and critical tests of their potentialities for turf use.

The group also inspected the various breeding nurseries. These include a source nursery containing 140 strains of creeping bentgrass; two 600 and 2000 plant nurseries, respectively, of systematically arranged parent plants of the Pennlawn creeping red fescue for production of breeders seed; and a 6000 plant nursery for study of off-types in Merion Kentucky bluegrass and production of breeders seed of this variety.

### Turf Renovation Program

Prior to the close of the meeting, the turf renovation program on Beaver Field Stadium was inspected. The football gridiron had been under heavy use for lacrosse, soccer and other athletic activities throughout the spring and early summer and the turf had been seriously damaged. The renovation program consisted of removal of the old sod from a strip 25 yards wide through the center of the field from goal line to goal line, and replacement with nursery sod grown for this purpose.

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Prior to sodding, the soil had been thoroughly worked to break compaction and had been well fertilized. The operation was completed the first week in July and by the time of the meeting it was well knit and had developed a dense, vigorous turf. Those at the conference were impressed that a major repair job of this extent could be done at the relatively low cost involved in growing and transferring the sod.

The diversity of interests among those attending, the number present, and the very serious interest in more technical phases of turfgrass management was very gratifying to those responsible for the turfgrass research and extension program at Penn State. It is further evidence of the need for sound information in this field and the complete willingness of everyone to accept research findings once they are assured that the results are based on carefully designed and well conducted experimental work.

## Weed Problem Attacked at So. Calif. Field Day

By VERNE WICKHAM

"There is no profit where weeds are concerned. They spell only costs and losses," George A. Izay, Asst. Park Supt., Burbank, Calif., told the more than 300 who attended the annual So. California Field Day in October at Forest Lawn-Hollywood Hills with field demonstrations at Buena Vista Park in Burbank.

Izay's topic was "What It Costs to Live with Weeds." He cited the huge loss to golf courses. "Weed control, no matter which method is used, is high in cost of time and labor as well as money," he said. "Turf on courses and athletic fields must be kept reasonably free from weeds. Good grass growth that is dense and healthy is, of course, the most satisfactory means of controlling weeds. It has been estimated that the average life of a turf, before needing renovation, is from 3 to 5 years. In 1954 a survey was made in Los Angeles County which set the total value of 63,500 acres in the county at \$262,457,700. At a replacement rate of \$.05 per sq. ft., it would cost \$138,281,200 every five years to rejuvenate this turf. Since our turf is never renewed at that rate, we may assume that we are paying tribute to weeds in having to live with second and third-rate turf. A very conservative estimate is that the cost of combating weeds on a golf course in this area is roughly \$20 per acre. This rate applied to the 3163 acres of golf course turf in the county represents an annual expenditure of \$63,260 in the battle against

weeds. A typical cemetery expenditure in weed control is \$15 per acre. The athletic field \$30 per acre each year. This is a heavy cost and doesn't take into consideration water and soil nutrients lost each year to weeds. Fortunately, scientists have made giant strides in the effort to stop this waste. With the knowledge they have gained there is increasing hope that man shall eventually be the master over weeds." William A. Harvey of the University of California, chose as his topic, "Know the Weeds, Know The Method."

Harvey gave an outline of type of herbicides, citing the vital importance of first identifying the weed and then selecting the best known chemical to eradicate it. He told of the many kinds of chemicals, some old and some new, and divided his field into selective and non-selective herbicides. "Selectivity," he said, "may depend upon differential wetting, differences in form of plant and upon placement of the spray. Selectivity depends primarily on biochemical differences between plants."

As to the non-selective herbicides, Harvey said they were aimed at "killing everything in sight" Chemicals in this group, he stated, kill only the plants or portions of the plants actually contacted by the chemical. Annual weeds are usually killed by one thorough treatment. Perennial weeds require retreatment. Many of the same chemicals are used in both selective and non-selective fields. It is their use and methods of application that determine their selectivity, he said.

The group then witnessed a soil treatment demonstration by J. J. Stark, Extension Service, Los Angeles County, and inspected weed control plots in Buena Vista Park. The next day an open house was held at the experimental test plots at the University campus and crabgrass test plots at Bel Air CC.

## Quarter-Century Pro Meet Scheduled for Jan. 29-30

Annual tournament of the PGA Quarter-Century club will be held at Dunedin, Fla., on Jan. 29-30, immediately following the PGA Seniors championship.

More than 300 men who have been in the pro ranks for 25 years or more are eligible to take part in the 36-hole event, jointly sponsored by the PGA and Professional Golf Co. of America, Inc. Prizes totaling \$2,500, \$1,000 in cash and \$1,500 in merchandise will be awarded to winners in various age groups. In 1956, every pro who took part in the tournament won a prize.

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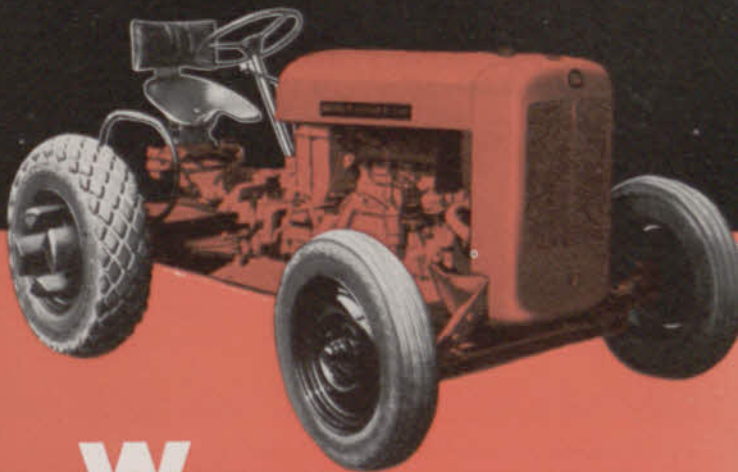
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## Full Maintenance Range Covered in Florida Meet

By RALPH W. WHITE, JR.

Fourth annual University of Florida Turf Grass management conference co-sponsored by the Florida Turf Association and the Agricultural Divisions of the University of Florida opened with a tour of campus turf sites.

The tour included the new Ormond bermudagrass planting at the Student Service Center, Emerald Zoysia in the new sorority area, Tilflawn bermuda on the drill field and bahiagrass on athletic fields and the pitch and putt course in the women's recreation area.

The first afternoon's educational ses-

agronomist of the Experiment Station chose "Moisture and Plant Growth" as his subject; and Jack Kolb of Toro Manufacturing Corp., discussed "The Role of Plant Nutrients".

### Equipment Discussed

Following the annual meeting of the Florida Turf Assn., a forum was held on tool and equipment maintenance. Marvin Elsted of Toro emphasized that good housekeeping is the most important factor in getting satisfactory results from and prolonging the life of machinery. He added that equipment storage areas should be kept clean and equipped for repair work and that operators should be thoroughly trained in operating various machines. Following showing of the General Motors film, "The ABC's of Lubrication," the remainder of the session was devoted to a panel of engine maintenance.



Gene C. Nutter (on truck) discusses fertilization and vertical mowing of new experimental green. The green is planted in five varieties of improved Bermuda-grass.

sion was entitled "Fundamentals of Turf Grass Production."

Gene C. Nutter, asst. turf technologist at the University, discussed: "What Is A Grass Plant". He compared turf grass production with production of a giant industrial plant. The actual grass plant he said represents the physical plant with photosynthesis and respiration as processes of the assembly line. Soil and roots represent the storage reservoir and the supply line, while moisture and nutrients are considered raw materials. The superintendent, he stated, is considered the industrial engineer of the plant. Nutter was followed by Ralph W. White, Jr., graduate asst. in turf, who discussed "How Grass Produces Food"; Alan Witherspoon, agronomist, spoke on "The Development and Function of the Root System"; Thomas J. Sheehan, asst. ornamental horticulturist, Florida Agriculture Experiment Station, discussed "Simplified Soil Chemistry"; Darell M. McCloud, assoc.

On the second day, turf subjects and other topics were covered. Col. Frank Ward, Bradenton CC supt., said that the electric golf car has brought new problems to all operating departments, but added that the supt. can still keep turf in good condition if officials are made to recognize that car use results in increased turf maintenance cost.

### Design for Economy

"Trends in Golf Course Design" were discussed by Robert Bruce Harris, the architect. Streamlining design of tees, fairways, sand-traps and putting greens for easier and more economical maintenance with power equipment will result in a functional and more beautiful golf course, he said.

A four man panel discussed aspects of tournament preparation. Lou Bateman, pro-supt., Ocala G&CC cited what the golfer looks for and expects when he participates in a tournament. Irving E. Schloss, Mgr., PGA National Golf Club, Dunedin, Florida, discussed the role of tournament chmn. He stated the tournament chairman is co-ordinator of all the committees, and that for a successful

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pacted by concentration of weight, whereas no damage results from the oil drum. The compaction per square inch on the soil with the oil drum is but a fraction of that of the wheelbarrow. This effect was long ago realized with respect to mowing putting greens where the equal distribution of weight through use of a hollow-roller-drive greens mower, has resulted in less compaction and turf marking and the best possible playing surface.

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tournament, he must plan thoroughly well in advance. Robert Duguid, supt., Timequana CC, Jacksonville, discussed the supt's role in tournament preparation. He suggested that final preparations for the tournament should begin about a month before it starts and should continue until the day before the tournament begins when new or repainted tees, markers, flags and flag poles should be set out. Golf course greens particularly should be in top shape. Edward Stephens, dist. chmn. of State Golf Assn. completed the panel by discussing the role of his organization in tournament planning. He stated that it is a regulatory and advisory group.

#### Airs Resort Problems

Following the panel, T. M. Baumgardner, Sea Island, (Ga.) Corp. spoke on the problems of resort golf operation. He cited overcrowding as the main problem of resort areas and suggested ways of making the golfer happy and keeping the resort golfer coming back every week. Some problems peculiar to resort courses according to Baumgardner, are: (1) play during the season is heavy seven days a week; (2) vacationers resent regimentation; (3) occurrences that disturb play should be carefully guarded against.

One of the highlights of the conference was the tour of the turf research nurseries. The tour included variety adaptation studies, progradation studies, date of planting studies, fertility experiments, soil sterilization studies, lawn management studies, nematode investigations, disease investigations, meteorological and automatic irrigation demonstrations.

It was revealed that a turf disease research program is now underway at the University experiment station. It is being headed by T. E. Freeman, who joined the staff as pathologist this past spring. One of his first duties will be to survey the diseases of economic importance in Florida.

E. C. Burt, asst. agronomist at the Experiment Station, next discussed newly developed temporary soil sterilants which show promise in controlling weeds in newly sprigged turf. Gil Whitton, research asst. in turf, Experiment Station, followed and discussed the most common nematodes on turf in Florida.

Following adjournment of the conference, the newly elected board of the Florida Turf Assoc. had its first meeting. The board includes:

Col. Frank Ward, Bradenton CC.; pres; Henry C. Martin, Florida State University, vp; and James L. Blackledge, secy-treas.

Directors are:

Ralph P. Harper, Lloyd M. Clifton, Sidney Kirkpatrick, Robert L. Perry, Robert Duguid and Steve M. Haft, Jr.

#### Minnesota Conference

The annual conference of the Minnesota GCSA will be held at the Curtis Hotel, Minneapolis, Feb. 27-28 and Mar. 1.

## Supt's Value to Club Discussed at Midwest Conference

Speeches by Charles Wilson, Milwaukee Sewerage Commission, William Daniel, Purdue University agronomist, C. E. (Scotty) Stewart, irrigation engineer, Paul Burdett, Lombard, Ill., supt., and Charles N. Eckstein of Chicago Dist. Golf Assn., plus a lively discussion of the supt's monetary requirements, were highlights of the Midwest Assoc. of Golf Course Supts. clinic at Olympia fields (Ill.) CC in November. Gordon Brinkworth, Olympia supt., assisted by Robert W. Williams, Midwest pres., directed the two-day production.

Wilson gave a very lucid summary of the progress made in greenkeeping in the last 10 years, emphasizing that cooperation of researchers and manufacturers with the supts, has brought almost unbelievable advances in the art of course management during that time. Purdue's many research undertakings were explained by Bill Daniel who supplemented his informative speech with an extensive catalog of slide films.

Scotty Stewart, describing the problems faced in installing an irrigation system on the many playing fields of the new Air Force Academy, passed on to the supts. a much needed formula for determining the efficiency of their sprinkling systems. Burdett's contribution was a humorous treatment of his battle with the nematodes, while Charley Eckstein, one of golf's most devoted ambassadors, outlined his ideas of what the average player looks for in a course.

Discussion of the supt's economic picture climaxed the two-day meeting. Practically every supt. attending the clinic, and there were more than 100, got in on this open forum debate. Thirteen factors for determining the supt's worth to his club were agreed upon. However, it was strongly stressed that only continuing individual and group educational programs will help the supt. to improve his bargaining position.

Educational reports, association members' own investigation of various turf problems and discussions of machinery maintenance and uses also were on the Midwest program.

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