

Roundup of Technical Developments in 1964

Technical achievements do not necessarily take place all of a sudden. The release of an improved grass may be the culmination of 15 years of painstaking research. A new tool may be the result of several years of planning, building, rebuilding and refining. So it is with chemicals, fertilizers and maintenance methods. We are going to evaluate some of the technical recent developments in turf, gleaned from publications and conversations with many turf workers across the United States.

Grasses: Merion Kentucky bluegrass continues to set the highest performance ratings among the bluegrasses. Other bluegrasses have been released and are on the market (Delta, Park, Newport, Windsor). All appear to be better than common; none surpasses Merion in total performance. New strains are in the making. Penn State's K-547 is in an advanced stage of testing. Five more strains are most promising at the pilot level.

Vegetative Bents Come Back

Vegetative bents are staging a strong revival after being overshadowed by Penncross seed. Now that the quality of turf developed from commercial Penncross seed seems to be deteriorating (production fields appear to be left down too long), turf men are looking to the old standard stolons as well as to some newer ones (Evansville, Nimisila and Penn State's 4(42)3, not yet named but widely distributed for field testing.) The 4(42)3 strain continues to show great resistance to dollarspot, brownpatch, helminthosporium and snowmold. It will be cleared for greens and tees.

Modern hydro-mulching machines can plant stolons effectively, quickly and economically. There is an ever-present need for a dependable improved creeping bent that can be seeded. When commercial Penncross seed once more demonstrates quality equal to the true polycross, as produced at Penn State, it will be recommended widely.

No releases have been made of finerblade tall fescues for turf (lawn, fairways, athletic fields, etc.) but current testing gives hope. There is real progress toward non-clumping, sod-forming turf types.

Midwest zoysia is on the market and in use at Purdue's stadium. It represents years of selection and testing.

Moves Farther South

Bermuda is moving farther south following disastrous losses in the twilight zone. A valuable guide is Agriculture Handbook No. 270 by Juska and Hanson, ARS, USDA, Beltsville, Maryland, on "Evaluation of Bermudagrass Varieties for General-Purpose Turf."

Bentgrasses for greens have moved south, for better or worse. The USGA Green Section Record, Sept. 1964, covers this subject fully.

A new dwarf vegetative Bermuda with

small prostrate leaves that occurred as a bud mutation in Tifgreen is reported to be in an advanced stage of testing at Tifton, Ga. There has been no release of the grass nor specific data about it.

Penngift crownvetch, a legume, is cited by several as a major breakthrough in providing a dependable ground cover on steep slopes and poor soils over a wide geographical range. It, and other varieties (Chemung, Emerald), can be established from seed or crowns.

Weeds: Knotweed seems to be headed for extinction now that testing has given approval to MCPP currently manufactured by three U.S. firms. We are indebted to our Canadian friends for this technical advance. Some authorities approve it for chickweed and clover on greens. (Consult your Experiment Station). Dicamba gets limited approval for knotweed; some danger of root injury on ornamentals has been noted.

Can Be Checked

Poa annua apparently can be checked with well-timed applications of pre-emergence herbicides, but not all supts. want to get rid of poa.

Crowfoot (goosegrass, silver crab) may not survive the good pre-emergence herbicides (Azak, Zytron, Dacthal, Pre-San). New ones include Tupersan, Trifluralin and Velsicol experimental. This class of chemicals represents one of the significant developments in the turf field. Check with your Experiment Station for data on performance on various turfgrasses.

Fertilizers: All types of nitrogen continue in strong demand. Controlled-release nitrogen materials, exemplified by the ureaforms, now 10 years on the market, represent a breakthrough in turfgrass management. New coated fertilizers appear to fill the void between the solubles and the slow-release materials. Generally, turfgrass is receiving nitrogen more nearly in accordance with requirements.

Potash Gets More Attention

Potash receives more attention than ever before because of a strong, close correlation with reduction of disease, increase in winter hardiness, utilization of other nutrients, and resistance to wear and tear. Under high temperature stress, potash imparts stability to the turf. Sulfate of potash is gaining favor because it contains sulfur, a necessary plant nutrient. Soluble K_2SO_4 is favored for spray applications.

Trace elements are due for more intensive investigation.

Equipment: Aerification and vertical mowing tools have lifted turfgrass management to a new plane. Thatch control has become a by-word in the industry. Another name is "sanitation". It is hard to grow new grass until you get rid of some of the old grass. Water, fertilizer, air and roots penetrate more easily and deeply when turf has been cultivated. Even more important, playing surfaces are improved in the process. "Thatch," says Davis of Ohio, "is a characteristic of good turf."

Plugging Machine

A plugging machine has been built and is in operation in the Kansas City area. Two-inch round plugs are machineset every 8 inches. In St. Louis three football fields have been vegetatively planted with zoysia sprigs that were harvested and planted with a power-driven thatching machine.

Hydroseeding and hydro-mulching rapidly are becoming standard methods of planting turfgrass areas. Many use their regular power sprayers for fine seeds. Stolons and sprigs can be planted rapidly and economically with hydromulchers in a water-fertilizer-paper pulp slurry.

Seed: Pressure is growing on seed producers to market pure seed true to name without impurities and mixtures. "Certified" Merion may contain bent or trivialis, described as "other crop" on the tag. Sod growers are refused certification when other grasses exceed a certain level. Weeds in certain winter grasses overseeded on Bermuda virtually prohibit their use. Greater emphasis will be placed on seed that is clean, pure and true to name.

Need Immediate Revision

Certification procedures that fail to protect the buyer need immediate revision. We need turfgrass seeds that produce desirable turf regardless of yield-per-acre in

(Continued on page 104)

Grau's Answers

(Continued from page 80)

the production fields. Those who buy large quantities of Merion seed (sod growers," new golf clubs) will do well to buy on specifications that provide for "Zero tolerance of poa annua, bent and poa trivialis" with suitable penalties for nonperformance. Seed from Europe and parts of the U. S. most often contains objectionable impurities. Duich says that when a customer buys in good faith he should receive what he expects to get.

Disease: Fusarium roseum has developed into a major headache for many. Commonly believed to be a cool-season fungus, it operates at high temperatures. No one seems to be certain of the most effective treatment for this disease.

Phythium, helminthosporium and curvularia took their toll. Dexon, Zineb and others helped reduce losses. Hydrated lime was a "hot" item on dealers' shelves for ½-pound per-1,000 sprays to check leafspots and to revive tired.

Spring deadspot on Bermuda is reported to be stopped by fall applications of a compound called Spring-Bak.

Developments of Interest

Duich's soil-mixture studies at Penn State cover the greatest area and range of materials in the world. There will be a constant flow of data for many years. Field and lab studies are leading to increased levels of understanding of necessary individual factors for modifying soils for heavy recreational use.

Juska's work at Beltsville on phosphorus cites applications of 4,000 pounds of P_2O_{τ} to the acre without injury. The report will be extremely interesting.

Daniel's report No. 28 from Purdue on electric warming of soils for sport turfs makes interesting reading.

Couch's book on Turf Diseases fills a need in this field. Penn State's Circular 510, "Control Turfgrass Diseases," is a useful ready reference.

Florida reports a Bermuda that needs no mowing.

Youngner, California, reports creeping red fescue far in the the lead when overseeded on Bermuda turf. Engel, New Jersey, predicts that confusion is likely because of rapid release of bluegrass varieties that have not had adequate testing.

Emergency Reserve

(Continued from page 62)

or clubs become so accustomed to escaping large scale emergencies that they come to think they are immune to them.

"On second thought," says Frank, "it shouldn't be left up to the supt. to have to sell the club on an emergency reserve. The club should be operated on enough of a businesslike basis to automatically provide for it."

Members Hard Hit

A good deal of financial distress has resulted at clubs where there hasn't been some kind of an emergency reserve fund to help pay for the damage caused by major catastrophies such as hurricanes, tornadoes, etc. Members have been taxed with extraordinary assessments to pay for repairs, or it has been necessary to obtain large bank loans to handle them. The blow in many cases could have been softened if a fund had been accumulated over the years to provide for emergencies.

Clubs have no choice but to provide their own catastrophe insurance, by the way, because the cost of obtaining protection against windstorm, vandalism, etc. is prohibitive.

Poa in New England

Referring to the article on pythium that appeared in the September issue of Golfdom (page 28), Burt Anderson, supt. at Augusta (Me.) CC, points out that Arthur Anderson at Brae Burn in Newton, Mass., and Manuel Francis at Vesper CC in Lowell have virtually eliminated poa annua in their greens, tees and fairways. It has taken them several years to do it with the use of arsenicals.

Quoting Burt Anderson: "To say that New England supts. are divided about going along with poa or getting rid of it means that Art Anderson and Manny Francis are on one side of the fence and the rest of us are enviously looking over at them."