Need for Variety of New Turfgrasses Stressed at Michigan's 37th Annual Conference

Turf is the fastest growing agricultural crop in Michigan today. Some 174 growers handled 20,000 acres this past year. Evidence of growth is seen by comparing progress with 1960 when production was only about 5,000 acres.

Though the full 20,000 acres was not harvested in one year, gross cash returns to growers in 1966 amounted to $27 million. These are data presented by the staff of Michigan State University to members of the industry attending the 37th Annual Turfgrass Conference March 15-16. Overall, returns to the industry last year were estimated to be $222 million. Of this grand total, maintenance accounted for $149 million with production, shipping and laying of sod adding up to $72 million. Maintenance of home lawns is the major source of income to the industry, estimated to be a $90 million operation in the state. Golf courses were next with expenditures of $18.5 million, followed closely by industrial areas at $18 million. The Michigan staff stresses that many of these figures are estimates, but careful study leads them to believe they are conservative.

Even so, the industry for Michigan is a major one and one which is growing. This rapid rate of progress is demanding answers to many new problems, a situation to be expected. For example, sod producers need more and better equipment to take the place of almost nonexistent hand labor. No longer can the grower depend on seasonal help to harvest the crop. Growers are also concerned about the need for new varieties and mixtures which will stand up on the home lawn despite the varied management he is in the habit of practicing. Industry needs a variety of types of turf also, to meet the demand for quality and utility. And practically everyone in the industry is concerned with the threat of disease to existing varieties, especially to Merion bluegrass and especially in Michigan.

New Research Aimed Specifically For Sod Grower

Like a number of leading research institutions, Michigan State is pushing for answers. Dr. James B. Beard of the department of Crop Science at MSU discussed many of the practical phases of the industry about which much of the new research is centered. Flooding, a perennial problem in many areas, causes varying amounts of damage depending on the type of grass and temperatures. At 50° Fahrenheit, few varieties of grass are hurt. Bluegrass, for example, showed little or no damage for the first 30 days under water, some damage at 45 days. Bentgrass showed no damage during the first 40 days of exposure to flood-type conditions and no serious damage for 60 days. *Poa annua* (annual bluegrass) showed the first injury at 25 days, red fescue at 15 days.

But when temperatures are higher, all grasses suffer heavy damage. At 86° F. red fescue showed kill at one day, bluegrass after 3 days, others accordingly.

Optimum temperatures for growth of turfgrass are in the 65° to 70° range. Growth slows appreciably when temperatures climb to 86° and kill is evident at 105° to 108° and above in annual bluegrass. Dr. Beard said

John King, researcher, MSU Crop Science Department, discussed rooting characteristics of organic and mineral-based sods.

Principals at Turf Conference: Dr. Paul Rieke, Department of Soil Science at MSU, left; President Frank Forier of Michigan Turfgrass Foundation, center; and Dr. James B. Beard, Department of Crop Science, MSU.

kill at such temperatures had proved to be a surprising phase of the research. In this particular study, air movement was found to be a major factor in cooling the growth area of turf. As little as 4 mph of air movement cooled the growing area by 14 F. at mid-afternoon.

Mulches continue to be tested for erosion control and their value in establishing a good microclimate for new grass establishment. Straw with asphalt tie-down still proves superior in Michigan studies. Some new types do give erosion control, but fail to deliver adequate establishment conditions. Excelsior material shows promise according to Dr. Beard.

Three primary factors attribute to winter kill. Besides desiccation, snow mold and low temperatures are prime problems. Snowfall on unfrozen ground sets up ideal conditions for snow mold. High temperatures followed by sudden drops below 20° F. create conditions for kill.

Oxygen suffocation from sheet ice cover is not a common problem. Research shows that there is little damage during the first 75 days and ice cover for this long a period is uncommon. Bentgrass showed no injury in the first 75 days of ice cover, and Kentucky bluegrass and annual bluegrass very little.

Turf panel fields questions from floor: Top, left to right, Pat Biondi, Melvindale-Northern Allen Park Schools; Herbert Taylor, Herbert Taylor and Son Landscape Contractors, Detroit; and Bill W. Milne, Superintendent, Grosse Pointe Country Club. Below, left to right, Arthur T. Durfee, General Motors Technical Center, Warren; James Smith, Huron-Clinton Metropolitan Authority, Milford; and David Heiss, Cascade Country Club, Grand Rapids.

Fusarium Blight is Spreading To North Central Area

Fusarium blight, a relatively new disease problem in the east is spreading and has been found in Michigan. This fact is causing concern at the moment in this upper north central producing area of the nation.

Dr. Paul Rieke, department of Soil Science at MSU, brought the 500 turf industry members at the conference up to date on current fertilizer studies at the institution. Regarding use of urea nitrogen on turf, he reported that 1, 2 or 3 applications gave results superior to 6 applications yearly, providing that irrigation was sufficient.

And in establishing new turf from seed, all elements of fertilizer do as well with surface application as when placed 2 to 4 inches deep except phosphorus. Phosphorus alone did a significantly better job when worked into the soil. He also reported more winter hardiness where the nutrient level is high—among all types of grasses except bentgrass.

John King, researcher in the MSU Crop Science department, discussed studies with organic and mineral-based sods. Sod grown on organic soil, he said, had a greater rooting capability than sod grown on mineral soil. Rooting proved to be much slower on a clay soil compared to a sandy loam.

Watering properly may be more important in most cases than normally realized. Soaking heavily when sod is first laid is considered the optimum practice. Afterward, best results are obtained by watering only ⅛ inch daily. This has proved superior to watering a full quarter inch daily.

Directors elected by the group were: James Standish, executive secretary, Michigan Golf Course Association, Detroit; James Smith, Field Landscape Architect, Huron-Clinton Metropolitan Authority, Milford; and Roy Peck, Superintendent Country Club Golf Course, Kalamazoo. President Frank Forier and Vice-President Bill W. Milne were re-elected to their respective positions.