

APPENDIX J

PEER REVIEWS

Appendix J-1
Technical Assessment of the Hills Golf Course and Residential
Development Project

A.J. Turgeon, PhD.

Technical Assessment of the Hills Golf Course and Residential Development Project

A. J. Turgeon, Ph.D.

My overall assessment of the Project is that it is very thorough and well thought out. Any criticisms presented here are relatively minor and are intended to assist in making small improvements to what is already a very good plan.

On page 11 of the Introduction, the author proposes the use of a seed mixture of colonial bentgrass (*Agrostis capillaris* L.) and Chewings fescue (*Festuca rubra* L. ssp. *comutata* [Thuill.] Nynam) for establishing the fairways. While this mixture has been extensively used on northwestern European golf courses where the climate is cool temperate oceanic (Dofb), it has not enjoyed much usage in the northeastern United States, where the climate is cool temperate continental (Dcfc); however, on Long Island, the average temperature in January is just one degree below freezing, which is very close to the 32°F isotherm separating temperate oceanic and temperate continental climates. This is similar to climates in Eastern Germany where bentgrass-fescue seed mixtures are commonly used on golf course fairways. Tiger 2 and Longfellow II are improved cultivars of colonial bentgrass and Chewings fescue, respectively, and should do well under the relatively low intensity of culture proposed for the fairways at the Hills Golf Course.

Greens will be constructed in accordance with current USGA specifications, with the addition of an impermeable liner installed beneath the gravel blanket to prevent any leachate from entering the underlying soil. The author proposes a 90:10 mixture of sand and peat. I would suggest the addition of 3 to 5 percent soil to the mix, creating a “dirty” sand that would likely be more resistant to the development of localized dry spot (LDS). This is such a widespread problem on sand-based greens that any measure for reducing its occurrence is worthwhile. The mixing of the sand, peat, and soil should be done off site and in a manner that ensures thorough blending of these constituents. In the actual construction of the greens, it’s important to sample each truckload of mix as it comes onto the property for subsequent testing to ensure that it conforms to USGA specifications; otherwise, some of the greens may end up with mixes that do not drain properly due to the variation in the percentages of sand separates present (The presence of too many fines—the combination of dispersed clay, silt, and very fine sand particles—can result in a deviation from the desired pore-size distribution that can seriously impede internal drainage). Also, in the contract established with the supplier, language should be included that establishes that the contractor will be liable for any costs incurred in correcting subsequent drainage problems attributable to those sand:peat:soil mixes that did not meet USGA specifications.

On page 12, soil and tissue testing are proposed as “measures for assessing the nutrient status of the turf;” however, the timing and frequency of these measures were not provided. Initially, soil testing should be comprehensive to provide baseline data on the nutrient-supplying capacity of the soils underlying the greens, aprons, tees, fairways, and intermediate roughs. Subsequent testing can be more limited, in that its primary purpose is to assess how the fertilization programs on these sites are influencing the pH, extractable P, and exchangeable K levels of the soils. Likewise initial

tissue testing should be comprehensive to assess the nutrient status of the plants and whether the concentrations of specific nutrients are at or above minimum sufficiency levels. Subsequent tissue testing can also be more limited, as its primary purpose is to ensure that the fertilization programs are meeting the plants' nutritional requirements. Tissue testing is especially important on the greens, as some sands can be seriously deficient in their tertiary nutrient supplying capacity.

On page 52, the author quotes research by Pare et al. (2008) in which the following statement occurs: *We conclude that part of the N losses traditionally attributed to gaseous N emissions (volatilization and denitrification) in golf greens would be due to leaching of the dissolved organic N.* The actual fate on nitrogen is influenced by numerous factors, including pH, moisture, organic matter, temperature, aeration, N carrier, clippings, and soil texture and structure. As this research was conducted in a greenhouse in Guelph, Canada, one must be careful in applying its conclusions to outdoor sites in Long Island and elsewhere. Field experiments conducted at the University of Illinois showed that 52 percent of the N applied as fertilizer found its way into the thatch and soil organic matter, 30 percent was removed in the clippings, 8 percent volatilized, 6 percent was in the turfgrass plants, and *none* leached. The only way to accurately determine the fate of nitrogen on a turf in Long Island is to measure it.

There is justifiable concern about the possibility of nutrient leaching and runoff during grow-in, as there is often a fine line separating the nutrient levels at which efficient establishment occurs and those at which significant leaching and/or runoff of nutrients—particularly nitrogen and phosphorus— into surface and subsurface water resources can occur. On page 53, the statement is made “The Hills will install moisture meters connected to the irrigation central control system to provide the turf manager a most important tool during grow-in.” This is good; however, one of the best tools for optimizing the use of nutrients during grow-in is to apply them through a “fertigation” system in which nutrients are injected into the irrigation water during its application to the landscape. In this way, the correct amounts of specific nutrients can be applied whenever necessary. Even if this system is never used after establishment has been completed, it is worthwhile to install it in order to derive its benefits during the grow-in process.

On page 54, the nitrogen requirements of various turfgrasses are listed in Table 10. I would modify the amounts for creeping bentgrass (*Agrostis stolonifera* L.) to 2.5-3.5 lbs. N/1000 ft²/year, and that for annual bluegrass (*Poa annua* L.) to 4.0 to 6.0 lbs. This difference is important where there is the desire to either control the infestation of creeping bentgrass by annual bluegrass, or to sustain the annual bluegrass in a healthy state where it constitutes a large percentage of the turfgrass community.

A. J. TURGEON

Personal

Born September 13, 1943, in White Plains, New York
Married - Jean Krinbill, 1966 - two children, ages 43 and 41.
Home address: 675 Berkshire Drive, State College, PA 16803
Telephone: (814) 234-4355, home; (814) 360-4037, cell.
E-mail: aturgeon@psu.edu

Education

Rutgers - The State University, New Brunswick, NJ
B.S. Plant Science (Turfgrass Option) 1965

Michigan State University, East Lansing, MI
M.S. Crop Science (Turfgrass Weed Science) 1970
Ph.D. Crop Science (Turfgrass Weed Science) 1971

Military Service

Commissioned: U.S. Army Second Lieutenant, Infantry, 1965
Training: Infantry Branch, Rotary Wing Aviation and Instruction Methods Courses
Assigned: Rotary Wing Aviator, Republic of Vietnam, 1966-67
Discharged: Captain, U.S. Army Reserve, 1968

Professional Positions

Department of Crop and Soil Sciences, Michigan State University
Graduate Research Assistant, 1968-71

Department of Horticulture, University of Illinois, Urbana, IL
Assistant Professor and Extension Turf Specialist, 1971-76
Associate Professor of Turfgrass Science, 1976-79

Texas A&M Research and Extension Center, Dallas, TX
Professor and Resident Director of Research, 1980-83

Tru Green Corporation, East Lansing, MI
Vice President for Research and Technical Services, 1983-86

Penn State University, University Park, PA
Professor Emeritus of Turfgrass Management. 2012-present
Professor of Turfgrass Management, 1986-2011
Head of the Department of Agronomy, 1986-1994; Interim Head, 2001-2002
Professor-in-Charge, Turfgrass Program, PSU World Campus, 1998-2011

Teaching and Extension Educational Experience

U.S. Army - Served as instructor pilot for rotary wing aviation unit in Republic of Vietnam (1967). Taught meteorology to primary rotary wing aviation students and developed programmed texts as instructional materials at Ft. Wolters, Texas (1968). Served as a leadership instructor in a U.S. Army Reserve unit at East Lansing, MI (1968-70).

Michigan State University - Lectured in various turfgrass and weed control courses. Made formal presentations at and participated in the organization of conferences, field days and other educational events (1968-71).

University of Illinois - Taught introductory and advanced turfgrass science courses, and a graduate-level horticulture colloquium course. Guest lectured in several plant pathology, agronomy and horticulture courses. Supervised eleven graduate students and served on five other graduate committees. Organized annual turfgrass conferences and field days and participated as an invited speaker in many educational programs throughout North America. Developed educational materials, including literature and slide sets that have been widely used by academic institutions and commercial firms for training personnel in turfgrass management and pesticide use. Wrote *Turfgrass Management*, the most widely used academic text on this subject in the United States (1971-79).

Texas A&M University System - Lectured in various turfgrass courses and served as an invited speaker at turfgrass conferences and other educational programs throughout North America (1980-83).

Tru Green Corporation - Established a corporate training program covering all technical aspects of the company's operation, as well as marketing, production, finance and management information systems. Initiated a "train-the-trainer" program to enable managers at all levels to conduct or supervise training in their respective branches, regions and zones. Supervised the development of slide sets, manuals, and other materials to support field-based training activities. Continued to guest lecture in courses at Michigan State, Ohio State, and other universities, and to serve as an invited speaker at conferences, workshops, and other educational programs (1983-86).

Pennsylvania State University - Developed and taught the Agronomy Colloquium (AGRO 490) from 1987 to 1994, an introductory eight-week "winter" course in Turfgrass Science (AGRO 936) from 1987 to 1994, an introductory undergraduate turfgrass course (TURF 235) from 1992 to 1994 and 2008-2011, and two advanced-level case studies courses (TURF 436W, AGRO 956A) from 1993 to 2011. Developed web-accessible courseware containing cases, study materials and downloadable assignments for teaching TURF 436W as both resident and distance education courses. Developed web-accessible courseware for teaching the introductory turfgrass course (TURF 235), as well as TURF 436W, as the first offerings to initiate the Penn State World Campus in January, 1998. Led a team of turfgrass faculty in the development and teaching of a series of courses to complement TURF 235 and 436W. Served as an invited speaker on turfgrass subjects, management systems, and computer-aided instruction at conferences in North America, Africa, Europe and Asia.

Major Research Projects

Pesticide-induced thatch formation in turf. Several persistent herbicides and insecticides were found to promote the formation of thatch in otherwise thatch-free Kentucky bluegrass turfs. This was associated with the complete inhibition of earthworm activity in the treated areas. The existence of side-by-side plots of thatchy and thatch-free turf provided opportunities for comparative studies on the effects of thatch on turf quality. The presence of thatch was associated with: higher wilting tendency during mid-summer stress, greater disease incidence, reduced infiltration capacity, and slower spring green-up; however, the thatchy turf appeared to be more resistant to traffic-induced injury because of the interlocking system of organic materials situated above the soil surface.

Characterization of thatch and thatch-like derivatives in turf. These investigations revealed that thatch, which is principally composed of undecomposed organic constituents, is a highly porous medium with poor nutrient- and water-retention properties. Because turfgrass crowns are elevated above the soil surface where thatch is present, roots and other below-ground organs tend to grow within the thatch layer and above the underlying soil; therefore, thatchy turfs are generally more susceptible than thatch-free turfs to injury from environmental stresses. Where soil from cultivation or topdressing is effectively incorporated into a thatch layer, the physical and chemical properties of the resulting thatch-like derivative reflect the presence of the two media; thus, while soil incorporation may promote accelerated decomposition of the thatch, its short-term effect is the modification of the edaphic properties of the thatch in ways that are favorable to turfgrass growth and turf quality.

Influence of thatch on nitrogen transformations and pesticide fate. Applications of urea and various slowly available nitrogen (N) carriers to thatchy and thatch-free turfs revealed that N losses from leaching and volatilization were much greater where thatch was present. Similarly, pesticides tend to leach more rapidly through a thatch layer than through a fine-textured soil; this may result in greater turfgrass injury from preemergence herbicides as thatch-bound roots are more exposed than soil-bound roots to the herbicide. In laboratory studies, these herbicides were less persistent in thatch than in soil suggesting that higher rates or more frequent applications may be needed to maintain concentrations at effective levels. In other studies, paraquat, a normally non-residual herbicide, was found to have sufficient residual activity in thatch to prevent emergence of ryegrass seeded into the treated turf; however, where soil was incorporated into the thatch during seeding, ryegrass seedlings emerged and formed an excellent stand. A "microecosystem" was subsequently developed that, in later investigations, proved to be a valuable tool for studying the fate of fertilizer nutrients and pesticides in turfgrass research.

Feeding quality of turfgrass clippings. The clippings harvested from Kentucky bluegrass and other lawn species sustained under moderate or higher intensities of culture were found to be of good to excellent feeding quality based upon extensive trials with sheep. Crude protein levels were relatively high from all plots; however, substantial differences were measured among turfgrass cultivars and cultural intensities. Xanthophyll levels were sufficient to justify the use of clippings in poultry feeds for skin and yolk coloration.

Adaptation and quality of turfgrass cultivars, blends and mixtures. Field trials with Kentucky bluegrass cultivars in which the intensity of culture was varied showed major differences in the adaptation of the cultivars as evidenced by their persistence and disease and weed incidence. Comparisons of single plantings and two-component blends over a five-year period showed that disease resistance and seasonal growth and density were important factors influencing the compatibility of cultivars in blends. Comparisons of single plantings and mixtures of Kentucky bluegrass and perennial ryegrass cultivars

showed that the differences in species composition of the resulting turfgrass communities were more dependent on the competitive aggressiveness of the component cultivars than on the percentage of each in the seed mixtures used for planting.

Vegetative establishment of Kentucky bluegrass. Soilless (washed) sod was found to be superior to conventional sod for rapidly establishing turf. Other advantages of soilless sod were its light weight and easy handling; the disadvantages included its high potential for desiccation and heating during storage, transport and planting operations. Plugs of strongly rhizomatous cultivars of Kentucky bluegrass were successfully used for establishing pure turfgrass stands; the specific rate of establishment varied with the size and spacing of the plugs. Several preemergence herbicides that could not be used safely in conjunction with seeding were safely used for annual grass and broadleaf weed control when applied immediately after planting.

Controlled-release pesticide formulations. Starch xanthide and other starch-based experimental materials were studied as carriers of various pesticides used in turf. A unique formulation is created in which the pesticide is actually embedded within the matrix of the granules; thus, the bioavailability of the pesticide is determined by the rate at which the starch matrix decomposes following application. By applying some of the pesticide to the surface of the granules, a critical concentration can be achieved almost immediately after application; depending upon the rate of release of the embedded pesticide, this concentration can then be sustained to provide sustained control of a target pest.

Seed priming for accelerated turfgrass establishment. Commercially primed seed of several turfgrass species were evaluated in the field and in the laboratory to determine if priming significantly enhances germination and seedling development. While results varied with turfgrass genotype, the greatest effects were observed with slow-germinating species under suboptimal temperatures for germination.

Application of NIRS technology to turf analyses. Near-infrared reflectance spectroscopy (NIRS) was successfully employed for determining the amount of mineral and organic constituents in thatch and soil samples extracted from various turfs. This method was helpful in determining that dilution of organic-matter accumulations was a more important effect of topdressing sand-based turfs than accelerated biodecomposition of thatch debris.

Turfgrass management systems. Computerized information management (record-keeping) systems have been developed to assist golf course superintendents in conducting detailed analyses and in making informed decisions in the management of their respective operations. These involve the development of control charts for tracking continuous variables and, where special-cause variation is evident, performing regression analyses to establish where causal relationships exist among variables.

Educational and instructional technologies. While preparing an online teaching program in Turfgrass Management at Penn State, a series of graduate students--some from the Learning, Design, and Technology Program, College of Education--were recruited to assist in the development and evaluation of methods for enhancing online learning. These investigations focused on learner-controlled learning resources (H. Shoener), computer-supported collaborative argumentation (S. Tan), peer questioning strategies (I. Choi), a case library for use in case-based learning (S. Colaric), and non-linear modules for enhanced online learning (J. Dai). Through these efforts, an online program was developed that was highly effective in helping students not only assimilate knowledge, but also develop the ability to apply that knowledge in analyzing and resolving problems and problematic situations. Some of the materials developed as a result of these efforts are accessible at the following URL: <http://turfgrass.cas.psu.edu/>

Administrative Experience

Texas A&M University System

January 1, 1980 - July 31, 1983

The Texas A&M Research and Extension Center at Dallas was one of 13 off-campus centers that functioned as small, multidisciplinary "departments" serving regional agricultural research and associated educational needs within the state of Texas. The program at Dallas covered research specific to the blackland prairie soils of northcentral Texas; it also served as the only "urban" center by virtue of its location within the Dallas-Fort Worth Metroplex. The research program encompassed plant pathology, entomology, edaphology, production and plant breeding; plants under investigation included turfgrasses, ornamentals, forages, cereals, cotton and grain sorghum. The research group was composed of nine project leaders and 26 support staff; also housed at the center were 30 extension staff and seven personnel from three allied agencies. Experimental resources included: 380 acres of land, a cow-calf herd, and a large inventory of equipment and buildings. The annual operating budget was in excess of \$1 million. The **Resident Director of Research** was responsible for planning and directing the unit's research program, and managing the physical plant and other property of the Texas Agricultural Experiment Station at the Center.

Accomplishments: Reorganized the center to improve the quality of administrative, maintenance and farm-operations support for the unit's research program. In cooperation with project leaders, established research objectives and productive avenues of investigation for all projects. Initiated a grants-acquisition program that resulted in a five-fold increase in grant and gift income in the first two years.

Planned and supervised a \$1.43 million construction project encompassing two new buildings, ten greenhouses, a unique "agrichemical facility" for pesticide storage and disposal, parking lots and major landscape improvements. Effected the sale of 50 acres of land valued at \$11 million and planned major additional improvements for the center, as well as acquisition of a satellite research farm, from the proceeds. And secured a gift of 100 acres of land that was subsequently sold for \$0.75 million to provide an income-generating resource to support experiment station operations.

Tru Green Corporation

August 1, 1983 - January 24, 1986

Tru Green was the second largest and fastest growing lawn-service company in the United States in August, 1983; by 1985, it operated 75 branches and had sales of \$40 million. The **Vice President for Research and Technical Services** was administratively responsible for the activities of corporate personnel involved in an increasing array of support services; also responsible for monitoring and controlling all fleet and chemical costs comprising over 26 percent of gross revenue.

Accomplishments: Established and staffed specialized departments (Research and Development, Technical Services, Engineering Services, Purchasing and Distribution, Training, and Safety), planned and developed facilities, and established operating systems, including a project-management system to ensure timely completion of all scheduled projects and a management-reporting system to communicate relevant information to the corporate executive committee. And developed a reliable system for assessing all fleet and chemical expenditures, systematically revising all cost assumptions, and accurately reprojecting future expenses.

The Pennsylvania State University

January 27, 1986 - July 13, 1994 (and May 15, 2001 – July 15, 2002).

In 1986, the Department of Agronomy had a faculty of 32 regular and 12 adjunct members; they were supported by a group of 50 staff, clerical and technical-service personnel. And there were 48 students enrolled in graduate-degree programs offered by the department. The **Department Head** was responsible for providing leadership in the development, implementation and evaluation of all departmental programs of research, teaching, extension, service and international agricultural programs. Additionally, he was responsible for the management of the department's personnel, financial, and physical resources. By 1994, the department's total budget was in excess of \$5 million; this includes more than \$3 million in appropriated funds and approximately \$2 million in extramural funds.

Accomplishments: Established "Centers of Excellence" to integrate related research and extension projects and to promote the formation of interdisciplinary teams within the department and between Agronomy and other academic departments.

Led a planning team in designing the new \$27-million Agricultural Sciences and Industries building to house the Department of Agronomy and elements of three other academic departments; this effort included the development of modular laboratory designs, innovative teaching classrooms and laboratories, a unique "Learning Center" for enhanced self-paced learning, and a modern "Land Analysis Laboratory" dedicated to the development of computerized geographic information systems (GIS) for land-resource management. Planned and completed major renovation projects including: the Tyson building, the Agronomy Research Farm, the Landscape Management Research Center, a seed processing building, and several greenhouses. Networked all computers within the department for efficient communication and access to shared files and programs, encouraged selected faculty members to become involved in the development of computer-based educational resources and specialized database-management and decision-support systems for use by students and extension clientele, and strengthened the department's "Integrated Crop Management Program" by expanding the use of computers for processing field records from cooperating farmers. Established a computerized financial management system involving comprehensive analyses of all income and expenditures, and monthly reprojections throughout the fiscal year, to improve the management of the department's financial resources. Improved the accounting system to provide each faculty member with a monthly "account status report" and a detailed listing of all financial transactions. Developed a system for providing faculty with timely information on grant and contract opportunities with federal and state agencies, foundations and industrial sources resulting in substantial increases in extramural funding of departmental programs. Expanded the department's turfgrass royalty income and created opportunities for generating income from other cultivars by establishing the Northeast Seed Alliance with the New York Seed Improvement Cooperative. Assisted in generating substantial income for agronomic research from the Pennsylvania Departments of Agriculture, Environmental Resources and Transportation, and other sources. And organized a system for faculty participation in departmental strategic planning, and involved major constituencies in identifying important research and extension needs through the establishment of an Agronomy Advisory Council composed of industry leaders from throughout Pennsylvania.

July 13, 1994 – December 31, 1998

Recognizing the need to modernize various aspects of the College of Agricultural Sciences' educational programs and as part of a reorganization of the administrative structure of the College, the Dean created a new part-time position to lead and administer these efforts. The

Director of Educational Technologies was responsible for providing leadership in all educational programs directed at addressing the needs of students and other clientele through the use of appropriate technologies for packaging and disseminating instructional programs. Also served as the College's representative to A*DEC, a consortium of several dozen land-grant institutions involved in satellite-facilitated exchanges of instructional programs. From July, 1994 to September, 1995, was also responsible for directing the Pennsylvania Food System Professions Education Project, a national initiative sponsored by the W. K. Kellogg Foundation involving 12 projects and 26 land-grant institutions. In this capacity, he was responsible for providing leadership in a visioning process directed at charting the future of food-related professional education in Pennsylvania.

Accomplishments: Established and lead the Educational Technologies Council in developing a strategic plan involving technical-support systems, incentive programs, faculty- and staff-development workshops, and funding for the development of courseware and other instructional materials for use in formal and nonformal distance educational programs.

Consolidated administration of satellite-facilitated instructional programs within the College of Agricultural Sciences and established a liaison for coordinating College-based distance educational efforts with those of the Penn State Office of Continuing and Distance Education. Obtained the cooperation of representatives of several Penn State colleges and the Faculty Senate, as well as several other educational institutions within the state, in the Pennsylvania Food System Professions Education Project. Organized steering and operations committees to manage and conduct Project activities. Recruited and trained facilitators to engage external and internal stakeholders in a visioning process to chart the future of food-related professional education in Pennsylvania. And participated in W. K. Kellogg Foundation-sponsored symposia and other activities to plan and coordinate the activities of the 12 projects involved in the national initiative.

January 18, 1998 – 2011

Served on the “World Campus Study Team” appointed by President Graham Spanier in 1996/97, and taught its first course, the Turfgrasses (TURF 235). beginning on January, 1998. As **Professor-in-Charge** of the Online Turfgrass Programs, led a team of turfgrass professors in the development of additional courses and coordinated the instructional program involving thousands of students from around the world. The initial 15-credit certificate program was complemented with the development of a 30-credit advanced certificate program, a 120-credit bachelor of science degree program, a 61-credit associate of science degree program, and a 30-credit master of professional studies in turfgrass management graduate degree program. In 2011, the program earned more than \$1 million in tuition and had in excess of 800 course enrollments.

Graduate Committee Chairmanships

E.G. Solon, M.S., 1972-73
O.E. Dicks, M.S., 1972-73
D.E. Black, M.S., 1974-75
K.A. Hurto, Ph.D., 1975-78
G.A. Clayton, M.S., 1976-78
K.E. Nelson, M.S., 1976-78
B.E. Branham, M.S., 1978-80, Ph.D., 1980-83
K.E. Danneberger, M.S., 1978-79
M.A. Stephan, M.S., 1977-79
D.E. Chalmers, Ph.D., 1978-81

W.E. Torello, Ph.D., 1979-82
I. Yamamoto, Ph.D., 1992-94
A. Couillard, Ph.D., 1993-96
H. Shoener, M.S., 1998-99;
S. Tan, Ph.D., 1997-2000
S. Colaric, Ph.D., 1998-2001
I. Choi, Ph.D., 1999-2002
J. Pruss, Ph.D., 2000-03
J. Dai, Ph.D., 2008-2011

State, Regional and Professional Service and Committees

Manuscript Reviewer for Weed Science, HortScience, Crop Science, Agronomy Journal, International Turfgrass Research Conference Proceedings and various trade publications, 1971-2011

Editor of Illinois Turfgrass Conference Proceedings, Turfgrass Field Day Reports, and Annual Turfgrass Research Summaries, 1971-79

North Central Regional Turfgrass Research (NCR-10) Committee, 1971-79 (Secretary, 1977-78; Chairman, 1978-79)

Chairman, C-5 (Turfgrass) Division, and Program Planning Committee, Crop Science Society of America, 1980-81

Pennsylvania Department of Agriculture Advisory Committee on Fertilizer Research, 1986-94

Pennsylvania Department of Environmental Resources Chesapeake Bay Advisory Committee, 1986-94

Pennsylvania Soil Conservation Service Administrative and Advisory Committee, 1987-94

North East Regional Committee, Toward 2005 Task Force, 1988

North East Coordinating Water Quality (NEC-61) Committee, 1988-1991

Regional Coordinator, A233 Membership Committee, American Society of Agronomy, 1988-91

Crop Science Society of America Fellows Award Committee, 1989-91, 1994-96.

Editor for Crop Science Society of America Special Publication on Turf Weeds and Their Control, 1988-93

Agricultural Nonpoint Source Initiative Steering Committee, 1992-94

Scientific and Technical Advisory Committee, The Chesapeake Bay Program, 1993-94.

Task Force on Plant Science Research and Education, American Society of Agronomy and American Society of Horticultural Sciences, 1993

American Distance Education Consortium (ADEC), Principal Contact Officer, 1994-97; Program Panel member, 1997-99.

Consultancies

Chairman, Technical Advisory Committee, Illinois Turfgrass Foundation, 1971-79

CSRS Review Team for Soils and Crops Department, Rutgers - The State University, 1978

Educational Advisory Council, Golf Course Superintendents' Association of America, 1974-77

Editorial Advisory Boards for Weeds, Trees and Turf Magazine, 1983-84, and American Lawn Applicator Magazine, 1984-88

Board of Directors, Michigan Turfgrass Foundation, 1983-86

Technical Consultant, Tru Green Corporation, 1986-88

Education Committee, Professional Lawn Care Association of America, 1987

Comprehensive Review Team, Ornamental Horticulture Department, IFAS, University of Florida, 1987

Review Team, USDA Hydraulic Unit Proposals, Washington D.C., 1990

Comprehensive Review Team, Horticulture Department, University of Nebraska at Lincoln, 1991.

Associate Editor, Crop Science Journal, Crop Science Society of America, 1996-99.

Technical Advisory Committee, Pennsylvania Turfgrass Council, 1996-2011.

Faculty Resource Group Committee, Golf Course Superintendents Association of America, 1998-2002

Associate Editor, Journal of Natural Resources and Life Sciences Education, 1999-2003.

Chairman, Education Committee, Division C-5, Crop Science Society of America, 1999-2003.

Co-editor, International Turfgrass Research Conference Journal, 2000-01.

Committee on Organization, Policy, and Bylaws (C201), Crop Science Society of America, 2002-06.

Member, Professional Advancement Committee, Division C-5, Crop Science Society of America, 2004-06

Associate Editor, Journal of Natural Resources and Life Sciences Education, American Society of Agronomy, 2000-06

Member (Penn State Representative), Board of Directors, HybriGene Corporation, Hubbard, OR, 2004-09.

Consultant, numerous golf courses, sports complexes, and institutional grounds in the United States, Canada, and South Africa, 1971-present.

Educational Consultant and Instructor, WINSTONuniversity, Hamburg, Germany, 2011-2014.

Memberships

Professional:

American Society of Agronomy
Crop Science Society of America
World Association of Case Research and Application
Golf Course Superintendents Association of America
International Turfgrass Society

Honorary:

Sigma Xi
Pi Alpha Xi
Gamma Sigma Delta

Honors and Awards

Military Decorations: Distinguished Flying Cross, Bronze Star, Air Medal with 16 Oak Leaf Clusters, Army Commendation Medal w "V" Device, Purple Heart, Certificate of Merit, 1967-68

Outstanding Session Paper Awards, Division C-5 (Turfgrass), Crop Science Society of America, 1976 and 1977

Outstanding Achievement Award, Researcher/Educator Category, Weeds, Trees and Turf Magazine, 1977

Testimonial, Golf Course Superintendents' Association of America, 1977

Incomplete List of Excellent Teachers, University of Illinois, 1978 and 1979

Administrative Staff Award, Tru Green Corporation, 1984

Elected to Fellow, Crop Science Society of America, 1988

Distinguished Service Award, Illinois Turfgrass Foundation, 1988

Elected to Fellow, American Society of Agronomy, 1989

Presidential Award, Nebraska Turfgrass Foundation, 1992

USDA Excellence in Teaching Award Nominee, 1994, 1996, and 1998.

Certificate of Excellence for Computer Software, Educational Materials Contest, American Society of Agronomy, 1996.

Outstanding Leadership Award, Agricultural Distance Education Consortium , 1997

Teaching Award, Northeast Branch of the American Society of Agronomy and Soil Science Society of America, 1998.

National ADEC Award for Excellence in Distance Education, 2000.

Exemplary WebCT Course Award, 2000.

Fred V. Grau Turfgrass Science Award, Crop Science Society of America, 2002.

Outstanding Teaching Award, Penn State World Campus, 2002.

ADEC Distance Education Award for Outstanding Educational Program, 2004.

Harbaugh Scholar, College of Agricultural Sciences, Penn State University, 2006 and 2007.

Selected as one of the “top ten contributors to turfgrass science in the past 50 years” by members of the Turfgrass Science (C-5) Division of the Crop Science Society of America in 2005 (Shearman, R.C. 2006. Fifty years of splendor in the grass. *Crop Science* 46:2218-2229).

Dubin Pioneer Award in Outreach and Online Education, The Pennsylvania State University, 2014.

Publications

Books and Book Chapters -

Turgeon, A. J. 1980. *Turfgrass Management*, Reston Publishing Company, Reston, Virginia, 391 p.

Turgeon, A. J. 1985. *Turfgrass Management, Revised Edition*, Reston Publishing Company, Reston, Virginia, 416 p.

Turgeon, A. J. 1991. *Turfgrass Management, Third Edition*, Prentice-Hall Publishing Company, Englewood Cliffs, New Jersey, 418 p.

Turgeon, A. J. (ed.) 1994. *Turf Weeds and Their Control*, Crop Science Society of America, Madison, Wisconsin, 259 p.

Turgeon, A. J. 1996. *Turfgrass Management, Fourth Edition*, Prentice-Hall Publishing Company, Upper Saddle River, New Jersey, 406 p.

Turgeon, A. J. 1999. *Turfgrass Management, Fifth Edition*, Prentice-Hall Publishing Company, Upper Saddle River, New Jersey, 392 p.

Turgeon, A. J. 1999. *Instructors Manual, Turfgrass Management, Fifth Edition*, Prentice-Hall Publishing Company, Upper Saddle River, New Jersey, 99 p.

- Turgeon, A. J. 2001. Turfgrass Growth and Development Manual. Golf Course Superintendents Association of America, Lawrence, KS. 54 p.
- Turgeon, A. J. 2002. Turfgrass Management, Sixth Edition. Prentice Hall, Upper Saddle Brook, N.J. 400 p.
- Vargas, J.M. and A.J. Turgeon. 2003. Poa annua: Physiology, Culture, and Control of Annual Bluegrass. John Wiley & Sons, Inc. Hoboken, NJ. 165 pp.
- Turgeon, A.J. 2005. Turfgrass Management, Seventh Edition. Pearson Prentice Hall, Upper Saddle River, NJ, 07458. 415 pages.
- Turgeon, A.J. and J.M. Vargas, Jr. 2005. The Turf Problem Solver: Case Studies and Solutions for Environmental, Cultural, and Pest Problems. John. Wiley and Sons, Inc. Hoboken, NJ. 246 pages.
- Turgeon, A.J. 2007. Instructors' Manual for Turfgrass Management, 8th Edition. Pearson Prentice Hall, Upper Saddle River, New Jersey, 66 pages.
- Turgeon, A. J. and J. M. Vargas. 2007. Physiology and Culture of Annual Bluegrass (*Poa annua* L.). A manual published by the Golf Course Superintendents Association of America, Lawrence, Kansas, 196 pages.
- Turgeon, A.J. and J.M. Vargas. 2007. Thinking Your Way to Better Problem Solving in Turfgrass Management and More. A manual published by the Golf Course Superintendents Association of America, Lawrence, Kansas, 30 pages.
- Turgeon, A. J. 2008. Turfgrass Management, 8th Edition. Pearson Prentice Hall, Upper Saddle River, New Jersey, 436 pages.
- Turgeon, A. J., L. B. McCarty, and N. Christians. 2008. *Weed Control in Turf and Ornamentals*. Pearson Prentice Hall Publishers, Upper Saddle River, New Jersey, 300 pages.
- Turgeon, A.J. 2009, Urban, Suburban, and Rural Amenities of Grass. p. 137-154. W. F. Wedin and S. L. Fales (eds.). *In Grassland: Quietness and Strength for a New American Agriculture*. American Society of Agronomy, Madison, Wisconsin.
- Turgeon, A. J. 2012. Turfgrass Management, 9th Edition. Pearson Prentice Hall, Upper Saddle River, New Jersey, 398 pages.

Articles Published in Refereed Journals -

- Turgeon, A. J., and W. F. Meggitt. 1971. A small-plot sprayer. *Weed Science* 19:245-247.
- Turgeon, A. J., W. F. Meggitt, and Donald Penner. 1972. Role of endothall in the control of annual bluegrass in turf. *Weed Science* 20:562-565.
- Turgeon, A. J., Donald Penner, and W. F. Meggitt. 1972. Selectivity of endothall in turf.

Weed Science 20:557-561.

Turgeon, A. J., and W. A. Meyer. 1974. Effects of mowing height and fertility level on disease incidence in five Kentucky bluegrasses. *Plant Disease Reporter* 58:514-517.

Turgeon, A. J., J. B. Beard, D. P. Martin, and W. F. Meggitt. 1974. Effects of successive applications of preemergence herbicides on turf. *Weed Science* 22:349-352.

Turgeon, A. J. 1974. Annual bluegrass control with herbicides in cool-season turfgrasses. p. 382-389. E. C. Roberts (ed.). *Proceedings of the Second International Turfgrass Research Conference*. American Society of Agronomy, Madison, Wisconsin.

Solon, E. G., and A. J. Turgeon. 1975. Techniques for vegetatively establishing Kentucky bluegrass turf. *Agronomy Journal* 67:578-579.

Solon, E. G., and A. J. Turgeon. 1975. Herbicides for establishing Kentucky bluegrass turf from plugs. *Agronomy Journal* 67:675-678.

Turgeon, A. J., R. P. Freeborg, and W. N. Bruce. 1975. Effects of preemergence herbicides on thatch development in Kentucky bluegrass turf. *Agronomy Journal* 67:563-565.

Vargas, J. M., and A. J. Turgeon. 1975. Translocation of ¹⁴C-chloroneb in three turfgrass species. *Canadian Journal of Plant Science* 55:85-88.

Meyer, W. A., and A. J. Turgeon. 1975. Control of red leaf spot on "Toronto" creeping bentgrass. *Plant Disease Reporter* 59:642-645.

Moshier, Loren, A. J. Turgeon, and Donald Penner. 1976. Effects of glyphosate and siduron on turfgrass establishment. *Weed Science* 24:445-448.

Turgeon, A. J., and Gene Lester. 1976. Xanthophyll levels in turfgrass clippings. *Agronomy Journal* 68:946-948.

Turgeon, A. J., K. A. Hurto, and L. A. Spomer. 1977. Thatch as a turfgrass growing medium. *Illinois Research* 19(3):3-4.

Jansen, I. J., and A. J. Turgeon. 1977. Indirect effects of a thatch-inducing herbicide on soil physical properties under turf. *Agronomy Journal* 69:67-70.

Spomer, L. A., and A. J. Turgeon. 1977. Vertical soil water retention in newly sodded, drained turfgrass sites. *Communications in Soil Science and Plant Analysis* 8:417-423.

Hiltibran, R. C., and A. J. Turgeon. 1977. Creeping bentgrass response to aquatic herbicides in irrigation water. *Journal of Environmental Quality* 6:263-267.

Turgeon, A. J. 1977. Comparative advantages of soil-less sod for Kentucky bluegrass propagation. *Rasen Grunflachen Begrunungen* 8(1):13-15.

Turgeon, A. J., Frank Berns, and Ben Warren. 1978. A mechanized system for generating soil-less sod. *Agronomy Journal* 70:349-350.

Cole, M. A., and A. J. Turgeon. 1978. Microbial activity in soil and litter underlying bandane- and calcium arsenate-treated turfgrass. *Soil Biology and Biochemistry* 10:181-186.

- Turgeon, A. J., and D. W. Black. 1978. Effects of mowing and fertilization on yellow nutsedge population in competition with Kentucky bluegrass. *Rasen Grunflachen Begrunungen* 9(3):52-55.
- Hurto, K. A., and A. J. Turgeon. 1979. Influence of thatch on preemergence herbicide activity in Kentucky bluegrass turf. *Weed Science* 27:141-146.
- Hurto, K. A., A. J. Turgeon, and M. A. Cole. 1979. Degradation of benefin and DCPA in thatch and soil from a Kentucky bluegrass turf. *Weed Science* 27:154-157.
- Hurto, K. A., and A. J. Turgeon. 1979. Effect of thatch on residual activity of nonselective herbicides used in turfgrass renovation. *Agronomy Journal* 71:66-71.
- Turgeon, A. J., G. G. Stone, and T. R. Peck. 1979. Crude protein levels in turfgrass clippings. *Agronomy Journal* 71:229-232.
- Turgeon, A. J., and J. M. Vargas, Jr. 1979. An approach to turfgrass cultivar evaluation. p. 19-30. J. B. Beard (ed.). *Proceedings of the Third International Turfgrass Research Conference*. American Society of Agronomy, Madison, Wisconsin.
- Vargas, J. M. Jr., and A. J. Turgeon. 1979. The principles of blending Kentucky bluegrass cultivars for disease resistance. p. 45-52. J. B. Beard (ed.). *Proceedings of the Third International Turfgrass Research Conference*. American Society of Agronomy, Madison, Wisconsin.
- Turgeon, A. J., and J. R. Street. 1979. Cultivar and cultural influences on the establishment of Kentucky bluegrass from plugs. *HortScience* 14:745-746.
- Shurtleff, M. C., and A. J. Turgeon. 1979. Controlling red leaf spot in creeping bentgrass. *Illinois Research* 20(4):13.
- Hurto, K. A., A. J. Turgeon, and L. A. Spomer. 1980. Physical characteristics of thatch as a turfgrass growing medium. *Agronomy Journal* 72:165-167.
- Nelson, K. E., A. J. Turgeon, and J. R. Street. 1980. Thatch influence on mobility and transformation of nitrogen carriers applied to turf. *Agronomy Journal* 72:487-492.
- Turgeon, A. J. 1981. Turfgrass pest management. p. 351-368. R. W. Sheard (ed.). *Proceedings of the Fourth International Turfgrass Research Conference*. University of Guelph, Canada.
- Torello, W. A., D. J. Wehner, and A. J. Turgeon. 1983. Ammonia volatilization from fertilized turf stands. *Agronomy Journal* 75:454-456.
- Danneberger, T. K., A. J. Turgeon, and T. R. Peck. 1984. Effect of sample preparation and pH on the cation exchange capacity of thatch. *Agronomy Journal* 76:155-156.
- Haley, J. E., D. J. Wehner, T. W. Fermanian, and A. J. Turgeon. 1985. Comparison of conventional and mulching mowers for Kentucky bluegrass maintenance. *HortScience* 20:105-107.
- Danneberger, T. K., and A. J. Turgeon. 1985. Climatic adaptation of three cool season grasses in northeastern United States based on growing degree-days. p. 801-806. F.

- Lemaire (ed.). Proceedings of the Fifth International Turfgrass Research Conference. Institut National de la Recherche Agronomique, Avignon, France.
- Branham, B. E., D. J. Wehner, W. A. Torello, and A. J. Turgeon. 1985. A microecosystem for fertilizer and pesticide fate research. *Agronomy Journal* 77:176-180.
- Danneberger, T. K., and A. J. Turgeon. 1986. Soil cultivation and incorporation effects on the edaphic properties of turfgrass thatch. *Journal of the American Society of Horticultural Science* 111:184-186.
- Chalmers, D. R., H. J. Hopen and A. J. Turgeon. 1987. Controlled release preemergence herbicide formulations for annual grass control in Kentucky bluegrass (*Poa pratensis*) turf. *Weed Science* 35:533-540.
- Slocum, A. C., R. J. Nolan, L. C. Shern, S. J. Gay and A. J. Turgeon. 1988. Development and testing of protective clothing for lawn-care specialists. p. 557-564. S. Z. Mansdorf, R. Sager and A. P. Nielsen (eds.) *Performance of Protective Clothing: Second Symposium*, ASTM STP 989. American Society for Testing and Materials, Philadelphia.
- Turgeon, A. J. 1993. Application of systems thinking to turfgrass management. *International Turfgrass Society Research Journal* 7:930-936. R. N. Carrow, N. E. Christians and R. C. Shearman (Eds.), Intertec Publishing Corp., Overland Park, Kansas
- Kiernan, N. E., A. J. Turgeon and L. D. Hoffman. 1995. Satellite seminars: an alternative model for extension educators. *Journal of Natural Resources and Life Sciences Education* 24:36-44.
- Couillard, Andree-Ann; A.J. Turgeon, J.S. Shenk, and M.O. Westerhaus. 1995. Comparison of near-infrared reflectance spectroscopy and standard laboratory analysis of turf soil profile. *HortScience* 30(4-7): 896.
- Couillard, A-A., J. S. Shenk, M. O. Westerhaus and A. J. Turgeon. 1996. Comparison of near infrared spectroscopy and standard analysis of turf soil profiles. *In* Near Infrared Spectroscopy: The Future Wares (A.M.C. Davis and P. Williams, Eds.), Proceedings of the 7th International Conference on Near Infrared Spectroscopy, Montreal, Canada, August 6-11, 1995. p. 673-676.
- Yamamoto, I, A. J. Turgeon and J. M. Duich. 1997. Field emergence of solid matrix seed primed turfgrasses. *Crop Science* 37: 220-225.
- Yamamoto, I, A. J. Turgeon and J. M. Duich. 1997. Seedling emergence and growth of solid matrix primed Kentucky bluegrass seed. *Crop Science* 37: 225-229.
- Couillard, A., A.J. Turgeon, M.O. Westerhaus and J.S. Shenk. 1997. Near infrared reflectance spectroscopy for analysis of turf soil profiles. *Crop Science* 37: 1554-1559
- Couillard, A. and A.J. Turgeon. 1997. Composition of turfgrass thatch. *Communications in Soil Science And Plant Analysis* 28(13&14): 1199-1207
- Couillard, A., A.J. Turgeon, and P. E. Rieke. 1997. New insights in thatch biodegradation. *International Turfgrass Society Research Journal* 8:427-435.

Couillard, A., A.J. Turgeon, M.O. Westerhaus and J.S. Shenk. 1997. Analysis of soil separates with near infrared reflectance spectroscopy. *Journal of Near Infrared Reflectance Spectroscopy* 4:201-212.

Turgeon, A. J. 1997. Implications of web-based technology for engaging students in a learning society. *Journal of Public Service and Outreach* 2(2): 32-37.

Turgeon, A.J. 1999. Beaver Stadium: A Decision Case in Football Field Management. *Journal of Natural Resources and Life Sciences Education* 28:74-78.

Turgeon, A.J., D. DiBiase and Gary Miller. 2000. Introducing the Penn State World Campus through certificate programs in turfgrass management and geographic information systems. *Journal of Asynchronous Learning Networks* 4(3): Special Issue on Faculty Satisfaction. (<http://www.aln.org/alnweb/journal/jaln-vol4issue3.htm>).

Shoener, Heather A. and A. J. Turgeon. 2001. Web-accessible learning resources: learner-controlled versus instructor-controlled. *Journal of Natural Resources and Life Sciences Education* 30:9-13.

Turgeon, A.J. Turfgrass instruction through the Internet. 2001. *International Turfgrass Conference Research Conference Journal* 9:104-110.

Tan, S. C., A. J. Turgeon and D. H. Jonassen. 2001. Computer-Supported Collaborative Argumentation: An Innovative Approach to Group Problem Solving. *Journal of Natural Resources and Life Sciences Education* 30:97-103.

Turgeon, A. J. 2002. Competition between *Agrostis stolonifera* and *Poa annua* populations in turfgrass communities. *Science and Golf IV*: 643-647.

Uddin, W. and A. J. Turgeon. 2002. Willow Hollow Golf Course: A Problem-Based Learning Exercise in Gray Leaf Spot (Blast) Disease Management. *Journal of Natural Resources and Life Sciences Education* 31:136-140.

Colaric, S. M., A. J. Turgeon and D. H. Jonassen. 2003. Development of a web-based case library. *Journal of Educational Technology Systems* 31(1):63-70.

Turgeon, A.J. and Melody M. Thompson. 2004. Comparison of faculty workload in resident and distance environments: the case of a turfgrass management course. *Journal of Natural Resources and Life Sciences Education* 33:102-105.

Turgeon, A.J. 2004. Using computer-based learning resources for teaching over the Internet. *Acta Horticulturae* 661:543-547.

Pruss, J.A., D. Beegle, A.J. Turgeon, R. Day, and R. Weaver. 2005. Using a Field-Specific Crop Management Database to Determine the Effects of Soil Series, Nitrogen, and Rainfall on Corn Yields. *Agronomy Journal* 97:113-117.

Choi, I., S. Land, and A. J. Turgeon. 2005. Scaffolding peer-questioning strategies to

facilitate metacognition during online small group discussion. *Instructional Science* 33:483-511.

Turgeon, A.J. 2005. A Web-based turfgrass case library for just-in-time learning. *International Turfgrass Society Research Journal* 10:713-717.

Turgeon, A.J. 2007. Developing Online Instructional Modules for a Diverse Student Population. Submitted to and accepted for publication in the Proceedings of the Second International Conference on Turfgrass Management for Sports Fields, *Acta Horticulturae*.

Turgeon, A.J. 2007. Addressing problems encountered in case-based teaching. *Journal of Natural Resources and Life Sciences Education* 36:134-138.

Turgeon, A.J. 2008. Developing online instructional modules for a diverse student population. *ACTA Horticulturae* 783:583-588.

Choi, I., S.M. Land, and A.J. Turgeon. 2008. Instructor Modeling and Online Question Prompts for Supporting Peer-Questioning during Online Discussion. *Journal of Educational Technology Systems* 36:255-275.

Dai, Jing and A.J. Turgeon. 2008. Loop-Imbedded (Non-Linear) Turfgrass Modules for a Diverse Student Population. *Journal of Natural Resources and Life Sciences Education* 37:63-68.

Nonrefereed Articles, Bulletins and Reports -

Turgeon, A. J. 1969. Turfgrass weed control. Proceedings of the 43rd Michigan Forestry and Park Conference. p. 26.

Turgeon, A. J., and W. F. Meggitt. 1969. Turfgrass weed control. Research Report Michigan State University Agricultural Experiment Station on Sod Industry Research 1968-1969. p. 5-6.

Turgeon, A. J., and W. F. Meggitt. 1970. Chemical control of creeping speedwell. *Weeds, Trees and Turf* 9:22-23.

Contributing author to Lawn Care. 1970. Michigan State University Farm Science Extension Service Bulletin E-646.

Turgeon, A. J., and W. F. Meggitt. 1970. Turfgrass weed control. Research Report Michigan State University Agricultural Experiment Station on Sod Industry Research 1969-1970. p. 8-9.

Turgeon, A. J., and W. F. Meggitt. 1971. Lawn weed control. Michigan State University Farm Science Extension Service Bulletin E-653.

Contributing author. 1971. Major changes proposed in pesticide laws (p. 3-4), The poa annua problem (p. 5-6), Thatch accumulation in bluegrass after applying preemergence herbicides two years (p. 19-20). 12th Illinois Turfgrass Conference.

- Turgeon, A. J., and W. F. Meggitt. 1971. Role of endothall in the control of annual bluegrass. *Proceedings of the Northeast Weed Control Conference* 25:399.
- Turgeon, A. J., W. F. Meggitt, and Donald Penner. 1971. Effects of endothall on annual bluegrass and two turfgrass species. *Proceedings of the North Central Weed Control Conference* 26:90.
- Turgeon, A. J. 1972. Preemergence herbicides and their effects on the turfgrass ecosystem. *Proceedings of the North Central Weed Control Conference* 27:62.
- Saupe, D. C., and A. J. Turgeon. 1972. Establishment of various ground covers with herbicides and shredded hardwood bark. *Proceedings of the North Central Weed Control Conference* 27:61.
- Turgeon, A. J. 1972. Comparison of several herbicides for control of weedy perennial grasses in conjunction with overseeding. *Proceedings of the North Central Weed Control Conference* 27:65.
- Turgeon, A. J. 1972. Weed Control in turf (p. 154-156), Herbicides for turfgrass weed control (p. 11-13). Twenty-Fourth Illinois Custom Spray Operators Training School.
- Turgeon, A. J. 1972. Studies on the control of annual bluegrass with endothall. *Proceedings of the 42nd Michigan Turfgrass Conference* 1:30-33.
- Shurtleff, M. C., and A. J. Turgeon. 1972. Snow Molds (#404), Helminthosporium Leaf, Crown and Root Diseases of Lawn Grasses (#405), Powdery Mildew of Bluegrass (#406), Sclerotinia Dollar Spot on Turfgrasses (#407), Fusarium blight of turfgrasses (#408), Leaf Smuts of Turfgrasses (#409). Department of Plant Pathology, University of Illinois, Urbana, Illinois.
- Turgeon, A. J., and A. R. Mazur. 1972. Lawn establishment. University of Illinois Agricultural Extension Service Circular 1066.
- Contributing author. 1972. Turfgrass renovation with herbicides (p. 4-5), Vegetative establishment of Kentucky bluegrass (p. 13-14), Chemical growth retardation of turf (p. 15-16), Pesticides in the environment (p. 97-99). 13th Illinois Turfgrass Conference.
- Contributing author. 1972-1979. Turfgrass Research Summaries, University of Illinois.
- Contributing author. 1972-1979. Illinois Turfgrass Field Day Reports.
- Turgeon, A. J. 1972. How to use the metric system. *The Golf Superintendent* 40(4):51-52.
- Shurtleff, M. C., R. Randell, and A. J. Turgeon. 1972. Guide to horticultural chemicals. *Grounds Maintenance* 7(3):55, 56, 59, 62.
- Turgeon, A. J., and T. D. Hughes. 1972. The future of the Illinois turfgrass program. *The Bull Sheet* 26(6):11.
- Turgeon, A. J. 1972. Good weed control methods. *Grounds Maintenance Golf Course Manual* 7(12):44-46.
- Shurtleff, M. C. R. Randell, and A. J. Turgeon. 1973. Guide to horticultural chemicals. *Grounds Maintenance* 8(3):61-62, 67-68.

Turgeon, A. J. 1973. A GM Primer on Good Weed Control Methods. *Grounds Maintenance* 8(4):22, 24, 26, 28-30, 32, 34, 36.

Shurtleff, M. C., and A. J. Turgeon. 1973. Disease-resistant turf varieties. *Grounds Maintenance* 8(5):37, 38, 40, 42, 46.

Turgeon, A. J., M. C. Shurtleff, and R. Randell. 1973 - 1977. Turfgrass pest control. University of Illinois Agricultural Cooperative Extension Service Bulletin 1076.

Turgeon, A. J., M. C. Shurtleff, R. Randell, and F. Giles. 1973. Illinois lawn care and establishment. University of Illinois Agricultural Extension Service Circular 1082.

Contributing author. 1973. Illinois turfgrass varietal evaluation (p. 18-23), Fungicide evaluation on turf (p. 15-17), Herbicides for vegetative establishment of Kentucky bluegrass (p. 26), Herbicides for turfgrass renovation (p. 27), Soil cultivation under turf. (p. 98-100). 14th Illinois Turfgrass Conference.

Turgeon, A. J. 1973. Some factors affecting thatch development in turf. *Proceedings of the Eighth Annual Wisconsin Golf Turf Symposium.* p. 8-9.

Turgeon, A. J. 1973. Teaching pest management to turf students. *Proceedings of the North Central Weed Control Conference* 28:95-96.

Turgeon, A. J. 1973. Evaluation results of preemergence herbicides for crabgrass control in turf. *Proceedings of the North Central Weed Control Conference* 28:108-109.

McGlamery, M. D., and A. J. Turgeon. 1973. Comparison of air-induction and conventional nozzles for herbicide application to turf. *Proceedings of the North Central Weed Control Conference* 28:111-112.

Black, D. W., and A. J. Turgeon. 1973. Conversion of lawns from bentgrass to Kentucky bluegrass by the use of herbicides. *Proceedings of the North Central Weed Control Conference* 28:27.

Turgeon, A. J., and D. W. Black. 1974. Yellow nutsedge control in Kentucky bluegrass turf. *Proceedings of the North Central Weed Control Conference* 29:175.

Contributing author. 1974. Yellow nutsedge control in Kentucky bluegrass turf (p. 6-7), Effects of subsurface and core cultivation on soil strength in a Washington creeping bentgrass turf (p. 8-11), Annual grass control in turf (p. 13-16), Turfgrass response to aquatic herbicides in irrigation water (p. 17-18), Effects of mowing height, mowing frequency, and fertilization on Kentucky bluegrass turf (p. 58-61), Kentucky bluegrass variety evaluation: Illinois (p. 104-110). 15th Illinois Turfgrass Conference.

Turgeon, A. J. 1974. Controlling turfgrass weeds. *Urban Pesticide Dealers and Applicators Clinics.*

Hiltibran, R. C., and A. J. Turgeon. 1974. Turfgrass response to aquatic herbicides in irrigation water. *Proceedings of the North Central Weed Control Conference* 29:174.

Moshier, Loren, A. J. Turgeon, and Donald Penner. 1975. Effects of glyphosate and siduron on turfgrass establishment. *Proceedings of the North Central Weed Control Conference* 30:37.

Hiltibran, R. C., and A. J. Turgeon. 1975. Turfgrass response to some herbicides and metals in irrigation water. Proceedings of the North Central Weed Control Conference 30:174.

Turgeon, A. J. 1975. The Illinois Turfgrass program (p. 21-29), Annual bluegrass control with endothall (p. 49-51). Rutgers Turfgrass Conference Proceedings.

Turgeon, A. J. 1975. Nutrition-disease relationships. Proceedings of the GCSAA 46th International Turfgrass Conference and Show. p. 24.

Turgeon, A. J. 1975. Identification and control of pests of turfgrass: Weeds. 27th Illinois Custom Spray Operators Training School. p. 27-32.

Turgeon, A. J., and F. A. Giles. 1975. Turfgrasses of Illinois. University of Illinois Agricultural Cooperative Extension Service Circular 1105.

Tweedy, J. A., A. J. Turgeon, and D. W. Black. 1975. Control of yellow nutsedge in turf. Proceedings of the North Central Weed Control Conference 30:131-132.

Turgeon, A. J. 1975. The varietal dilemma (p. 25-31), Developing efficient weed control programs (p. 51-56). Proceedings of the 15th Annual Missouri Lawn and Turf Conference.

Turgeon, A. J. 1975. Progress in Poa annua control. Proceedings of the 15th Virginia Turfgrass Conference. p. 13-14.

Turgeon, A. J. 1975. Turf disease update (p. 35-37), Poa annua - Today's views (p. 29-34). Kentucky Turfgrass Conference and Field Day Proceedings.

Contributing author. 1975. Effects of cultural practices on fusarium blight incidence in Kentucky bluegrass (p. 12-15), Turfgrass variety evaluation results:1975 (p. 28-32), Pesticide effects on soil physical properties (p. 33-34), Comparison of washed (soilless) and unwashed sod (p. 38-39), Protein and Xanthophyll content of Turfgrass clippings (p. 40-41), Vegetative establishment of cool-season turf from plugs (p. 42-43), Turfgrass renovation with glyphosate (p. 44-45). 16th Illinois Turfgrass Conference.

Turgeon, A. J. 1975. Cultural practices and yellow nutsedge. Weeds, Trees and Turf 14(2):48, 52, 61.

Meyer, W. A., and A. J. Turgeon. 1975. Red leaf spot on "Toronto" creeping bentgrass. The Golf Superintendent 43(5):31-33.

Turgeon, A. J. 1975. The Illinois turfgrass program. Central Illinois Golf Course Superintendent Newsletter 1(2):6-9, 12-13.

Turgeon, A. J. 1976. Introduction - Turfgrass weed symposium. The Golf Superintendent 44(4):17-18.

Turgeon, A. J. 1976. Effects of cultural practices on fusarium blight incidence in Kentucky bluegrass. Weeds, Trees, and Turf 15(7):38-40.

Turgeon, A. J. 1976. Effects of cultural practices on the incidence of turfgrass disease (p. 31-32), A contemporary approach to annual bluegrass control (p. 44-46), Developing efficient weed control programs (p. 78-81). 14th Annual Nebraska Turfgrass Conference Proceedings.

- Turgeon, A. J. 1976. Effects of cultural practices on the incidence of turfgrass disease. 46th Annual Michigan Turfgrass Conference Proceedings 5:49-50.
- Turgeon, A. J. 1976. The impact of pesticide use on turfgrass management programs. 46th Annual Michigan Turfgrass Conference Proceedings 5:57-58.
- Turgeon, A. J. 1976. Pest activity due to mismanagement. Proceedings of the 1976 California Turf and Landscape Institute. p. 13-15.
- Turgeon, A. J. 1976. New ryegrasses (p. 31-33), The varietal dilemma (p. 33-37). Midwest Regional Turf Conference Proceedings.
- Turgeon, A. J. 1976. The impact of pesticide use on turfgrass management programs (p. 1-2), Turfgrass research update - Illinois (p. 43-45). Proceedings of the 47th Annual Conference of Mid-Atlantic Association of Golf Course Superintendents.
- Turgeon, A. J. 1976. Turfgrass sod research update. 46th Annual Michigan Turfgrass Conference Proceedings. 5:35-42.
- Contributing author. 1976. Thatch-preemergence herbicide interactions in turf (p. 80-81), Utilizing dehydrated pelleted turfgrass clippings as feed for ruminant animals (p. 8-12), Impact of thatch on the residual activity of herbicides used in turfgrass renovation (p. 6-7), Bentgrass response to aquatic herbicides in irrigation water (p. 34-44), Characterization of thatch as a turfgrass growing medium (p. 75-77), Kentucky bluegrass cultivar management (p. 13-20), Selective control of creeping bentgrass (p. 5-7), Red leaf spot on "Toronto" creeping bentgrass (p. 8-10). 17th Annual Illinois Turfgrass Conference.
- Turgeon, A. J. 1977. Controlling annual bluegrass. Annual Turfgrass Conference Proceedings, University of Massachusetts. p. 27-30.
- Turgeon, A. J. 1977. Annual bluegrass control (p. 67-71), A contemporary view of turfgrass thatch (p. 21-23). 18th Annual Illinois Turfgrass Conference.
- Turgeon, A. J. 1977. Weed control update. Proceedings of the 48th International Turfgrass GCSAA Conference and Show. p. 232-236.
- Turgeon, A. J. 1977. A contemporary view of thatch in turf (p. 46-49), Turfgrass weed control update (p. 19-23). Proceedings of the 17th Annual Missouri Lawn and Turf Conference.
- Hinds, F. C., D. L. Arndt, M. H. Wallace, A. R. Cobb, A. J. Turgeon, and J. M. Lewis. 1977. The utilization of dehydrated, pelleted turfgrass clippings as a ruminant feed. Update '77 - Dixon Springs Agricultural Center 5:146-149.
- Turgeon, A. J. 1977. Turf research Midwest update. Park Maintenance 30(7):9-13.
- Turgeon, A. J. 1977. Plan for spring weed control now. Turf Tips 1(1):4.
- Turgeon, A. J. 1977. GM guide to nonselective weed control. Grounds Maintenance 12(3):56, 58, 85.
- Turgeon, A. J. 1977. Nonselective weed control in turf. Grounds Maintenance 12(4):50, 52.

- Turgeon, A. J. 1978. A contemporary view of thatch. *Turf Tips* 2(2):4.
- Hurto, K. A., and A. J. Turgeon. 1978. Optimizing the suitability of thatch. *The Golf Superintendent* 46(6):28-30.
- Turgeon, A. J. 1978. Thatch can affect lawn fertilization. *Lawn Care Industry* 2(11):9, 16.
- Turgeon, A. J. 1978. Changing trends in turfgrass pesticide formulation and application programs (p. 41-42). 19th Illinois Turfgrass Conference.
- Street, J. R., A. J. Turgeon, M. C. Shurtleff, and R. Randell. 1978 & 1979. Turfgrass pest control. University of Illinois Agricultural Cooperative Extension Service Circular 1076.
- Turgeon, A. J. 1978. Kentucky bluegrass thatch as a turfgrass growing medium. *Proceedings of the 49th International Turfgrass GCSAA Conference and Show*. p. 123-124.
- Turgeon, A. J. 1978. A contemporary view of thatch in turf. *Rutgers Turfgrass Proceedings*. p. 62-65.
- Contributing author. 1979. Fate of nitrogen in turf (p. 1-4), Development of a microecosystem for studying the fate of pesticides in turf (p. 5), Nitrogen studies in turf (p. 6-7), Controlled-release pesticide formulations for annual grass control in turfgrass sites (p. 8-9). 20th Annual Illinois Turfgrass Conference.
- Turgeon, A. J. 1979. Lawn weeds and their control. *Lawn Care Industry* 3(2):12-13, 34-36.
- Turgeon, A. J. 1979. Influence of thatch on soil is both positive and negative. *Weeds, Trees, and Turf* 18(4):48-50.
- Turgeon, A. J., and J. M. Vargas, Jr. 1979. Climatic adaptation of turfgrasses to the Chicago metropolitan area. *The Bull Sheet* 32(11):7.
- Dudeck, A. E., C. E. Giordano, A. J. Turgeon, P. L. Heinzen, and G. E. Stout. 1979. A literature review on sewage utilization for turfgrass purposes with annotated bibliography. Institute of Food and Agricultural Sciences, University of Florida. Miscellaneous Publication 1979-1.
- Vargas, J. M., K. T. Payne, A. J. Turgeon and R. Detweiler. 1980. Turfgrass disease resistance - selection, development and use. *Advances in Turfgrass Pathology*, Joyner, B.G. and P.O. Larsen (eds.), Columbus, OH, p. 179-182.
- Turgeon, A. J. 1981. Turfgrass research at TAES-Dallas. *The Texas Nurseryman* 12(2):33.
- Turgeon, A. J. 1985. A contemporary view of thatch. *Proceedings of the 24th Virginia Turfgrass Conference*, Williamsburg, VA. p. 8-9.
- Danneberger, T. K. and A. J. Turgeon. 1986. Soil cultivation and incorporation effects on the edaphic properties of turfgrass thatch. *Ohio Turfgrass Foundation Newsletter* 2:3.
- Hurto, K.A. and A.J. Turgeon. 1986. The influence of thatch on activity of preemergence herbicide to Kentucky bluegrass turf. *Advances in Turfgrass Weed Control*, Joyner, B.G. and K.A. Hurto (eds.), Columbus, OH. P. 9-37.
- Turgeon, A. J. 1988. Thatch. *Landscape Management Magazine* 27(3):58, 60, 62.

Turgeon, A. J. 1988. Management methods to instill motivation. Proceedings of the Research Center Administrators Society, Southern Region. New Orleans, LA. p. 23-26.

Turgeon, A. J. 1988. Water quality - agriculture's responsibility. Proceedings of the Thirty-Fourth Annual Farm Seed Conference, Kansas City, Missouri. p. 39-45.

Fidanza, M. A. and A. J. Turgeon. 1990. Using the Agronomy Guide on the PENpages Computer Network. Proceedings of the 3rd International Conference on Computers in Agricultural Extension Programs. Lake Buena Vista, FL. p. 649-652.

Turgeon, A. J. 1990. Turfgrass growth and development (p. 9-16), Turfgrass edaphology (p. 17-23). Proceedings of the 44th Northwest Turfgrass Conference, Rippling River Resort, Welches, Oregon.

Evans, D. E., A. J. Turgeon and R. L. Todd. 1991. The role of extension in rural water quality issues. Proceedings of the First Water Quality Workshop for Central Europe, USDA-OICD, Posnan, Poland. p. 1-9, and Proceedings of the Water Resources Management and Water Pollution Control Conference, IMGW/Penn State, Warsaw, Poland. p. 53-60.

Turgeon, A. J. 1994. Turf - now and the future (p. 1-6) and Turfgrass growth and development (p. 19-25). Southern Illinois Grounds Maintenance School Proceedings. Collinsville, Illinois. Horticulture Series 98.

Turgeon, A. J. 1994. Notes from the Director. Pennsylvania Food Systems Professions Education Project Newsletter, December Issue.

Turgeon, A. J. 1995. Thoughts on Education. Pennsylvania Food Systems Professions Education Project Newsletter, March Issue.

Turgeon, A. J. 1995. From the Director: Educational Technologies and a Complementary Learning Model Scheme. Pennsylvania Food Systems Professions Education Project Newsletter, June Issue.

Turgeon, A. J. and K. E. Barbieri. 1996. Teaching with technology. *In* Interactive Teaching and Emerging Technologies: Case Method (Hans E. Klein, Ed.), Thirteenth International Conference on Case Method Research and Application, Warsaw, Poland, p. 71-76.

Turgeon, A. J., K. E. Barbieri and B. B. Clarke. 1996. Case-based instruction at a distance using a mix of technologies. Proceedings of the 12th Annual Conference on Distance Teaching and Learning, Madison, Wisconsin, p. 311-316.

Turgeon, A. J. 1997. Supplementary Cultural Practices, Part II, Cultivation and Rolling, Green Master 31 (6): 39-42.

Turgeon, A. J., K. E. Barbieri and B. B. Clarke. 1997. Case-based instruction at a distance using a mix of technologies. The New Learning Environment: A Global Perspective. The 18th International Council on Distance Education World Conference, The Pennsylvania State University, University Park, PA, June 2-6.

- Turgeon, A. J., K. E. Barbieri and B. B. Clarke. 1997. Case-based instruction at a distance using a mix of technologies - Part 1. The European Case Clearing House, Bedford, England, ECCHO 16:12-13.
- Turgeon, A. J., K. E. Barbieri and B. B. Clarke. 1997. Case-based instruction at a distance using a mix of technologies - Part 2. The European Case Clearing House, Bedford, England, ECCHO 17: 18-19.
- Turgeon, A. J. 1998. Web-Based Technology for Engaging Students Across Vast Distances. ALN Magazine Volume 2, Issue 2 <http://www.aln.org/alnweb/magazine/vol2issue2/turgeonfinal.htm>
- Yamamoto, Ikuko and A. J. Turgeon. 1998. Seed priming positively affects Kentucky bluegrass. *Grounds Maintenance* 33(10): G28-32.
- A. J. Turgeon and Glenn Johnson. 1999. Problem-based learning on the web with WebCT. Proceedings of the 7th Annual Teaching and Learning with Technology Symposium, University Park, PA, April 10. <http://cac.psu.edu/training/TLT/whitepaper/turgeon.html>
- Turgeon, A.J. 2000. Controlling thatch. *Grounds Maintenance Magazine* 35(7):48, 49, 56.
- Choi, I., S.M. Land, and A.J. Turgeon. 2001. Effects of on-line peer-challenged support on learning during on-line small group discussion. Proceedings of Selected Research and Development paper Presentations, Association for Educational Communications and Technology Convention, Atlanta, GA.
- Choi, I., S. Land, and A. J. Turgeon. 2003. Online support for generating effective peer-challenge during asynchronized online small group discussion. Paper presented at the annual conference of the American Educational Research Association, Chicago, IL
- Turgeon, A.J. 2003. Using computer-based learning resources for teaching over the Internet. Proceedings of the International Sports Turf Conference, Athens, Greece.
- Turgeon, A.J. 2003. How does on-line instruction compare with traditional classroom-based instruction? *TPI Turf News*, November-December Issue, pages 53-56.
- Turgeon, A.J. 2004. Forward. *In The Grass Keeps Getting Greener: 75 Years of Turfgrass Research and Education at Penn State* (by Krista Weidner), The Press Box, Altoona, PA.
- Turgeon, A. J. 2006. Turfgrass Management at the National Mall. Report to Center for Park Management, Washington, D.C. 33 pages.
- Turgeon, A.J. 2007. Understanding Poa nutrition. *Green Master* 42(2):36-39.
- Turgeon, A.J. 2008. Addressing problems encountered in case-based teaching. *CAS News* 53(4): 34-35.

Published Abstracts -

Turgeon, A. J., Donald Penner, and W. F. Meggitt. 1972. Absorption, translocation, and metabolism of endothall by three turfgrass species. Weed Science Society of America Abstracts. p. 3-4.

Turgeon, A. J., J. B. Beard, D. P. Martin, and W. F. Meggitt. 1973. Effects of repeated applications of six preemergence herbicides on three turfgrasses. Weed Science Society of America Abstracts. p. 23-24.

Turgeon, A. J. 1973. Annual bluegrass control with herbicides in cool-season turfgrasses. Second International Turfgrass Research Conference p. 28-29.

Turgeon, A. J. 1974. Effects of repeated treatments by six preemergence herbicides on Kentucky bluegrass turf. Weed Science Society of America Abstracts. p. 19.

Solon, E. G., and A. J. Turgeon. 1974. Techniques for vegetatively establishing Kentucky bluegrass. Agronomy Abstracts. p. 101.

Turgeon, A. J. 1974. Effects of repeated applications of preemergence herbicides on Kentucky bluegrass. Agronomy Abstracts. p. 102.

Turgeon, A. J. 1975. Herbicides for use in vegetatively establishing Kentucky bluegrass turf. Weed Science Society of America Abstracts. p. 19.

Turgeon, A. J., and D. W. Black. 1975. Chemical and cultural control of yellow nutsedge in turf. Agronomy Abstracts. p. 102.

Jansen, I. J., and A. J. Turgeon. 1976. Indirect effects of a thatch-inducing herbicide on soil physical properties under turf. Agronomy Abstracts. p. 100.

Turgeon, A. J., G. G. Stone, and T. R. Peck. 1976. Crude protein levels in turfgrass clippings. Agronomy Abstracts. p. 103.

Hurto, K. A., and A. J. Turgeon. 1977. Impact of thatch on preemergence herbicide activity in Kentucky bluegrass turf. Agronomy Abstracts. p. 111.

Turgeon, A. J., and K. A. Hurto. The effects of herbicide residual activity and establishment on renovation of thatchy turfgrass sites. Agronomy Abstracts. p. 114.

Hurto, K. A., and A. J. Turgeon. 1977. Impact of thatch on residual activity of herbicides used in turfgrass renovation. Weed Science Society of America Abstracts. p. 35.

Falkenstrom, K. E., A. J. Turgeon, and J. R. Street. 1978. Influence of thatch on the mobility and transformation of nitrogen carriers applied to turf. Agronomy Abstracts. p. 116.

Turgeon, A. J., and J. M. Vargas, Jr. 1978. Turfgrass adaptation to the Chicago environment. Agronomy Abstracts. p. 120.

Danneberger, T. K., and A. J. Turgeon. 1979. Cation exchange properties of turfgrass thatch. Agronomy Abstracts. p. 120.

Meyer, W. A., and A. J. Turgeon. 1980. Integrating genotypes into a turfgrass cultural

program. *Agronomy Abstracts*. p. 118.

Branham, B. E., A. J. Turgeon, and D. J. Wehner. 1981. Development of a microecosystem to study pesticide fate in turf. *Agronomy Abstracts*. p. 124.

Haley, J. E., D. J. Wehner, T. W. Fermanian, and A. J. Turgeon. 1981. Comparison of conventional and mulching mowers for turfgrass maintenance. *Agronomy Abstracts*. p. 125.

Torello, W. A., D. J. Wehner, and A. J. Turgeon. 1981. Ammonia volatilization in turf. *Agronomy Abstracts*. p. 128.

Turgeon, A. J., B. E. Branham, and D. J. Wehner. 1983. The effects of thatch, irrigation, and soil type on the fate of DCPA applied to turf. *Agronomy Abstracts*. p. 130.

Couillard, A-A., A. J. Turgeon, J. S. Shenk and M. O. Westerhaus. 1994. Comparison of near-infrared reflectance spectroscopy and wet chemical analysis on thatch composition. Invited Papers and Abstracts of Contributed papers, Northeast Branch Meetings, American Society of Agronomy, McGill University, Ste-Anne-de Bellevue, Quebec, Canada, June 10-13, p. 3.

Turgeon, A.J. 1994. Computer assisted instruction in turfgrass management. *Agronomy Abstracts*. p. 94.

Pruss, J.A. and A.J. Turgeon. 1994. Pennsylvania crop management paradigm. *Agronomy Abstracts*. p. 85.

Turgeon, A. J. 1995. Rethinking our educational mission. Symposium: Agriculture and Natural Resources Education for the 21st Century. Invited Papers and Abstracts of Contributed papers, Northeast Branch Meetings, American Society of Agronomy, University of Maine, Orono, June 25-28, p. 1.

Couillard, A-A., A. J. Turgeon, J. S. Shenk and M. O. Westerhaus. 1995. Evaluation of near-infrared reflectance spectroscopy in characterizing turf-soil profiles. Invited Papers and Abstracts of Contributed papers, Northeast Branch Meetings, American Society of Agronomy, University of Maine, Orono, June 25-28, p. 10.

Pruss, J. A.* and A. J. Turgeon. 1995. Meeting CFSA integrated crop management program requirements. Invited Papers and Abstracts of Contributed papers, Northeast Branch Meetings, American Society of Agronomy, University of Maine, Orono, June 25-28, p. 14.

Kiernan, N.-E., A. J. Turgeon and L. D. Hoffman*. 1995. Satellite seminars: an alternative method for extension educators. *Agronomy Abstracts* p. 30.

Pruss, J. A. and A. J. Turgeon. 1995. Pennsylvania's computerized CropMD. *Agronomy Abstracts* p. 61.

Couillard, A.-A., A. J. Turgeon, J. S. Shenk and M. O. Westerhaus. 1995. Evaluation of turf-soil profiles with near infrared reflectance spectroscopy. *Agronomy Abstracts* p. 150.

Yamamoto, I., A. J. Turgeon and J. M. Duich. 1995. Solid matrix seed priming effects on

water imbibition of Kentucky bluegrass. *Agronomy Abstracts* p. 153.

Turgeon, A. J. and K. E. Barbieri. 1996. Teaching turfgrass management by the case method on the Internet. *Agronomy Abstracts*. p.61.

Couillard, A-A, A. J. Turgeon, J. S. Shenk, and M. O. Westerhuas. 1996. Determination of soil separates with near infrared reflectance spectroscopy. *Agronomy Abstracts*. p.141.

Turgeon, A. J. 1997. Internet-accessible courseware for learning turfgrass science and management, *Agronomy Abstracts* p. 122.

Layfield, K. D., N. O. Nti and A. J. Turgeon. 1997. Assessment of a turfgrass course delivered through the world wide web and interactive video using focus group research. *NACTA Journal* 41 (2): 19.

Turgeon, A. J. 1998. Distance education via live satellite, *Agronomy Abstracts*, p. 25

Turgeon, A. J. 1998. Teaching turfgrass subjects on the world wide web, *Agronomy Abstracts* p. 132.

Turgeon, A. J. 1999. Teaching turfgrass management by the case method on the web. *Agronomy Abstracts* p. 3.

Turgeon, A. J. 2000. Turfgrass instruction: moving from the classroom to the web. Learning Online Institute, Penn State University, University Park, PA, June 28.
<http://ets.cac.psu.edu/projects/conference/CICPSU/turf.html>

Choi, I., S.M. Land, and A.J. Turgeon. 2001. Effects of on-line peer-challenged support on learning during on-line small group discussion. Proceedings of Selected Research and Development Paper Presentations, Association for Educational Communications and Technology Convention, Atlanta, GA.

Choi, I., S.M. Land, and A.J. Turgeon. 2002. Effects of on-line peer-challenged support on learning during on-line small group discussion. Proceedings of Selected Research and Development Paper Presentations, Association for Educational Communications and Technology Convention, Atlanta, GA.

Harwood, J. T. and A. J. Turgeon. 2002. Moving turfgrass education into the 21st century. *Agronomy Abstracts*.

Kniewel, D. P. and A. J. Turgeon. 2002. *Poa annua* and creeping bentgrass turf characteristics during field competition. *Agronomy Abstracts*.

Turgeon, A. J. 2003. Just-in-time learning through knowledge-based and case-based learning resources. Abstracts, Northeast Branch of the American Society of Agronomy, p. 8.

Pruss, J.A., R. L. Day, and A. J. Turgeon. 2003. Mechanics of managing large databases of field-specific crop management records. Abstracts, Northeast Branch of the American Society of Agronomy, p. 17.

Pruss, J.A., D. Beegle, A.J. Turgeon, R. Day, and R. Weaver. 2004. Using a Field-Specific Crop Management Database to Determine the Effects of Soil Series, Nitrogen, and Rainfall on Corn Yields. Agronomy Abstracts.

Turgeon, A.J. and Melody M. Thompson. 2004. Comparison of faculty workload in resident and distance environments: the case of a turfgrass management course. Agronomy Abstracts.

Turgeon, A. J. 2006. Using case studies to enhance learning in turf courses. Agronomy Abstracts.

Turgeon, A. J. 2006. Addressing problems encountered in case-based teaching. Agronomy Abstracts.

Dai, Jing and A.J. Turgeon. 2007. [Loop-imbedded turfgrass modules for online instruction.](#) Agronomy Abstracts.