

# **Turf, Lawn and Garden Care: Management Ideas for Wellhead Protection Programs**

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Use of turf, lawn and garden fertilizers and pesticides in wellhead protection (WHP) areas may pose a contamination risk to public drinking water sources. The principal sources of such risk include inappropriate rates and timing of application of these chemicals. Improper fertilizer and pesticide use on turfs, lawns and gardens can have environmental consequences and can also reduce proper plant growth and plant quality!

When caring for turfs, lawns and gardens, there is often the misconception that “if a little is good, a lot must be better.” Often, misunderstandings about turf and lawn growth cycles lead to poor timing of fertilizer and pesticide application. And it’s possible that due to a long history of phosphorus applications to turf, lawns and garden – and due to the nature of phosphorus behavior in the environment – that phosphorus fertilization of turf in your WHP area is completely unnecessary!

Nitrate contamination of groundwater is of primary concern, however, to public water suppliers. Nitrate can move through the soil profile to the aquifer and presents a health risk when present in the drinking water supply.

Turf, lawn and garden chemical use primarily contributes to *nonpoint source contamination*. Nonpoint source contamination of water resources generally comes from widespread use of chemicals for which there is little regulatory control. And while there are some laws that regulate the activities of commercial turf and lawn care services, the activities associated with routine residential lawn, garden and recreational turf maintenance are not typically regulated. Therefore, public water suppliers must develop educational- and service-oriented management strategies to minimize fertilizer and pesticide impacts to drinking water supplies.

The University of Minnesota Extension Service (Extension) has developed turf, lawn and garden management recommendations for fertilizer and pesticide use. The Minnesota Department of Agriculture (MDA) and the Minnesota Office of Environmental Assistance (OEA) have additional educational and informational tools necessary to minimize environmental impacts of turf, lawn and garden maintenance.

The following pages provide a list of educational, service and regulatory activities a public water supplier might

consider in plans to manage turf, lawn and garden care in a WHP area. These activities are **not required** of public water suppliers, but provide a **menu of choices** – the methods chosen will depend on the local situation. It is also important to note that turf, lawn and garden care is not always a problem in WHP areas nor is it the only problem to focus on. Many land uses and activities can be sources of potential contamination in WHP areas.

## ■ **Education:**

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### **Education Activities related to Turf, Lawn and Garden Care in WHP Areas**

Personal Contacts  
Workshops/Training  
Special Events  
Newsletters and Local Media  
Recognition Programs

If a public water supplier chooses to develop management strategies for land-use issues associated with turf, lawn and garden care in the WHP area, education should be included as a component of the management plan, regardless of whether other methods are also used. Messages to highlight in an educational program include:

- special concerns regarding timing and application rates for fertilizers and pesticides;
- special concerns regarding the proper registration and permits for professional landscaping, turf, and lawn care services; and
- promotion of recommended management practices and guidelines for reducing maintained turf area through naturalized landscaping and reduced fertilizer and pesticide turf, lawn and garden care.

The MDA has established a Water Protection and Nutrient Management team (see *Appendix A* for contact information) to help address turf, lawn and garden care issues as they relate to wellhead protection throughout the state. In addition, Extension has staff located throughout the state to provide assistance with turf, lawn and garden care. Finally, offices located throughout Minnesota provide assistance to local water suppliers and that disseminate educational materials related to turf, lawn and garden chemicals. These offices include the Soil and Water Conservation District (SWCD), the Natural Resource Conservation Service (NRCS) and the Farm Service Agency (FSA), the state Board of Soil and Water Resources (BSWR) and regional offices of the Minnesota Pollution Control Agency (MPCA). Public water suppliers should consider coordinating educational activities regarding turf, lawn and garden care with these offices.

Listed below are a variety of educational resources and activities that public water suppliers might consider in developing turf, lawn and garden management ideas for their wellhead protection areas; these can be used as stand-alone educational activities or paired with voluntary or regulatory actions.

**Educational Resources:** The following documents and resources might be considered when assembling information packets or when developing any educational campaign. It is not a complete list, but should provide the foundation for any outreach activities. Contact information for ordering copies is provided in *Appendix B*:

- “Soil Test Interpretations and Fertilizer Management for Lawns, Turf, Gardens and Landscape Plants,” University of Minnesota Extension, BU-1731-F, 1998.
- “Lawn Care Practices to Reduce the Need for Fertilizers and Pesticides,” University of Minnesota Extension, FO-5890-GO, 1999.
- “Responsible Use of Lawn Care Pesticides,” University of Minnesota Extension, FO-5891-GO, 1995.
- “Responsible Fertilizer Practices for Lawns,” University of Minnesota Extension, FO-6551-GO, 1995.
- “Turfgrass Management for Protecting Surface Water Quality,” University of Minnesota Extension, BU-5726-GO, 1997.
- “How to Grow a Healthy, No-Waste Lawn & Garden,” Minnesota Office of Environmental Assistance.
- “Application Guide for Lawn and Garden Practices,” Minnesota Department of Agriculture.
- “A Guide for Buying and Managing Shoreland,” revised June 1998, and “Sample Shoreland Management Ordinance,” June 1999, Department of Natural Resources.
- “Lake Harriet Watershed Awareness Project: Making a Difference Through Water Quality Education,” Minnesota Department of Agriculture/Minnesota Extension Service.
- Minnesota Department of Agriculture series on Lawn Care Best Management Practices for Spring, Summer and Fall.

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Educational activities recommended for homeowners and commercial turf and lawn care service providers include:

**Personal Contacts:** One of the best ways to educate residents of the WHP area about turf, lawn and garden care is through personal contacts. Public water supply staff could work with Extension staff and certified Master Gardeners<sup>1</sup> to conduct surveys of local property owners that conduct both small- and large-scale turf management (e.g., athletic fields, golf courses, schools, cemeteries, churches and parks).

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<sup>1</sup> Master Gardeners are volunteers trained by the University of Minnesota to provide horticultural information and educational activities that enhance a community’s environment and quality of life. Volunteers are accepted into the program each fall. Applications are available from county Extension Service offices.

Surveys can be followed up with direct visits to discuss management practices and to determine if such practices are consistent with recommended practices. See *Appendix A* for a partial list of publications that address turf, lawn and garden care. Where compliance or certification and licensure issues are in question (in the case of pesticide application), personal contacts should be coordinated with appropriate MDA staff (see *Certification and License Programs* in this publication). As part of these contacts, print materials can be distributed. Certain print materials or templates may be available from U of M Extension, OEA or MDA staff. Such personal contacts can be an effective educational tool. In considering this tool, however, public water suppliers should consider the number of potential contacts in the WHP area and staff time available.

**Workshops/Training:** Public water suppliers can encourage homeowners and commercial turf and lawn care service providers in WHP areas to attend workshops and seminars relating to best management practices (BMPs) and any associated permits, licensure or certification. Specifically, they could promote the utilization of the county Master Gardener program to serve the WHP area. The public water supplier can co-sponsor, with Extension, MDA field staff and other local units of government, workshops or seminars on turf, lawn and garden care. Where existing educational programs are available, public water suppliers can provide homeowners and commercial turf and lawn care service providers with schedules of existing training, workshops and seminars. To ensure attendance, public water suppliers might consider providing cost-share assistance for workshop registrations.

**Special Events:** As an educational technique, public water suppliers can sponsor special events and invite all interested audiences to attend. One suggestion is to plan an initial open house or field day entitled "Welcome to Wellhead Protection," after the contaminant inventory and wellhead delineation are complete. At this event, the significance of the WHP area can be explained, and information on the importance of managing all contaminant sources found in the inventory can be provided. Information on turf, lawn and garden care can be a part of this event.

Follow-up special events specific to turf, lawn and garden care can also be planned. An Extension certified Master Gardener or other WHP-area resident(s) who practice well-managed turf and lawn care could host an open house for the WHP planning committee, homeowners and commercial turf, lawn and garden service providers within the wellhead, allowing interested parties to learn from one another.

**Information Packets:** Public water suppliers can provide homeowners and commercial turf, lawn and garden service providers with a packet of printed information as another form of education and outreach. Coordinating these efforts with Extension is important so that education and outreach materials contain well-researched, sound information. A variety of print materials are available addressing recommended management practices (see *Educational Resources*, above). Additional materials are available on the World Wide Web pages of various organizations (see *Appendix B* for a partial list of useful Internet addresses). These materials can be distributed through a variety of methods, ranging from personal or mail delivery to distribution at community-wide events. The delivery mechanism will depend on the local situation (numbers of homeowners within your WHP area, ways in which your community receives information, etc.). The local, public library could be encouraged to carry and promote educational materials – including readily available videos – on lawn, turf and garden care. Costs will vary, depending on the delivery mechanism chosen.

**Newsletters and Local Media:** Articles in newsletters and local newspapers can be useful in educating a wide variety of audiences. Public water suppliers may consider developing a newsletter specifically for homeowners and commercial turf and lawn care service providers operating within the WHP area. The newsletter could highlight a variety of issues including BMPs, permit renewal guidance, and training and workshop announcements. Developing a newsletter specifically for the WHP area will help to stress the concept of the "special protection area" and will allow public water suppliers to reach homeowners and commercial turf and lawn care service providers on a variety of topics. Providing articles to existing newsletters or newspapers that are read by interested parties can be a cost-effective way to share information.

Additional promotion of BMPs and WHP planning and implementation efforts could occur by using local radio and television, cable television and direct mail.

**Recognition Programs:** Public water suppliers might use recognition programs as an educational tool in conjunction with special events. Homeowners and commercial turf and lawn care service providers that participate in wellhead protection planning deserve recognition for their involvement and concern. Homeowners or businesses that establish natural landscapes and gardens can be recognized by the city for their contribution to beautification and environmental protection. Cities could provide certificates, plaques, or other recognition awards to homeowners and commercial turf and lawn care service providers that meet certain criteria established by the city. The qualifying criteria could include: attending workshops, completion of required registration and compliance, implementation of recommended management practices, etc. These programs and their criteria could be established in conjunction with Extension, MDA or other organizations that provide technical and regulatory assistance related to turf, lawn and garden care.

## ■ **Services:**

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### **Technical/Financial Assistance Services Related to Turf, Lawn and Garden Care in WHP Areas**

Leading by Example and  
Demonstration Projects  
Certification and License  
Programs for Turf and  
Lawn Care Service Providers  
Waste Pesticide Collection  
Internet Assistance/ Guidance  
Documents  
Grant & Loan Programs  
Tracking & Evaluation

In addition to education, public water suppliers can provide homeowners and commercial turf and lawn care service providers with technical assistance – and possibly financial assistance – that helps manage a potential contaminant source. Services go beyond education but do not involve regulation in the strictest sense of the word.

### **Leading by Example and Demonstration Projects:**

Public water suppliers can establish important relationships with city planners, parks & recreation staff, and public works offices to encourage their use of recommended management practices on publicly owned turf and landscaped areas. City personnel involved in such activities could be required to attend workshops and periodically review

educational materials on recommended management practices, and then implement the practices. A

highly visible school, athletic field, public park, cemetery or golf course could be posted with educational signage that explains a demonstration project incorporating BMPs, appropriate fertilizer rates and timing, assessment of phosphorus needs, demonstration project methods, and a contact for more information. Certain publicly owned lands could be phased into natural landscaping over a period of time so that change is gradual enough to be accepted. Newly developed public spaces could be designed by city landscapers or outside consultants with recommended management practices and natural landscapes in mind.

**Certification and License Programs for Turf and Lawn Care Service Providers:** The MDA certifies the competency of some persons who apply turf and lawn pesticides for hire, and has requirements for installation and maintenance of certain ag chemical storage infrastructure (including

Ag Chemical Facility Requirements (Including Containment, Licenses, Permits, Registrations and Installation/Maintenance Codes)	
	Ag-Lime Materials
	Anhydrous Ammonia
	Chemigation
	Dry & Liquid Fertilizer
	Specialty Fertilizers
	Soil & Plant Amendments
	Pesticides
Categories for Commercial & Non-Commercial Pesticide Applicator Licenses	
	General Ground
	General Aerial
	Agricultural Herbicide, Fungicide & Insecticide
	Turf & Ornamentals
	Aquatic (non-commercial)
	Forest Spraying
	Seed Treatment
	Rights-of-Way
	Agricultural Pest Control – Animal
	Mosquito Control
	Food Processing Pest Control
	Stored Grain Pest Control (non-commercial)
	Pocket Gopher
	Wood Preservative
	Sewer Root Control – Journeyman
	Sewer Root Control – Master
	Aquatic Pest Control (commercial) – Master & Journeyman
	Structural Pesticide Control – Master & Journeyman
	Structural Pesticide Control – Fumigator

bulk storage of fertilizers and pesticides), so that scientific, ethical and structural standards of excellence can be maintained in the area of supply services.<sup>2</sup> Persons who apply lawn care pesticides for hire are required to be licensed as a commercial applicator in Category A – General Ground, and Category E – Turf & Ornamentals Public water suppliers may want to team up with MDA staff to assist service providers (facilities and applicators) operating within or supplying services to the WHP area in obtaining the appropriate information for proper licensing and certification. Listed on this page are the more common facility and applicator requirements, permits, licenses and certifications established in Minnesota statute and rule. Guidance and training for facility requirements is available through the MDA. Training opportunities for pesticide applicators are

<sup>2</sup> Commercial-scale ag chemical use/storage and private, large-scale use/storage requires proper training and state licensure. Improper use of these chemicals can result in point and nonpoint source pollution problems that affect drinking water supplies. A separate publication in this series, Agricultural Chemical Facilities and Applicators: Management Ideas for Wellhead Protection Programs, addresses the educational, service and regulatory aspects of ag chemical handling, management, storage and disposal. Please see this publication for related educational, service and regulatory contacts.

frequently available and are located throughout the state. Study materials have been developed to assist applicators in obtaining all categories of licensure and are available from Extension at 612-625-2225. General information about applicator licensing is available from the MDA.

**Waste Pesticide Collection:** Many pesticides become unusable due to physical changes or loss of efficacy as a result of storage or age. Some pesticides are banned from use by federal or state government before they are completely used. Loss of pesticide labels or directions for use, or lack of future need, also result in unwanted or unsafe pesticide storage.

For any educational program or outreach efforts related to the promotion of waste pesticide collection services, there will need to be separate approaches depending on the target audience:

- ✓ For homeowners and individually owned, small residential facilities, public water suppliers should promote services provided by the Household Hazardous Waste Program coordinated by various counties (but not all counties) and the MPCA. For more information about the Household Hazardous Waste Program or about disposing of your household hazardous wastes, call the toll-free Household Hazardous Waste Helpline.

**Minnesota Pollution Control Agency  
Household Hazardous Waste Helpline:**

**800-657-3864 for Greater Minnesota  
651-297-8675 for the Twin Cities metro area**

- ✓ For entities that use larger amounts of pesticides (e.g., public works facilities, golf courses, multi-property rental companies, etc.) the MDA Agricultural Waste Pesticide Collection Program may be the more suitable service. For non-homeowner pesticide users, it is illegal to bury, burn or discard a pesticide or its container.

**Minnesota Department of Agriculture  
Waste Pesticide Collection Staff:**

**Stan Kaminski, 651-297-1062, [stan.kaminski@state.mn.us](mailto:stan.kaminski@state.mn.us)  
Sharon Emert, 651-297-4870, [sharon.emert@state.mn.us](mailto:sharon.emert@state.mn.us)  
Outstate, 1-800-657-3986 (7:30 a.m. - 4:30 p.m.)**

State sponsored waste pesticide collections provide a means to remove wastes and help pesticide users comply with the law.

**Internet Assistance/Guidance Documents:** Many educational and planning tools are readily available to public water suppliers and other interested parties through on-line computer connection to the Internet and the World Wide Web of information sources. State and federal organizations mentioned

in this document all maintain “home pages” that contain information maintained by the organization or that contain links to other home pages. Some organizations offer on-line technical assistance, permitting forms, and guidance documents related to turf, lawn and garden care. Staff from these organizations can assist WHP planning teams, homeowners and commercial turf and lawn care service providers with accessing such information. See *Appendix B* for a partial list of useful Internet addresses.

**Grant & Loan Programs:** Public water suppliers should work with county water planners, local SWCD staff, MES staff, and federal, state and local agriculture and natural resource agencies and organizations to develop grant or loan proposals that include addressing turf, lawn and garden sources of nonpoint source pollution in WHP area. The Minnesota Board of Soil and Water Resources (BWSR) is one of several offices that maintains grant and loan programs that are designed to assist local units of government in improving and protecting water resources, including resources used for drinking water supplies.

**Tracking & Evaluation:** Public water suppliers could undertake tracking and evaluation activities as part of a management strategy. Tracking and evaluation activities may require follow-up action if there is an indication of potential problems.

- Survey homeowners and commercial turf and lawn care service providers within or providing services to the WHP area to determine information needs. Based on the results of the survey, public water suppliers could target educational efforts.
- Identify new and existing suppliers: Through zoning, building permits and local knowledge, track new suppliers of turf, lawn and garden product suppliers (lawn & garden centers, home supply and home improvement stores, etc.). Target educational programs to these suppliers and enlist their cooperation in providing sound management and disposal information to clientele. These entities may be able to provide sales information that will assist in the design of educational programs, services or local ordinances.
- Soil or groundwater monitoring is also an option. Public water suppliers may choose to conduct periodic soil or groundwater sampling at or near facilities and on publicly owned areas of turf and landscape management. This will allow for the fine-tuning of management practices, and may alert the city of potential contamination before it reaches the water supply well.



## Regulation:

### Regulatory Options related to Agricultural Chemical Facilities and Applicators in WHP Areas

Prioritizing Assistance to and Compliance Checks of Service and Product Providers  
Licensing/Certification Requirements  
Adoption of New Zoning and/or Ordinances

A public water supplier may also want to coordinate with existing federal and state authorities to review and consider regulatory responses to turf, lawn and garden care service providers in a WHP area. Many federal and state regulations are designed to address environmental protection – including groundwater and surface waters used for drinking water. Public water suppliers may want to defer specific regulatory activities to state and federal authorities. Public water suppliers may want to focus their activities for homeowners and commercial turf and lawn care service providers on education and assistance with existing, state- and locally-provided services, rather

than on regulation. Regulatory activities may be more difficult to implement by public water suppliers because of cross-jurisdictions between local governmental units and federal and state regulatory agencies.

In addition, state law prohibits local units of government from developing policies for some turf and lawn care pesticides that are more restrictive than, in conflict with, or inconsistent with those set by the MDA. If local regulation is desired, options for regulatory activities are listed below. Public water suppliers should work closely with federal, state and local contacts listed in this document to ensure that existing regulatory tools – and any proposed initiatives – are coordinated with current interpretation of statute and rule.

#### **Prioritizing Assistance to and Compliance Checks of Service and Product Providers:**

Many turf, lawn and garden care educational programs and technical services provided by organizations listed in this document are designed to be non-regulatory. Furthermore, most programs are designed to be informational in scope, relying on voluntary compliance with federal and state laws. Public water suppliers should work closely with state authorities on regulatory efforts. Public water suppliers could explore the possibility of prioritizing WHP area homeowners and commercial turf and lawn care service providers for technical assistance and inspections by state programs.

**Licensing/Certification Requirements:** Although state law requires that some turf, lawn and garden care service providers obtain certain permits, licensure and certification (and these permits contain certain handling, use and disposal requirements), some public water suppliers may choose to require that new and existing businesses within the WHP area provide proof of proper licensure/certification before operating within WHP area boundaries or on public property within the WHP area.

Additionally, public water suppliers may want to require that their own parks and maintenance crews be properly licensed. For new businesses or individuals locating in or providing services in the WHP area, proof of licensure could be required at the time of issuing a building or business permit, occupancy permit, or other city license. For existing businesses or individuals, visits by city staff can include a

check on whether the business or individual has a license. In cases where no license or certificate is available, city staff can refer the business to the appropriate regulatory authority.

The MDA encourages homeowners to verify that their lawn care company is properly licensed with the state. Minnesota law requires any person applying pesticides for hire to be licensed as a commercial pesticide applicator, and lawn care applicators are required to take a minimum of two closed-book exams to become licensed. Additional requirements include payment of license fees, proof of financial responsibility, and continuing education. Applicators are required to have their license cards, and consumers should ask to see the card to verify the license.

**Adoption of New Zoning and/or Ordinances:** Public water suppliers may want to work with their zoning departments to amend subdivision regulations and other ordinances that govern the landscaping of development sites in order to accommodate and encourage natural landscaping, which uses little to no fertilizer or pesticide inputs. Natural landscaping goals and policies can be included in comprehensive plans, and local weed ordinances can be reviewed and amended to encourage natural landscaping. Because of ground water – surface water interactions and their potential impact on drinking water supplies in WHP areas, public water suppliers should explore the integration of wellhead protection programs with shoreland ordinances and the DNR’s Shoreland Management Program (derived from the Shoreland Management Act).

WHP programs may consider promoting the adoption of ordinances that prohibit the establishment of turf, lawns or gardens in certain areas within the WHP area in an effort to limit aquifer contamination potential. If a public water supplier is considering special zoning, they will need to work very closely with the planning and zoning commission of the local unit of government with jurisdiction over such matters, and with the MDA to be certain local zoning ordinances do not contain language that may be preempted under state law.

Anyone proposing local ordinances related to turf, lawn and garden care will need to consider *fertilizer* and *pesticide* issues separately due to specific restrictions on local implementation of state regulations for pesticide control.

**Fertilizers:** In general, local units of government have the necessary authority to pass ordinances addressing turf and lawn fertilizer application and/or requiring fertilizer application licensing. Several municipalities in Minnesota have adopted fertilizer ordinances; however, cities are not required to inform the MDA when they develop or adopt fertilizer ordinances. The U.S. Environmental Protection Agency (EPA) website ([www.epa.gov/owow/NPS/ordinance/](http://www.epa.gov/owow/NPS/ordinance/)) has examples of local ordinances developed to control a variety of nonpoint sources of contamination from turf and lawn care products, including model ordinances for the design and maintenance of golf courses.

**Pesticides:** Public water suppliers should refer to Minn. Rules, §§ 1505.4000 to 1505.4130, “Adopted Permanent Rules Relating to Local Implementation of State Pesticide Control Regulations”(the Rules) to understand the administrative procedures and requirements for local units of government to develop delegation agreements with the commissioner of the MDA. Only certain portions of the state pesticide control law are available for delegation to local units of government. The Rules outline those areas of the state pesticide control law available for delegation as:

- Identification of proper posting, according to product labeling;
- Identification of maintenance of proper safeguards, according to MDA requirements as provided in parts 1505.3010 to 1505.3150, to prevent incidents;
- Identification of proper backflow prevention devices when public water supplies are used in filling pesticide application equipment;
- Identification of proper anti-backsiphoning devices when public waters are used for filling pesticide application equipment;
- Identification of proper disposal of pesticide containers;
- Confirmation of the holding of valid state permits for chemigation;
- Identification of proper backflow prevention for chemigation systems;
- Confirmation of the holding of valid permitting for bulk storage of pesticides;
- Confirmation of the holding of valid state dealer licensing for wholesale or retail sale of restricted use or bulk pesticides; and
- Confirmation of the holding of valid licensing or certification for commercial application of pesticides or noncommercial or private application of restricted use pesticides

The Rules also contain specific staff requirements and their qualifications for implementation of a local control program. All areas of the pesticide control law related to product registration, issuance of licenses or permits, or collection of pesticide-related fees or surcharges are retained by the MDA. The Rules further state that: “Local units of government will not be allowed to ban the use or application of specific pesticide active ingredients or formulations. Ordinances by local units of government that prohibit or regulate any matter relating to the registration, labeling, distribution, sale, handling, use, application, or disposal of pesticides are preempted by Minnesota Statutes, section 18B.02.”

Contact the MDA to explore potential development of state pesticide control law delegation agreements.

**APPENDIX A**

**MINNESOTA DEPARTMENT OF AGRICULTURE  
WATER PROTECTION AND NUTRIENT MANAGEMENT STAFF  
AND CONTACT INFORMATION**

**Minnesota Department of Agriculture  
Water Protection and Nutrient Management Staff**

Contact these staff to coordinate –

- Educational, Service and Regulatory activities related to agriculture and Wellhead Protection
- Farm Survey services (Farm Nutrient Management Assessment Process – FANMAP)

**MDA Special Projects**

**Unit Supervisor**

Bruce Montgomery  
90 West Plato Blvd.  
St. Paul, MN 55107-2094  
651-297-7178

[bruce.montgomery@state.mn.us](mailto:bruce.montgomery@state.mn.us)

**State Nutrient and Pesticide  
Management Plan Implementation**

Joe Zachmann  
651-205-4788

[joseph.zachmann@state.mn.us](mailto:joseph.zachmann@state.mn.us)

**GIS Mapping and Nutrient  
Management Demonstration Plots**

Don Sirucek  
800-930-0518 (cellular)  
218-894-0086 (office)

[don.sirucek@state.mn.us](mailto:don.sirucek@state.mn.us)

**Manure Management, Soil and  
Manure Nutrient Testing**

Jerry Floren  
651-297-7082

[jerry.floren@state.mn.us](mailto:jerry.floren@state.mn.us)

**Farm Survey Services (FANMAP)**

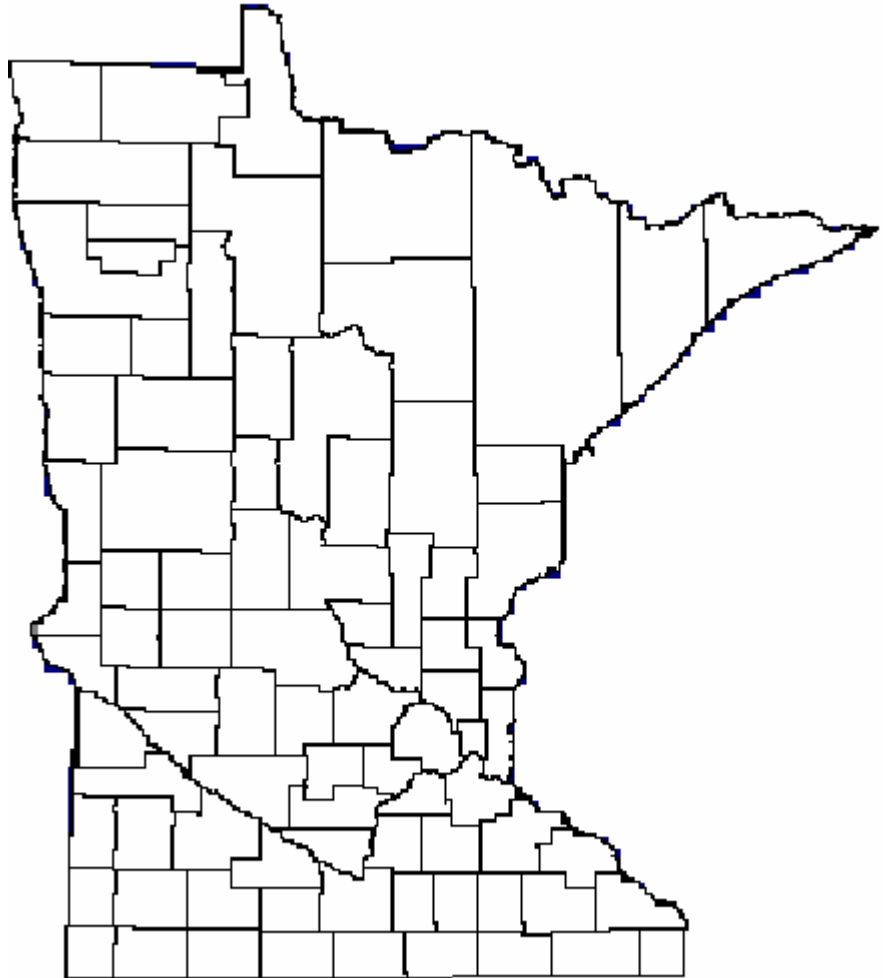
Denton Bruening  
651-297-4400

[denton.bruening@state.mn.us](mailto:denton.bruening@state.mn.us)

**Urban Nutrients and Pesticides (Turf, Lawn and Garden Care)**

Jerry Spetzman  
651-297-7269

[jerome.spetzman@state.mn.us](mailto:jerome.spetzman@state.mn.us)



***Regional responsibilities are not rigidly defined. Phone numbers and e-mail addresses are subject to change. If you have trouble reaching the above-listed staff, please call the Minnesota Department of Agriculture at 651-215-9097***

**APPENDIX B**

**A PARTIAL LIST OF  
INTERNET ADDRESSES  
FOR ORGANIZATIONS PROVIDING EDUCATIONAL, SERVICE AND  
REGULATORY INFORMATION ON  
TURF, LAWN AND GARDEN CARE  
AND  
RELATED INFORMATION**

<b>Federal, state and local government, educational and research contacts</b>	<b>Internet Address</b>	<b>Topics</b>
Minnesota Department of Agriculture	<a href="http://www.mda.state.mn.us/">www.mda.state.mn.us/</a>	Information on BMPs; BMP Loan Program; FANMAP services; water testing clinics; permitting and regulatory assistance related to fertilizer and pesticide applicators; Energy and Sustainable Agriculture Program; development of local ordinances.
University of Minnesota Extension Service	<a href="http://www.extension.umn.edu/">www.extension.umn.edu/</a>	BMPs and fertilizer recommendations for specific crops, lawns, turf; Extension Education services
University of Minnesota Outreach and Research	<a href="http://www.maes.umn.edu/index.html">www.maes.umn.edu/index.html</a>	BMPs and fertilizer recommendations; current research results, field days, educational opportunities
Minnesota Board of Soil and Water Resources	<a href="http://www.bwsr.state.mn.us/">www.bwsr.state.mn.us/</a>	Provides technical, financial and administrative assistance
Minnesota Soil and Water Conservation Districts	<a href="http://www.mn.nrcs.usda.gov/partners/maswcd/maswcd.html">www.mn.nrcs.usda.gov/partners/maswcd/maswcd.html</a>	Contacts for local programs, outreach and technical and financial assistance
U.S. Department of Agriculture	<a href="http://www.usda.gov">www.usda.gov</a>	National programs, outreach and technical and financial assistance
Natural Resource Conservation Service	<a href="http://www.nrcs.usda.gov/">www.nrcs.usda.gov/</a>	National and local programs, outreach and technical and financial assistance; Nutrient Management Planning services and software
Farm Service Agency	<a href="http://www.fsa.usda.gov/pas/default.asp">www.fsa.usda.gov/pas/default.asp</a>	National and local programs, outreach and technical and financial assistance
Department of Natural Resources	<a href="http://www.dnr.state.mn.us">www.dnr.state.mn.us</a>	Water appropriation permits for irrigation, surface and groundwater
Minnesota Pollution Control Agency	<a href="http://www.pca.state.mn.us">www.pca.state.mn.us</a>	Feedlot permitting requirements and regulatory assistance
Minnesota Department of Health	<a href="http://www.health.state.mn.us/">www.health.state.mn.us/</a>	Wellhead and Source Water Protection state and federal program rules and educational tools
U.S. Environmental Protection Agency	<a href="http://www.epa.gov">www.epa.gov</a>	General environmental legislation, regulations, rules; technical and regulatory assistance
<b>Nonprofit educational and research organizations</b>	<b>Internet Address</b>	<b>Topics</b>
Minnesota Rural Water Association	<a href="http://www.mrwa.com">www.mrwa.com</a>	On-site technical assistance, training and outreach assistance
Minnesota Lakes Association	<a href="http://www.mnlakesassn.org">www.mnlakesassn.org</a>	Educational and outreach assistance
Minnesota Nursery & Landscape Association	<a href="http://www.mnlandscape.org">www.mnlandscape.org</a>	Continuing education, monitoring of governmental affairs, improving and maintaining the environment.
Minnesota Turf & Grounds Foundation	contact Larry Vetter: <a href="mailto:vette008@tc.umn.edu">vette008@tc.umn.edu</a>	Continuing education related to environmentally responsible turf and grounds maintenance
Watershed Partners	<a href="http://cgee.hamline.edu/watershed/index.htm">http://cgee.hamline.edu/watershed/index.htm</a>	Collaborative education and outreach for watershed concerns
The Land Stewardship Project	<a href="http://www.landstewardshipproject.org">www.landstewardshipproject.org</a>	Promotion of sustainable farming practices that protect land and water
Various other non-profit organizations	Use Internet search engine to find information on specific topics	