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Docket No. 96-142

STATE OF WISCONSIN
DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION

NOTICE OF SUBMISSION OF PROPOSED RULES TO PRESIDING OFFICERS OF EACH HOUSE OF THE LEGISLATURE

NOTICE IS HEREBY GIVEN, pursuant to s. 227.19(2), Stats., that the State of Wisconsin Department of Agriculture, Trade and Consumer Protection is submitting a final draft of proposed Clearinghouse Rule Number 96-142 to the presiding officer of each house of the legislature for standing committee review. The proposed rule repeals portions of chapter ATCP 30 Appendix A; and creates portions of chapter ATCP 30 Appendix A relating to atrazine use restrictions.

Dated this 21st day of December, 1996.

STATE OF WISCONSIN
DEPARTMENT OF AGRICULTURE, TRADE
AND CONSUMER PROTECTION

By _____
Alan T. Tracy, Secretary

State of Wisconsin
Tommy G. Thompson, Governor

Department of Agriculture, Trade and Consumer Protection
Alan T. Tracy, Secretary

2811 Agriculture Drive
Madison, Wisconsin 53704-6777

PO Box 8911
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Date: December 23, 1996

To: The Honorable Fred Risser
President, Wisconsin State Senate
Rm. 206S, State Capitol
Madison, WI 53702

The Honorable David Prosser
Speaker, Wisconsin State Assembly
Rm. 211W, State Capitol
Madison, WI 53702

From: Alan T. Tracy, Secretary
Department of Agriculture, Trade and Consumer Protection

Re: Proposed Amendments to ch. ATCP 30, Wis. Adm. Code,
relating to atrazine statewide use-rates and atrazine prohibition areas.
Clearinghouse Rule No. 96-142

In accordance with ss. 227.19 (2) and (3), Stats., The Department of Agriculture, Trade and Consumer Protection (DATCP) hereby transmits the above rule for legislative committee review. We are enclosing three copies of the final draft rule, together with the following report. Pursuant to s. 227.19 (2) Stats., a notice of this referral will be submitted to the Revisor of Statutes for publication in the administrative register.

1. SUMMARY; EXPLANATION OF NEED FOR RULE.

In order to protect Wisconsin groundwater, current rules, under ch. ATCP 30, Wis. Adm. Code, restrict the use of atrazine pesticides on a statewide basis. Current rules also prohibit the use of atrazine in areas where groundwater contamination has been found, in one or more wells, at levels at or above state enforcement standards. Based on new groundwater data, this rule prohibits atrazine use on an additional 18,000 acres of land statewide by adding 6 new prohibition areas and expanding 2 others.

DATCP hopes to have these rules in effect prior to the 1996 growing season. In order to have the rules in effect by April 1, 1997, DATCP must submit final draft rules to the Secretary of State and Revisor of Statutes by February 12, 1996 (earlier if possible). If the legislative review committees extend their review beyond that date, the department will consider whether to adopt emergency rules for the 1997 growing season.

Groundwater Law

Under the Wisconsin groundwater law, ch. 160, Stats., the Department of Natural Resources (DNR) adopts numerical standards for contaminants in groundwater. For each contaminant substance, DNR adopts an enforcement standard ("red light") and a lower preventive action limit ("yellow light"). Current standards are contained in ch. NR 140, Wis. Adm. Code. The current enforcement standard for atrazine and its metabolites is 3.0 parts per billion (ppb), and the current preventive action limit is 0.3 ppb.

DATCP is required to take regulatory action to limit pesticide contamination of groundwater. If pesticide contamination exceeds the enforcement standard ("red light") at any location, DATCP must ordinarily prohibit applications of that pesticide at that location. If contamination does not exceed the enforcement standard, DATCP may not ordinarily prohibit pesticide applications unless DATCP finds that lesser actions will be ineffective in controlling groundwater contamination. However, DATCP must take other regulatory steps which are designed, to the extent technically and economically feasible, to minimize pesticide contamination of groundwater and maintain compliance with the preventive action limit ("yellow light"). This rule is designed to carry out the department's obligations under the groundwater law.

Atrazine Use Rates

DATCP first adopted statewide atrazine rules in 1991, and has updated those rules annually. The current rules limit the amount of atrazine that may be applied to agricultural fields to a maximum of 0.75 to 1.5 lbs. per acre per year, depending on soil type and frequency of atrazine use. (This compares to a maximum of 2.5 lbs. per acre allowed under the new federally approved atrazine label). Persons applying atrazine every year may apply no more than 1.0 lbs. per acre per year (0.75 lbs. on coarse soils). Under current rules, an additional 0.5 lbs. per acre is allowed on medium/fine soils where no atrazine was used the previous year. This rule does not change the enforcement statewide application rate for atrazine.

Atrazine Prohibition Areas

Ch. ATCP 30 currently directs the department to prohibit atrazine use on a localized basis, where appropriate under the groundwater law. Atrazine prohibition areas are established where atrazine contamination equals or exceeds the current standard. Current rules prohibit atrazine use in 91 designated areas. These include several large prohibition areas, such as those encompassing the lower Wisconsin River valley and much of Dane and Columbia Counties.

Based on new groundwater data, this rule establishes 6 new prohibition areas throughout the state, and enlarges two others. This will prohibit the use of atrazine on an additional 18,000 acres statewide. The rule also repeals an existing prohibition area in Marathon County. Investigation showed that the atrazine test that caused this prohibition area was not reliable. The rule includes maps describing each of the prohibition areas.

Within every prohibition area, atrazine applications are prohibited. Atrazine mixing and loading operations are also prohibited unless conducted over a spill containment surface which complies with ss. ATCP 29.151(2) to (4), Wis. Adm. Code.

Annual Report

Under current rules, the department must report annually to the Board of Agriculture, Trade and Consumer Protection. In its report, the department must indicate the results of statewide groundwater testing for atrazine, including all results exceeding the enforcement standard or preventive action limit. The report must also discuss the results of the department's investigations related to atrazine in groundwater, significant trends or developments related to atrazine in groundwater, and other information which the department considers relevant to the regulation of atrazine.

Based on groundwater test results and other relevant information, the department must annually evaluate its restrictions on the use of atrazine. As part of its annual report to the board, the department must recommend further restrictions on atrazine use which the department considers necessary. This may include recommendations for statewide restrictions or prohibitions, atrazine management areas or atrazine prohibition areas.

If, as part of its annual report, the department recommends further restrictions on the use of atrazine, the department must offer draft rules to implement its recommendations. If the board declines to adopt final draft rules, or approves final draft rules that differ from the department's hearing draft rules, the department must identify each modification as part of the department's report to the legislature under s. 227.19, Stats. Except in an emergency, the department must transmit its final draft rules to the legislature by January 1 of each year.

2. RELATED BACKGROUND

This proposed atrazine rule is one in a series of steps taken by DATCP to address atrazine contamination of groundwater. Other steps include the following:

Surveys of Pesticide Use

In 1985, DATCP conducted a statewide pesticide use survey. The survey indicated that atrazine was the most widely used pesticide in Wisconsin. In the spring of 1990, the department also conducted an in-depth pesticide use survey in the lower Wisconsin River valley to determine atrazine management practices. In 1990, the department conducted a statewide pesticide use survey that was designed to follow up on the 1985 survey. The 1990 survey showed that the use of several pesticides, including atrazine, had declined substantially since 1985. A pesticide use survey conducted in 1996 shows a further decline in the use of atrazine and the emergence of several new herbicides.

Groundwater Monitoring and Surveys

Starting in 1986, DATCP established 50 groundwater monitoring sites throughout Wisconsin. Thirty-five of these sites were used to monitor potential atrazine contamination. Monitoring wells were located in sensitive areas where pesticide contamination was most likely to occur. Monitoring was designed to determine whether atrazine contaminants would reach groundwater as a result of normal use practices (as opposed to spills or illegal practices). This study showed that, in sandy irrigated areas and at historical atrazine use rates, there was substantial risk that atrazine would leach to groundwater at levels exceeding state enforcement standards. In 1995 and 1996, the department found atrazine at levels exceeding the enforcement standard in wells used to monitor the effects of the herbicide acetochlor. These results indicate that atrazine can exceed the enforcement standard under the reduced rates of the current rule.

In 1988, DATCP conducted a statewide dairy well survey. This was the first statewide statistically designed groundwater study in Wisconsin. The primary pesticide detected was atrazine. Based on the dairy well survey, the department estimated that 9 to 15% of wells on Wisconsin dairy farms were contaminated with atrazine. An estimated 5 to 9% of dairy farm wells contained atrazine at levels exceeding the preventive action limit.

Based on the results of the dairy well survey, DATCP launched a rural well testing program, under which rural farm and non-farm well owners could have their wells tested at nominal cost. Under this program, DATCP tested over 2,100 wells throughout the state. Although this program was not designed as a random statistical survey, the results were consistent with the random statistical survey of dairy wells. This program was subsequently expanded by the State Laboratory of Hygiene.

To date, DATCP and the Lab of Hygiene have analyzed groundwater samples for atrazine from 17,300 wells. In the last year, 1,658 test samples, drawn from 1,529 wells, were analyzed. Forty-three percent of these wells (714 wells) had detectable amounts of atrazine, 25.5 percent (423 wells) were above the preventive action limit, and 3 percent (50 wells) exceeded the enforcement standard. The department developed this rule in response to these new exceedences of the groundwater standard for atrazine. Increased sampling in areas of known contamination may account for the increase in detection frequency of these samples over previous surveys which were more random in nature.

Effectiveness of the rule

The department completed the second phase of a geographically random survey of 429 wells across the state to help evaluate the atrazine rule. The survey compared the levels of atrazine in Wisconsin groundwater in 1994 and 1996. Preliminary results show that the concentration of atrazine in wells with detectable amounts of atrazine declined significantly, from 1.17 parts per billion in 1994 to 0.66 parts per billion in 1996. The rule limitations on atrazine use appear to be at least partially responsible for the demonstrated improvement in groundwater quality.

The department conducted a study to measure changes in pesticide concentrations in wells that had previously exceeded an enforcement standard. Well owners with previous exceedences were interviewed to determine what changes, if any, they had made to their water supplies in response to the exceedence. About 50% of the well owners continue to use the wells as is and about 25% have installed new wells at an average cost of $6,500. The remainder drink bottled water, haul water, or use water treatment. Sampling results show that 84% of the wells have gone down in concentration and 16% have gone up. 43% of the wells are still above the enforcement standard and 57% are now below the standard. Prohibitions of use appear to effectively reduce contamination levels in these wells.

Education for Pesticide Users

In order to improve pesticide management practices on Wisconsin farms, DATCP coordinated the development of a "Nutrient and Pesticide Best Management Practices" technical bulletin in July 1989. This widely used bulletin has helped establish sound management practices for atrazine and other agricultural pesticides.

Because of the huge number of farmers using atrazine, voluntary compliance is critical to the success of any groundwater management program. Evidence suggests that Wisconsin farmers have already cut back substantially on their use of atrazine. One study, by University of Wisconsin Professor Peter Nowak, indicates that farmers have scaled back atrazine use in direct response to DATCP rules and that compliance with the rules is very

high. Sound information and education, coordinated with UW-Extension and county soil and water conservation offices, will help continue the trend toward more judicious pesticide use.

Mixing and Loading Sites and Other "Point-Sources"

The highest levels of pesticide contamination in groundwater are often associated with spillage and soil contamination at pesticide mixing and loading sites. In order to prevent such contamination of groundwater, DATCP adopted s. ATCP 29.151, Wis. Adm. Code, relating to pesticide mixing-loading operations. These rules currently require spill containment pads and other safeguards to prevent groundwater contamination. DATCP has also adopted major rules related to other potential "point-sources" of contamination, including pesticide bulk storage facilities (ch. ATCP 33) and chemigation units (s. ATCP 29.152).

Under the agricultural chemical cleanup program, ch. ATCP 35, the department may direct responsible persons to clean up soil and groundwater contaminated with pesticides (e.g., at pesticide mixing-loading sites). The program also appropriates funds to reimburse responsible persons for a portion of eligible cleanup costs. This program will help to eliminate "point-sources" of pesticide contamination in groundwater, and to remedy existing contamination before it gets worse.

Future Groundwater Surveys; Rule review

The current atrazine rules require DATCP to conduct two statistically designed surveys of groundwater as a component of efforts to evaluate the atrazine rule and to monitor contamination trends. The first survey was completed in 1994 and the second survey was completed in 1996. Current rules also require the department to review the efficacy of the rules on an annual basis and to perform a comprehensive review after the second evaluation survey is completed.

It should be noted that, even if atrazine use were banned statewide, some level of contamination would continue in the groundwater as a result of past use. Thus, groundwater surveys will not definitively prove the success or failure of the atrazine rule, at least in the short run. Nor will they distinguish contamination resulting from new versus prior applications of atrazine. However, when combined with controlled scientific research and monitoring studies, groundwater surveys will provide important information about groundwater contamination and the state's response to it.

4. RULE MODIFICATIONS AFTER PUBLIC HEARING

On August 1, 1996 the DATCP Board authorized public hearings on this rule. Four hearings were held in September and October 1996, in Black River Falls, Stevens Point, Brillion and Janesville.

The DATCP Board approved a final draft rule on December 10, 1996. The final draft rule includes the following modifications from the hearing draft:

- The final draft creates 6 new prohibition areas but excludes two proposed prohibition areas. The proposed prohibition area in the Town of Drammen in Eau Claire County and the proposed prohibition area in the Town of Johnstown in Rock County are excluded because official tests could not confirm exceedences of atrazine standards in groundwater.

- The final draft repeals the prohibition area in the Towns of Ringle and Norrie in Marathon County.

- The final draft changes the Jackson County prohibition area to use Douglas Creek as a boundary because the department feels that Douglas Creek is a significant groundwater discharge point.

5. HEARING TESTIMONY

Public hearings were held from September 30 to October 3, 1996 in Janesville, Black River Falls, Stevens Point, and Brillion. Written comments were also accepted for inclusion in the hearing record. **APPENDIX A** contains a summary of hearing testimony along with a list of persons attending, testifying or submitting written comments for the hearing record.

6. RESPONSE TO RULES CLEARINGHOUSE COMMENTS

The Legislative Council Rules Clearinghouse made three comments on the hearing draft rule. First, a grammatical error was discovered on one of the proposed atrazine prohibition area maps. This was corrected in the final draft rule. Second, the Clearinghouse suggested developing a simpler numbering system for atrazine prohibition areas. The department is considering alternative systems. Third, the Clearinghouse suggested including previously adopted atrazine prohibition area maps in the hearing draft of the rule amendment. The department felt that including only those atrazine prohibition areas that were new or modified was consistent with the rule amendment language.

7. FISCAL ESTIMATE:

A fiscal estimate on the proposed rule is attached as **APPENDIX B.**

8. REGULATORY FLEXIBILITY ANALYSIS:

No comments were received during the public comment period on the draft regulatory flexibility analysis. A copy of the final analysis is attached to this rule report as **APPENDIX C.**

9. ENVIRONMENTAL IMPACT STATEMENT:

In accordance with s. 1.11, Stats. and ch. ATCP 3, Wis. Adm. Code, DATCP prepared an environmental impact statement (EIS) on the proposed atrazine rule see **APPENDIX D**. The EIS contains a description and discussion of the proposed rule; background information on atrazine, including sections on the chemistry, toxicology, and use of atrazine and summaries of the findings of atrazine in groundwater; a discussion of the environment and persons affected by the proposed rule; and the significant economic and social effects of the proposed action. The EIS also discusses and compares possible alternative actions.

The EIS finds that promulgation of the proposed rule will have no significant adverse environmental impacts. Alternative herbicides, because of differences in mobility and persistence, generally have less potential to contaminate groundwater as compared to atrazine. The major effect the proposed rule is expected to have on the environment is a decrease in groundwater contamination by atrazine across the state and within the PAs. This reduction in groundwater contamination will benefit both the natural and human environments.

Several alternative regulatory strategies have been considered by DATCP staff. These include taking no action, regulating use on a site specific basis in the recharge areas around contaminated wells, gradually phasing-out atrazine use in Wisconsin, and allowing only the most economically important uses of atrazine. The phase-out and economic use options may provide greater protection of groundwater than the proposed rule but may also lead to greater economic hardship for farmers who desire to continue using atrazine.

Comments on the draft EIS were solicited during the public comment period and at the hearings. Changes to the draft EIS were made based on hearing comments and changes reflected in the final draft rule. A copy of the final EIS is enclosed with this report.

APPENDIX A

SUMMARY OF ORAL TESTIMONY
PROPOSED AMENDMENTS TO ATCP 30 FOR 1997

INTRODUCTION

The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) held public hearings in Janesville, Black River Falls, Stevens Point and Brillion to record oral testimony on proposed changes to ATCP 30 for 1997. A state map showing all of the data that DATCP has available about atrazine concentrations in private water supply wells was displayed at each hearing. DATCP also displayed maps of each proposed atrazine prohibition area, including proposed boundaries and all available private well sample results for the affected and surrounding areas. A number of DATCP groundwater reports, general reference materials, and other information was also available.

A total of 51 people attended the public hearings, of which 20 provided oral testimony and filled out an accompanying appearance/opinion card. The other 31 attendees completed cards to register their opinion of the proposed changes to ATCP 30. Most people registering "neither" or "other" attended the hearings for informational purposes or worked for the media. The hearing attendence totals are presented in Table 1. The primary issues of concern presented during oral testimony at each hearing are also summarized below.

TABLE 1. PUBLIC HEARING ATTENDENCE ON 1997 REVISIONS TO ATCP 30.

	JANESVILLE 9/30/96		BLACK RIVER FALLS 10/1/96		STEVENS POINT 10/2/96		BRILLION 10/3/96		ALL HEARINGS 1996	
POSITION	SPOKE +CARD	CARD ONLY	SPOKE +CARD	CARD ONLY	SPOKE +CARD	CARD ONLY	SPOKE +CARD	CARD ONLY	SPOKE +CARD	CARD ONLY
Support	0	1	0	0	8	2	1	1	9	4
Oppose	0	0	7	0	0	0	3	0	10	0
Neither	1	2	0	0	0	4	0	5	1	11
Other	0	2	0	5	0	4	0	5	0	16
Subtotal	1	5	7	5	8	10	4	11	20	31
	1 Support 0 Oppose 5 Neither/Other 6 Total Attendees		0 Support 7 Oppose 5 Neither/Other 12 Total Attendees		10 Support 0 Oppose 8 Neither/Other 18 Total Attendees		2 Support 3 Oppose 10 Neither/Other 15 Total Attendees		13 Support 10 Oppose 28 Neither/Other 51 Total Attendees	

SUMMARY OF ORAL TESTIMONY

JANESVILLE: One speaker provided oral testimony in Janesville.

SPEAKER #	AFFILIATION	POSITION	EXHIBITS
1	Agri-business representative	neither	Written copy of oral testimony

SPEAKER #	ISSUES/CONCERNS ABOUT PROPOSED CHANGES TO ATCP 30 FOR 1997
1	Questions the validity of Wisconsin's atrazine enforcement standard (ES), especially the toxicological data on which the ES was recommended and the inclusion of chlorinated metabolites in the ES. Noted that Minnesota and other states have an ES of 20 ppb based on new test data currently being reviewed by the U.S. Environmental Protection Agency (US EPA). Wants a review of the atrazine standard setting process and the entire Atrazine Rule. Feels pending legislation related to the Grant County case is a test case for the entire atrazine enforcement process. Concerned that just one well sample result can be used to establish an atrazine prohibition area (PA), and that prohibiting atrazine use on the 2,400 acres surrounding the contaminated well is questionable when no other wells in the area have detections close to the ES. Wants DATCP to develop a PA rescission procedure. Wisconsin farmers are at an economic disadvantage for the reasons summarized above.

BLACK RIVER FALLS: Seven speakers provided oral testimony in Black River Falls.

SPEAKER #	AFFILIATION	POSITION	EXHIBITS
1	Farmer in proposed Jackson County PA	opposed	None
2	Farmer in proposed Jackson County PA	opposed	None
3	Farmer in proposed Jackson County PA	opposed	None
4	Farmer in proposed Jackson County PA	opposed	None
5	Agri-chemical representative	opposed	None
6	Farmer in proposed Sauk County PA	opposed	None
7	Farmer in existing Jackson County PA	opposed	None

SPEAKER #	ISSUES/CONCERNS ABOUT PROPOSED CHANGES TO ATCP 30 FOR 1997
1,2,3,4,5	Soils in the southwest part of the proposed Jackson County PA (southwest of Douglas Creek) are dominated by silt loams and clay silt loams, while soils northeast of Douglas Creek are "sandier." A ridge that runs northwest-southeast along Douglas Creek separates these different soil types. Therefore, the proposed Jackson County PA boundary should be modified, using Douglas Creek as the southern/western boundary.
1,2,4,5,6	Atrazine is an effective and affordable tool for weed control, especially when used in combination with other herbicides. The farmers who testified mentioned Marksman and Banvel as their most commonly used herbicides.
1,2,3,4,6	The proposed PAs in Jackson County and Sauk County split individual fields and/or farms, making weed control more complicated and/or expensive.
2,3,5,6,7	Question if the contaminated well is representative of other wells and groundwater quality in the proposed Jackson County PA. Interested in results from nearby wells.
1,2,4,6	Question if current use is contributing to the contamination in the affected well, since lower atrazine use rates have been adopted by them and other farmers in the area.
1,3	Question if flooding of Douglas Creek could have contributed to atrazine contamination in the affected well.
5,7	Wants a review of the atrazine standard setting process and the entire Atrazine Rule. Feels pending legislation related to the Grant County case is a test case for the entire atrazine enforcement process. Concerned that just one well sample result can be used to establish an atrazine prohibition area (PA), and that prohibiting atrazine use on the 2,400 acres surrounding the contaminated well is questionable when no other wells in the area have detections close to the ES. Wants DATCP to develop a PA rescission procedure.
2	Questions why land "down gradient" would be in the proposed Jackson County PA, since it does not affect the contaminated well.
7	Questions the validity of Wisconsin's atrazine enforcement standard (ES), especially the toxicological data on which the ES was recommended and the inclusion of chlorinated metabolites in the ES.

BLACK RIVER FALLS (continued):

SPEAKER #	ISSUES/CONCERNS ABOUT PROPOSED CHANGES TO ATCP 30 FOR 1997
7	Stated that growers pay $10 more per acre without atrazine. Believes land values in existing Jackson County PAs have also decreased. As a result, town boards are having to address new land taxation issues related to PAs, because people are paying less to take the risk of living in a PA.
7	DATCP should provide landowners and farmers in existing and proposed PAs with better information about the Atrazine Rule and its impacts on them. Public hearings should be held on winter evenings so more farmers can attend. DATCP should provide better disclosure of the implications of submitting a well sample.

STEVENS POINT: Eight speakers provided oral testimony in Stevens Point.

SPEAKER #	AFFILIATION	POSITION	EXHIBITS
1	Environmental activist	support	None
2	Real estate agent	support	None
3	Non-farmer in existing Portage County PA	support	None
4	Groundwater specialist - UW Stevens Point	support	None
5	Organic farmer in Portage County	support	None
6	Non-farmer just outside of proposed Portage County PA	support	None
7	Non-farmer in existing Portage County PA	support	None
8	Landowner (rents out farmland) in Portage County	support	US EPA and American Cancer Society reports; photographs of aerial spraying

SPEAKER #	ISSUES/CONCERNS ABOUT PROPOSED CHANGES TO ATCP 30 FOR 1997
1,2,3,4,5,6,7,8	Concerned about high nitrate in their wells and/or many other wells in Portage County.
1,5,6	Atrazine should be banned statewide and/or nationally.
5,6,7	Citizens have a communal right to clean groundwater. Feels that politics, rather than science, is driving DATCP's Atrazine Rule process - the pending Grant County legislation is an example of this.
2,7	DATCP's Atrazine Rule and management strategy should focus more on prevention of groundwater contamination, rather than on reaction to atrazine detections in wells.
1,7	DATCP and the UW should spend more time and money developing and promoting alternative/sustainable agricultural practices.
1,7	Opposes development and implementation of an atrazine PA rescission process. Believes rescission is being driven by political forces rather than good science.
4,7	DATCP should stop delineating PAs and regulate atrazine based on soil, hydrogeologic, and other environmental conditions.
1,8	Concerns that rural non-farmers are not well informed of their rights related to drifting of pesticides from nearby fields, the effects of irrigation on groundwater quality, etc.
1	Feels DATCP and the University of Wisconsin (UW) help farmers to continue to use pesticides, they do not help the victims of groundwater contamination. Concerns about high rates of "negative health effects" such as cancers in the Central Sands area. Pesticide regulation should be removed from DATCP and put into the Department of Natural Resources and the Department of Health and Family Services. Wisconsin should not raise the atrazine ES to 20 ppb.

STEVENS POINT (continued):

SPEAKER #	ISSUES/CONCERNS ABOUT PROPOSED CHANGES TO ATCP 30 FOR 1997
2	Concerned that it is becoming more difficult to sell property near irrigated fields or with contaminated wells. Consumers are becoming more aware of environmental concerns. Wants intense groundwater sampling in the Towns of Scandinavia, Farmington, and Dayton.
3	Concerned about relationships between atrazine contamination and lower property values - had difficulty selling some property due to groundwater concerns. Spends approximately $300/year for bottled water because his well is contaminated with atrazine and nitrate over the ES.
4	DATCP regulates atrazine differently that other state agencies regulate other groundwater contaminants. Specifically, DATCP does not regulate pesticide contamination to property boundaries and has a different definition of a "point of standards application" - both of which may violate the "Groundwater Law". DATCP uses the ES to justify a maximum level of groundwater contamination, rather than using the ES as a concentration to avoid. DATCP should conduct more monitoring, especially in areas where soils and/or hydrogeologic characteristics are more susceptible to groundwater contamination.
5	Cannot, in good conscience, ask to be certified as organic because his farm is surrounded by pivot irrigation, chemigation, and fields on which pesticides are aerially sprayed. His well contains atrazine and nitrate. Feels he is being put out of business by his neighbors' pesticide use.
7	Concerns about potential atrazine and nitrate contamination of municipal wells in the Central Sands area.
8	Concerned about the Olsen Mills agricultural facility.

BRILLION: Four speakers presented oral testimony in Brillion.

SPEAKER #	AFFILIATION	POSITION	EXHIBITS
1	Farmer in Manitowoc County	support	Magazine article about Roundup
2	Agri-business (Co-op) representative	oppose	None
3	Farmer / Agri-business (Co-op) representative in proposed Manitowoc County PA	oppose	None
4	Agri-business (Co-op) representative	oppose	None

SPEAKER #	ISSUES/CONCERNS ABOUT PROPOSED CHANGES TO ATCP 30 FOR 1997
2,3,4	Atrazine is not used much in the area (speaker #4 stated that use has declined 95% in the last 5 years). However, atrazine is still an effective and affordable tool for weed control, especially when used in combination with other herbicides. Need to keep as many tools available as possible. Atrazine is often used in combination with Accent, Banvel and Buctril in the area. Speakers #2 and #4 also gave examples of how costs increase from $12-$23 per acre when atrazine is not used.
1	DATCP needs to devote resources to finding alternatives, especially non-chemical, to pesticide use. He farms 700 acres for 600 head of cattle and 80 buffalos all in grass maintained through rotational grazing. Consumers are becoming more concerned about pesticides in their food. Feels that "agribusiness" is responsible for the loss of family farms.
2	Wants DATCP to develop a PA rescission procedure.
3	Lives across from the contaminated well. Stated that contamination in the affected well is due to point source - specifically improper use of atrazine for residential use around buildings, the well, and fence posts from the mid-1970s to the early 1980s. Shrubs and trees died in the area where atrazine was applied. He was told by the well owner that she had purchased atrazine for this purpose from a "regional" co-op. He said he warned the well owner about possible groundwater contamination concerns from using atrazine. Wants further investigation.

State of Wisconsin
Tommy G. Thompson, Governor

Department of Agriculture, Trade and Consumer Protection
Alan T. Tracy, Secretary

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1996 Written Testimony on Proposed Amendments to ATCP 30

October 1996

Eight people submitted written testimony on the proposed amendments to Chapter ATCP 30, Wis. Admin. Code. The written record was open until October 11, 1996.

Portage County

Four people from Portage County submitted written testimony. The atrazine PAs proposed by Portage County consist of three new PAs and one expanded PA.

All four people indicated that they are in favor of the atrazine PAs proposed for Portage County for 1996. These people have the general opinion that if atrazine use poses a health risk through groundwater contamination, its use should be banned. They also feel that there are less risky weed-control methods available to farmers.

Rock County

One couple submitted testimony on the proposed atrazine PA in the Towns of Plymouth and Spring Valley, Rock County. They think the atrazine rule is extreme and that 3 ppb is an unrealistic standard. They think atrazine is a very effective herbicide and that atrazine use should be reinstated if the levels in a PA go down.

Jackson County

One couple provided written testimony in opposition to the proposed 4-square mile PA in Jackson County. These are the owners of the well that led to the proposed PA. They feel 3 ppb atrazine is not a health threat, that a point source may be involved, and that the PA would cause more use of other herbicides. They would like to see more research on the effects of low levels of atrazine in drinking water.

General

Two organizations submitted general testimony that was not related to a particular PA. One group supports the proposed PAs and would like to see a total ban on atrazine. They are concerned that many people in Wisconsin can not afford to do the testing to find out if they have atrazine and metabolites in their well. They feel atrazine should be banned at the Preventive Action Level (PAL) so the levels never reach the Enforcement Standard. Lastly, they feel that there are alternatives to atrazine that do not cause long-term damage to the environment.

The other organization did not specifically agree or disagree with the proposed PAs. Rather, they state that atrazine is effective, economical weed control product. They feel that where atrazine is eliminated, weed control costs will increase and yields will decrease. They support extensive and careful testing prior to establishing a PA. They do not feel that one test is adequate to establish a PA. They would like to see DATCP develop a system to rescind PAs when appropriate.

APPENDIX B

1995 Session

FISCAL ESTIMATE
DOA-2048 (R 10/92)

☒ ORIGINAL ☐ UPDATED
☐ CORRECTED ☐ SUPPLEMENTAL

LRB or Bill No./Adm. Rule No.
Proposed Amendment ATCP 30

Amendment No. if Applicable

Subject
Creation of Additional Atrazine Prohibition Areas

Fiscal Effect

State: ☐ No State Fiscal Effect

Check columns below only if bill makes a direct appropriation or affects a sum sufficient appropriation

☐ Increase Existing Appropriation ☐ Increase Existing Revenues
☐ Decrease Existing Appropriation ☐ Decrease Existing Revenues
☐ Create New Appropriation

☒ Increase Costs - May be possible to Absorb Within Agency's Budget ☒ Yes ☐ No

☐ Decrease Costs

Local: ☒ No local government costs

1. ☐ Increase Costs ☐ Permissive ☐ Mandatory
2. ☐ Decrease Costs ☐ Permissive ☐ Mandatory
3. ☐ Increase Revenues ☐ Permissive ☐ Mandatory
4. ☐ Decrease Revenues ☐ Permissive ☐ Mandatory
5. Types of Local Governmental Units Affected: ☐ Towns ☐ Villages ☐ Cities ☐ Counties ☐ Others ☐ School Districts ☐ VTAE Districts

Fund Sources Affected
☐ GPR ☐ FED ☐ PRO ☐ PRS ☒ SEG ☐ SEG-S

Affected Ch. 20 Appropriations
s. 20.115(7s)

Assumptions Used in Arriving at Fiscal Estimate

State Government

The rule will be administered by the Agricultural Resource Management (ARM) Division of the Department of Agriculture, Trade and Consumer Protection (DATCP). The following estimate is based on enlarging 2 existing prohibition areas (PAs) and creating 6 additional PAs in 1997.

Administration and enforcement of the proposal will involve new costs for the department. Specialist and field investigator staff time will be needed for inspections and enforcement in the new PAs. Enforcement activities will be conducted in conjunction with current compliance inspections but at increased levels to ensure compliance with the additional prohibition areas. Compliance activities will be especially important in the first few years as growers, commercial applicators, dealers, and agricultural consultants in the PAs will need to be educated on the new regulations.

Soil sampling conducted in the additional PAs to determine compliance with the rules will require an estimated $2,000 in analytical services. In addition, a public information effort will be needed to achieve a high degree of voluntary compliance with the rule. Direct costs to produce and distribute the informational materials will be $2,000.

In total the Department estimates an additional staff impact of 0.1 FTE and $4,000 in sampling and public information costs. These costs can be absorbed by the Department.

The Department anticipates no additional costs for other state agencies. Water sampling programs within the Department of Natural Resources and local health agencies may receive short term increased interest by individuals requesting samples.

On Local Units of Government

The rule does not mandate that local government resources be expended on sample collection, rule administration or enforcement. The rule is therefore not expected to have any fiscal impact on local units of government. County agricultural agents will likely receive requests for information on provisions of the rule and on weed control strategies with reduced reliance on atrazine. This responsibility will probably be incorporated into current extension programs with no net fiscal impact.

Long-Range Fiscal Implications

Agency/Prepared by: (Name & Phone No.)	Authorized Signature/Telephone No.	Date
DATCP/Paul Morrison 224-4512	Barbara Knapp 224-4746 Barbara Knapp	10/29/96

FISCAL ESTIMATE WORKSHEET

1995 SESSION

Detailed Estimate of Annual Fiscal Effect
-2047(R 10/92)

☐ ORIGINAL ☐ UPDATED
☐ CORRECTED ☐ SUPPLEMENTAL

LRB or Bill No/Adm.Rule No.: Proposed Amendment ATCP 30

Amendment No.:

Subject: Creation of Additional Atrazine Prohibition Areas

I. One-time Costs or Revenue Fluctuations for State and/or Local Government (do not include in annualized fiscal effect):
$2,000

II. Annualized Costs:

A. State Costs by Category	Annualized Fiscal Impact on State funds from: Increased Costs	Decreased Costs
State Operations-Salaries and Fringes	$ 4,000	$ -
(FTE Position Changes)	(0.1 FTE)	(- FTE)
State Operations-Other Costs	4,000	-
Local Assistance		-
Aids to Individuals or Organizations		-
TOTAL State Costs by Category	$ 8,000	$ -

B. State Costs by Source of Funds	Increased Costs	Decreased Costs
GPR	$	$ -
FED	$	$ -
PRO/PRS	$	$ -
SEG/SEG-S	$ 8,000	$ -

III. State Revenues- Complete this only when proposal will increase or decrease state revenues (e.g., tax increase, decrease in license fees, etc.)	Increased Rev.	Decreased Rev.
GPR Taxes	$	$ -
GPR Earned		-
FED		-
PRO/PRS		-
SEG/SEG-S		-
TOTAL State Revenues	$	$ -

NET ANNUALIZED FISCAL IMPACT

	STATE	LOCAL
NET CHANGE IN COSTS	$ 8,000	$
NET CHANGE IN REVENUES	$ 0	$

Agency/Prepared by: (Name & Phone No.)
Agriculture, Trade & Consumer Protection
Paul Morrison 267-7726

Authorized Signature/Telephone No.
Barbara Knapp 224-4746
Barbara Knapp

Date
10/29/96

APPENDIX C

STATE OF WISCONSIN
DEPARTMENT OF AGRICULTURE, TRADE & CONSUMER PROTECTION

Chapter ATCP 30, Wis. Adm. Code
Use of Atrazine

Final Regulatory Flexibility Analysis

Businesses Affected:

The amendments to the atrazine rule will affect small businesses in Wisconsin. The greatest small business impact of the rule will be on users of atrazine -- farmers who grow corn. The proposed prohibition areas contain approximately 18,000 acres. Assuming that 50% of this land is in corn and that 50% of these acres are treated with atrazine, then 4,500 acres of corn will be affected. This acreage would represent between 25 and 60 producers, depending on their corn acreage. These producers are small businesses, as defined by s. 227.114 (1)(a), Stats. Secondary effects may be felt by distributors and applicators of atrazine pesticides, crop consultants and equipment dealers. Since the secondary effects relate to identifying and assisting farmers in implementing alternative weed control methods, these effects will most likely result in additional or replacement business and the impacts are not further discussed in this document.

Specific economic impacts of alternative pest control techniques are discussed in the environmental impact statement for this rule.

Reporting, Recordkeeping and Other Procedures Required for Compliance:

The maximum application rate for atrazine use in Wisconsin is based on soil texture. This may necessitate referring to a soil survey map or obtaining a soil test. While this activity is routine, documentation would need to be maintained to justify the selected application rate. A map delineating application areas must be prepared if the field is subdivided and variable application rates are used. This procedure is already required under the current atrazine rule.

All users of atrazine, including farmers, will need to maintain specific records for each application. This procedure is already required under the current atrazine rule.

Atrazine cannot be used in certain areas of the State where groundwater contamination exceeds the atrazine enforcement standard in s. NR 140.10 Wis. Adm. Code.

Professional Skills Required to Comply:

The rule affects how much atrazine can be applied and on which fields. Because overall use of atrazine will be reduced in the State, alternative weed control techniques may be needed in some situations. These techniques may include different crop rotations, reduced atrazine rates, either alone or in combination with other herbicides, or combinations of herbicides and mechanical weed control measures.

While alternative weed control techniques are available, adoption of these techniques on individual farms will in some cases require assistance. In the past this type of assistance has been provided by University Extension personnel and farm chemical dealers. In recent years many farmers have been using crop consultants to scout fields, identify specific pest problems and recommend control measures. The department anticipates these three information sources will continue to be used as the primary source of information, both on whether atrazine can be used and which alternatives are likely to work for each situation.

Dated this 30th day of October, 1996.

By Nicholas J. Neher

Nicholas J. Neher, Administrator
Agricultural Resource Management
Division

APPENDIX D

FINAL ENVIRONMENTAL IMPACT STATEMENT

FOR

PROPOSED 1997 AMENDMENTS TO RULES ON THE USE OF PESTICIDES CONTAINING ATRAZINE

Prepared by

Wisconsin Department of Agriculture,
Trade and Consumer Protection

October 1996

ABSTRACT

The Atrazine Rule, Ch. ATCP 30 (formerly Ag 30), Wis. Adm. Code, was promulgated in March 1991 to protect Wisconsin's groundwater. This rule restricted the use of atrazine on a statewide basis and established one atrazine management area (AMA) and six prohibition areas (PAs) in which the use of atrazine was further restricted or prohibited.

Amendments to the Atrazine Rule were promulgated in March 1992. These amendments established five additional AMAs and eight additional PAs in areas of the state where groundwater contamination was known to be more acute. The 1992 AMAs were located in portions of Columbia, Dane, Green, Lafayette, and St. Croix Counties.

Additional amendments to the atrazine rule were promulgated in March 1993. These amendments further limit the use of atrazine across the entire state. Specifically, the maximum allowable atrazine application rates for the state were lowered to 0.75 pound/acre for coarse textured soils and 1.0 or 1.5 pounds/acre for medium/fine textured soils. The 1.5 pound/acre rate is allowed on medium/fine textured soils if no atrazine was applied in the previous year. If a rescue treatment is needed on sweet or seed corn, an additional amount of atrazine can be applied provided the total annual application does not exceed 1.5 pounds/acre on coarse soils and 2.0 pounds/acre on medium/fine soils.

Additional amendments were promulgated in March 1994. These amendments created 19 new PAs in 12 counties and enlarged three existing PAs where the Enforcement Standard (ES) for atrazine had been attained or exceeded.

Additional amendments were promulgated in March 1995. These amendments created 9 new PAs and enlarged four existing PAs where the Enforcement Standard (ES) for atrazine had been attained or exceeded.

Additional amendments were promulgated in April 1996. These amendments created 12 new PAs and enlarged two existing PAs where the Enforcement Standard for atrazine had been attained or exceeded.

Under this proposal, all statewide provisions in the current atrazine rule remain in effect: routine application rates are limited to 0.75 - 1.5 pounds/acre, atrazine applications are limited to the time period April 15 through July 31, atrazine use in conjunction with irrigation requires an irrigation management plan, atrazine use and mixing-loading require certification, and recordkeeping is required of persons applying atrazine.

The proposed rule would create 6 new PAs and enlarge two existing PA where the Enforcement Standard (ES) for atrazine has been attained or exceeded. This action is based on groundwater samples for atrazine that the department has received in the last year. Most of the proposed new PAs are based on a single well exceeding the ES. The proposed expansion of two existing PAs is due to new findings of atrazine above the ES near existing PA boundaries.

The Environmental Impact Statement (EIS) contains: a description and discussion of the proposed rule; background information on atrazine, including information on the use of atrazine and findings of atrazine residues in groundwater; a discussion of the environment and persons affected by the proposed rule; and the significant economic effects of the proposed action. The EIS also discusses and compares possible alternative actions.

This EIS finds that promulgation of the proposed rule would not create any new adverse environmental impacts from the use of alternative herbicides. Alternative herbicides, because of differences in mobility and persistence, generally have less potential to contaminate groundwater as compared to atrazine. The major effect the proposed rule is expected to have on the environment is a reduction in additional groundwater contamination by atrazine across the state and in the PAs. This reduction in additional groundwater contamination will benefit both the natural and human environments.

Specific questions on the EIS or the proposed atrazine rule should be directed to the Division of Agricultural Resource Management, Wisconsin Department of Agriculture, Trade and Consumer Protection, P.O. Box 8911, Madison, Wisconsin, 53708-8911. Phone 608/224-4503.

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CHAPTER 1 - The Proposed Rule

Background

The Atrazine Rule, Ch. ATCP 30 (formerly Ag 30), Wis. Adm. Code, was promulgated in March 1991 to protect Wisconsin's groundwater. This rule restricted the use of atrazine on a statewide basis and established one atrazine management area (AMA) and six prohibition areas (PAs) in which the use of atrazine was further restricted or prohibited. Statewide, atrazine application rates were limited to 1.0 - 2.0 pounds/acre depending on surface soil texture and whether atrazine was used the previous year. The AMA established in the Lower Wisconsin River Valley limited atrazine application rates to 0.75 pounds/year.

Amendments to the Atrazine Rule were promulgated in March 1992. These amendments established five additional AMAs and eight additional PAs in areas of the state where sample results received by the Department by April 1, 1991 showed more acute contamination. The maximum atrazine application rates in the AMAs were 0.75 pounds/acre for coarse soils and 1.0 pounds/acre for medium and fine soils.

Additional amendments to the Atrazine Rule were promulgated in March 1993. These amendments further limited the use of atrazine statewide and included 54 atrazine PAs areas where the groundwater ES for atrazine had been exceeded. Because the new statewide restrictions were similar to the restrictions in the existing AMAs, the existing AMAs were not included in the rule.

Specifically, the 1993 rule amendments established statewide maximum allowable atrazine application rates of 0.75 pounds/acre for coarse textured soils and 1.0 or 1.5 pounds/acre for medium/fine textured soils. The 1.5 pounds/acre rate is allowed on medium/fine textured soil if no atrazine has been applied the previous year. If a rescue treatment is needed on seed and sweet corn, an additional amount of atrazine can be used as long as the total annual amount of atrazine use does not exceed 1.5 pounds/acre on coarse textured soils and 2.0 pounds/acre on medium/fine textured soils.

Additional amendments to the Atrazine Rule were promulgated in March 1994. These amendments created 19 new PAs in 12 counties and enlarged three existing PAs. The total land area involved in these PAs is approximately 58,000 acres. This action was based on groundwater sample results for atrazine and metabolites that the Department received in the previous year.

Additional amendments to the Atrazine Rule were promulgated in March 1995. These amendments created 9 new PAs in 9 counties and enlarged four existing PAs.. The total land area involved in these PAs is approximately 52,000 acres. This action was based on groundwater sample results for atrazine and metabolites that the Department received in the previous year.

Additional amendments to the Atrazine Rule were promulgated in April 1996. These amendments created 12 new PAs in 10 Counties and enlarged three two existing PAs. The total land area in these PAs is approximately 36,500 acres. This action was based on groundwater sample results for atrazine and metabolites that the Department received in the previous year.

The Proposal

Statewide Limitations

Under this proposal, all statewide provisions in the current Atrazine Rule remain in effect: routine application rates are limited to 0.75 - 1.5 pounds/acre, atrazine applications are limited to the time period April 15 through July 31; atrazine use in conjunction with irrigation requires an irrigation management plan; atrazine use and mixing-loading requires certification; and recordkeeping is required for persons applying atrazine.

Prohibition Areas

Currently, 91 PAs are included in ATCP 30. The proposed rule amendments would create six new PAs (one per County in Jackson and Manitowoc Counties, three in Portage County, and one in Rock County) and enlarge two existing PAs (Portage and Sauk Counties). The total land area in the proposed PAs is approximately 18,000 acres. This proposed action is based on groundwater sample results for atrazine and metabolites that the Department has received in the last year. Most of the proposed new PAs are based on a single well exceeding the ES. The proposed expansion of two existing PAs is due to newly discovered exceedences of the atrazine Enforcement Standard (ES) near an existing PA boundary. A map showing existing and proposed PAs is shown in Figure 1.

Within every prohibition area, atrazine applications are prohibited. The proposed rule also prohibits atrazine mixing or loading in existing and new prohibition areas unless conducted over a spill containment surface which complies with ss. ATCP 29.151 (2) to (4).

Discussion

How the Proposed PAs were Selected and Delineated

ATCP 30 directs the Department to prohibit atrazine use where appropriate under the groundwater law. Atrazine PAs may be established where the sum of atrazine and its chlorinated metabolites equals or exceeds the ES of 3.0 ppb under NR 140, Wis. Admin, Code.

At well sites that exceed the ES for atrazine, an investigation is conducted to determine the source of the atrazine contamination in groundwater. As part of the investigation, each well owner is interviewed about atrazine use and handling practices around the well site. If it appears that the groundwater contamination is mainly from use of atrazine in the area (nonpoint source), a PA is proposed. If the groundwater contamination is believed to be mainly from point sources, a PA is not proposed unless it appears that use of atrazine in the area is significantly contributing to the existing contamination. In the case of isolated wells exceeding the ES, single well PAs are proposed. If clusters of wells exceeding the ES are identified, multiple well PAs are proposed.

The various types of boundaries that can be used to delineate PAs include soil and geologic boundaries, groundwater or surface water divides, legal land descriptions, and public roads. For the 8 proposed new or expanded PAs, legal land descriptions, rivers and roads are used for boundaries. In some cases the boundaries correspond to roads. Surface water features are used to modify PA boundaries where appropriate. The advantages of using legal land descriptions for the smaller single well PAs is that the recharge area for a well can be approximated more accurately than by using roads. The disadvantage of legal land descriptions is that they can split individual farm fields.

The size of most of the proposed new PAs is 2,560 acres (4 square miles). This land area is thought to be a reasonable approximation of the recharge area for the contaminated wells. A PA may be smaller in size if a river or other groundwater divide exists near the well site.

Advantages and Disadvantages of the Proposed Rule

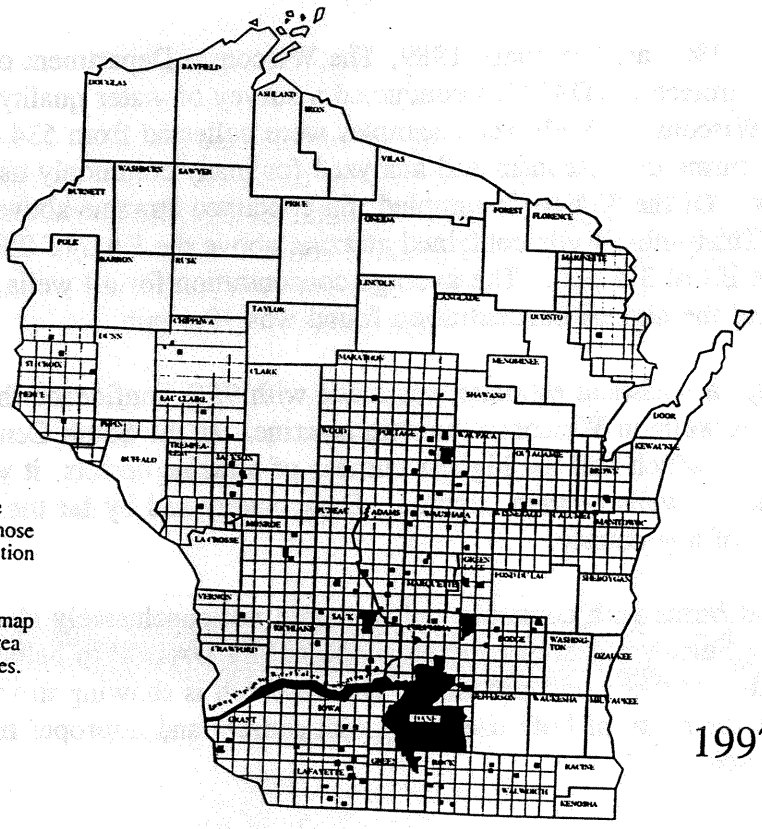
Advantages

The advantage of the proposed rule is that it prohibits the use of atrazine in areas of the state where well sampling has found atrazine levels above the ES. This action should allow the groundwater quality to gradually improve due to dilution, degradation and recharge of cleaner water to the aquifer.

Disadvantages

Current data for atrazine and metabolites indicate that more wells will exceed the new ES as additional sampling programs are conducted. As a consequence, a disadvantage of this approach is that the rule could become increasingly complex as the need to delineate additional PAs increases. Also, this approach may allow continued use of atrazine in areas where the ES has been exceeded but groundwater testing has not yet occurred.

Figure 1
Atrazine Prohibition Areas



Township and Range lines are shown for those counties with prohibition areas.

Refer to the detailed map of each prohibition area for its exact boundaries.

1997 Rule

Guide to PA numbers

PA 96-01-01

Consecutive prohibition area number for that county for the year it was adopted or modified.

County number - see table.

The growing season for which the prohibition area was adopted or modified.

In the above example, the prohibition area was created or modified for the 1995 growing season, is in Adams County, and is the first prohibition area in Adams County adopted or modified for that year.

Adams	01	Jackson	27	Richland	53
Ashland	02	Jefferson	28	Rock	54
Barron	03	Juneau	29	Rusk	55
Bayfield	04	Kenosha	30	St. Croix	56
Brown	05	Kewaunee	31	Sauk	57
Buffalo	06	La Crosse	32	Sawyer	58
Burnett	07	Lafayette	33	Shawano	59
Calumet	08	Langlade	34	Sheboygan	60
Chippewa	09	Lincoln	35	Taylor	61
Clark	10	Manitowoc	36	Trempealeau	62
Columbia	11	Marathon	37	Vernon	63
Crawford	12	Marinette	38	Vilas	64
Dane	13	Marquette	39	Walworth	65
Dodge	14	Menominee	40	Washburn	66
Door	15	Milwaukee	41	Washington	67
Douglas	16	Monroe	42	Waukesha	68
Dunn	17	Oconto	43	Waupaca	69
Eau Claire	18	Oneida	44	Waushara	70
Florence	19	Outagamie	45	Winnebago	71
Fond du Lac	20	Ozaukee	46	Wood	72
Forest	21	Pepin	47		
Grant	22	Pierce	48		
Green	23	Polk	49		
Green Lake	24	Portage	50		
Iowa	25	Price	51		
Iron	26	Racine	52		

CHAPTER 2 - BACKGROUND INFORMATION

Findings of Atrazine In Wisconsin Groundwater

Grade A Dairy Farm Well Water Quality Survey

Between August 1988 and February 1989, The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) conducted a survey of water quality at Grade A dairy farm wells in Wisconsin. Well water samples were collected from 534 randomly-selected Grade A dairy farms in Wisconsin and analyzed for many commonly used pesticides and nitrate-nitrogen. Of the 534 wells sampled, 66 contained atrazine above the detection level of 0.15 ppb. Thirty-nine wells contained atrazine above the PAL of 0.35 ppb and 3 wells were above the ES of 3.5 ppb. The average concentration for all wells containing atrazine was 1.0 ppb and the highest concentration found was 19.4 ppb.

From this study, a statistical estimate was made with 95% confidence that between 9 and 15% of Grade A wells in Wisconsin contain atrazine. In the South Central Agricultural Statistics District, which had the highest number of atrazine detects, it was estimated that 19 to 39% of Grade A wells contain atrazine. Dane county had by far the highest number of atrazine detects of any county.

Investigations at farms with contaminated wells did not conclusively identify the source of contamination. Further research is being supported by DATCP to help determine the source and extent of the atrazine contamination. This research is showing that the atrazine in Grade A wells can be the result of both use (non-point source) and improper handling, storage and disposal (point source).

DATCP Groundwater Monitoring Project for Pesticides

This study began in 1985 and utilizes monitoring wells to study pesticides in groundwater next to agricultural fields in highly susceptible areas. For this project, highly susceptible areas are defined as having sandy soil, shallow depth to groundwater, and irrigation. Groups of three monitoring wells have been installed at approximately fifty fields in the Central Sands, lower Wisconsin River valley, and other sandy soil areas of the state. The study was designed so that the findings in the monitoring wells reflect activities on the fields being monitored.

Atrazine has been used at 40 of the test sites and has been detected at 29 of the sites. Deethyl, deisopropyl, and diamino atrazine have been detected at 32, 11 and 5 of the sites, respectively. Some sites have had a detection of a metabolite in the absence of parent

atrazine. The total atrazine concentration (the sum of atrazine plus the three metabolites) has exceeded the 3.0 ppb enforcement standard at 16 of the 40 monitoring sites.

This study has helped determine which pesticides need the most attention for groundwater protection purposes. It has also helped to identify which areas of the state are most susceptible to pesticide leaching and to indicate that not all sandy soil areas have the same susceptibility to groundwater contamination. The major conclusions of the study to date are that atrazine is the pesticide that is most frequently detected in groundwater and that the lower Wisconsin River valley is an area particularly susceptible to groundwater contamination by pesticides.

DATCP Rural Well Sampling Program

In the first half of 1990 DATCP conducted a groundwater sampling program in which 2,187 rural well owners had their well water tested for certain agricultural chemicals. The study was conducted in two phases. In the first phase, participating rural well owners submitted a water sample which was analyzed for triazine compounds and nitrate-nitrogen. The triazine tests were performed using an immunoassay screening procedure. The second phase of the program consisted of an official followup sample with a conventional laboratory analysis from any well which had a triazine detection at or above 0.35 ppb or nitrate-nitrogen above 10 ppm. The program was established to provide a service to the public and provide information to DATCP on the occurrence of herbicides in groundwater. The geographic distribution of wells tested was largely determined by the location of rural well owners who participated in the program.

The results of the Rural Well Sampling Program indicate widespread atrazine contamination in groundwater in many areas of Wisconsin. Of the 2,187 wells sampled in phase 1 of the program, the immunoassay screening showed triazine detections in 351 (16%). Two hundred and twenty (10%) were above the PAL for atrazine. Official followup samples were taken at 435 qualifying wells. Of these, 215 had atrazine detects, 127 were above the PAL and 11 were above the ES. Ten followup samples known to contain atrazine were also analyzed for the atrazine metabolites deethyl atrazine and deisopropyl atrazine. All ten samples contained deethyl atrazine and six samples contained deisopropyl atrazine.

The highest frequencies of atrazine detections are in the south central, southwest, and west central regions of the state. As in the Grade A Dairy Well Survey, Dane County had by far the highest number of atrazine detections. Several other counties, such as Columbia, Grant, Sauk, Iowa, Lafayette, Rock, Walworth, and St. Croix also had a considerable number of relatively widely distributed detections. Most of the detections were at levels near or below the PAL of 0.35 ppb, but a few detects were at levels considerably above the 3.5 ppb ES. The department believes that the atrazine in these rural wells is due to both agricultural use (non-point source) and improper handling, storage and disposal (point source).

Atrazine Metabolite Testing in the Rural Well Survey

As part of the Rural Well Survey, the CIBA-GEIGY Corporation received split samples from the 236 wells that had a triazine finding at or above 0.35 ppb. These samples were analyzed by CIBA-GEIGY for atrazine, deethyl atrazine, deisopropyl atrazine and diamino atrazine. This represents the most rigorous analysis to date for atrazine residues in Wisconsin groundwater for two reasons. First, this was the first analysis of Wisconsin groundwater for diamino atrazine. Second, the 0.1 ppb level of detection for all four analytes is considerably lower than the current levels of detection at the Wisconsin state laboratories.

The results from these 236 wells showed atrazine present in 200 wells, deethyl present in 208 wells, deisopropyl present in 143 wells and diamino present in 195 wells. The average detect concentrations for these same four analytes were 1.1, 0.80, 0.45, and 1.0 ppb, respectively. The average total concentration (for total >0) was 3.0 ppb. These results indicate that 71 wells exceed the new ES for atrazine and metabolites. Only 15 of these wells would have exceeded the old ES for atrazine alone. The newly-discovered presence of diamino atrazine played an important role in the increased number of wells exceeding the ES.

Triazine Testing at the Wisconsin State Laboratory of Hygiene

From April 1991 to the present the Wisconsin State Laboratory of Hygiene (SLOH) has been offering a program for immunoassay testing of triazines on a routine basis. This testing service is available to the public and government agencies. The cost of the test is $17/sample and the level of detection and reporting is 0.1 ppb. The DNR Water Supply program receives all the triazine results from SLOH and offers a free followup gas chromatography analysis for wells exceeding a threshold concentration.

As of October 1994, SLOH had analyzed over 9,000 well samples by the triazine immunoassay method. Many of these samples have been collected by government agency staff as part of programs such as the Wisconsin Priority Watershed program. Considerable sampling has occurred in priority watersheds including portions of Chippewa, Eau Claire, Clark, Marathon, Wood, Dodge, Columbia, Green Lake, Lafayette, Green, Outagamie, Winnebago and Waupaca Counties. Most of the remaining triazine samples analyzed by SLOH have been submitted by private citizens interested in having their drinking water tested.

Of the 9,951 triazine sample results that DATCP has received, 3,988 (40%) have shown a detection at or above the 0.1 ppb level of detection. Of these 3,988 detections, 1,674 (42%) have been reported at 0.1 ppb. This trend for pervasive, low-level detects as shown by this testing methodology is not completely understood, but there is no evidence that these detects are false positives.

These data show widespread triazine detections in eight counties with priority watershed testing. The percentage of detections ranges from 34% in Chippewa, Clark and Winnebago Counties to 71% for Lafayette County. The percentage of detects equal to or greater than 0.3 ppb for these same eight counties ranges from 9% for Chippewa County to 37% for Lafayette County. The frequency of detections in these 8 counties with Priority Watersheds that encompass a range of soil and hydrologic conditions indicate that atrazine has the potential to be present in groundwater in all areas of the state where it is used.

DATCP Exceedence Survey

DATCP conducted a study in 1995 to measure changes in pesticide concentrations in wells that had previously exceeded an enforcement standard. One-hundred-twenty-two (122) wells were resampled in this program. Most of these wells are in Atrazine Prohibition Areas. Sampling results for atrazine show that 84% of the wells have decreased in concentration and 16% have increased. Forty-three percent of the wells are still above the atrazine enforcement standard and 57% are now below. Well owners with previous exceedences were interviewed to determine what changes, if any, they had made to their water supplies in response to the exceedence. About 50% of the well owners continue to use their contaminated well and about 25% have installed new wells at an average cost of $6,300. The remainder drink bottled water, haul water, or use water treatment.

Atrazine Registration Information

"Atrazine" is the accepted common name for the compound 2-chloro-4-ethylamino-6-isopropylamino-s-triazine. This name is recognized by the American National Standards Institute.

Atrazine was initially registered in the United States in 1958 by CIBA-GEIGY for weed control in corn. Additional labels were subsequently approved for other agricultural crops by the U.S. Department of Agriculture (USDA) and since 1970 by the U.S. Environmental Protection Agency (EPA). Atrazine has been registered for control of broadleaf and grass weeds in corn, sorghum, rangeland, sugarcane, macadamia orchards, guava, pineapple, turf grass sod, conifer reforestation, Christmas tree plantations, grass in orchards, proso millet, ryegrass, wheat, grass seed fields and for nonselective vegetation control in chemical fallow and non-crop land. A large portion of atrazine use has been to control weeds on corn and sorghum in the 28 states were these crops are grown. Manufacturers produced about 100-125 million pounds of atrazine in 1980 and about 15-25 million pounds were exported.

A number of herbicides have been registered for use in combination with atrazine. Some of these include alachlor, butylate, metolachlor, paraquat, propachlor, cyanazine, bentazon and simazine. Herbicide mixtures are often used in situations where atrazine alone is not

completely effective due to the spectrum of weeds, soil conditions and other environmental factors.

Atrazine Use in Wisconsin

Atrazine Use on Crops

In Wisconsin, use of atrazine on crops has been primarily on corn including field corn, silage corn, sweet corn and seed corn. The Wisconsin Agricultural Statistics Service (WASS) reported that in 1990, 3,700,000 acres of corn for grain, and 160,900 acres of sweet corn were planted. This is a total of 3,860,900 acres of corn planted in these two categories. Data on seed corn acreage are not routinely collected by WASS.

Atrazine controls many annual grass and broadleaf weeds in corn and can be applied preplant (surface applied or incorporated), preemergence, or postemergence. The label application rates for the preplant and preemergence uses of atrazine are dependent on soil texture and organic matter content and, prior to the 1990 label changes and the 1991 Wisconsin Atrazine Rule, ranged from 2 pounds of active ingredient (a.i.)/acre on coarse textured soils to 4 pounds a.i./acre on fine textured soils with higher organic matter.

Atrazine has also been applied with oil as a postemergence treatment. This is a foliar spray and controls weeds by direct contact. The historical label rates for this application were 2 pounds a.i./acre if broadleaf and grass weeds were present or 1 pound if only broadleaf weeds were present.

Another important use of atrazine has been for control of quackgrass, a perennial grass weed that can be a significant problem in corn production. Atrazine can be applied for quackgrass control as either a split or single application. Prior to the 1991 Atrazine Rule and the 1990 label changes, the split applications consisted of 2 pounds of atrazine broadcast in the spring or fall followed by a second application in the spring before, during or after planting. For a single application, 3 to 4 pounds were applied in the fall or spring followed by a plowing 1-3 weeks later.

Wisconsin Pesticide Use Surveys

Several pesticide use surveys have been conducted in Wisconsin to provide information on atrazine use patterns.

1969. This early survey, conducted as part of a Great Lakes initiative with Illinois, Indiana, Michigan and Minnesota, provides information on pesticide use in Wisconsin for the 1969

growing season. In 1969, 1,995,000 acres of corn were treated at least once with herbicides. Herbicide use on corn accounted for 82% of the total crop acreage treated with herbicides. Approximately 10 years after it first started to be used, atrazine was by far the most commonly used herbicide on corn. Atrazine alone and in combination with other herbicides was applied to 91% of the corn acreage receiving a preemergence herbicide treatment and 83% of the acreage treated postemergence. The herbicides that were used in combination with atrazine for preemergence applications were propachlor, linuron, and prometryne. The average rate of atrazine application was 1.5 - 2.0 pounds a.i./acre.

1978. Another major pesticide use survey was conducted in Wisconsin in 1978 by the Wisconsin Agriculture Reporting Service. In 1978, 3,750,000 acres of corn were planted and 3,589,000, or 96%, were treated with herbicides. Atrazine was used on 3,000,000 acres, or 80% of the corn acres planted, making it by far the most commonly used herbicide. The average rate of application was 1.5 pounds atrazine a.i./acre and a total of 4,410,000 pounds of a.i. were used. The South Central, Southwest, and West Central Crop Reporting Districts accounted for the highest number of acres treated with atrazine and the largest quantity of active ingredient applied. Quackgrass and foxtail were the most common target weeds for atrazine applications.

1985. In 1985, a major pesticide use survey was conducted by WASS to collect information needed for managing pesticides in groundwater. In 1985, herbicides were applied to 98% of the 4,300,000 acres of corn planted. Atrazine was applied to 3,362,000, or 77%, of the corn acreage. The average rate of application was 1.6 pounds of atrazine a.i./acre and the total quantity of atrazine used in the state was 5,165,000 pounds of a.i. The South Central, Southwest, and West Central Crop Reporting Districts were again the areas of highest atrazine use. Quackgrass, foxtail and velvetleaf were the most common target weeds for atrazine applications.

1990. In 1990, a pesticide use survey was conducted by WASS in a manner similar to the 1985 survey so that direct comparisons in pesticide use trends could be made. The number of acres planted to corn in 1990 was 3,700,000, down 14% from 1985. Atrazine was applied to 56% of the corn acres in 1990 compared to 77% in 1985. The average atrazine application in 1990 was 1.43 pounds of atrazine a.i./acre compared to 1.6 pounds in 1985. The overall effect is a 43% reduction in the quantity of atrazine used on corn in Wisconsin from 1985 to 1990.

1991. In March 1992 the United States Department of Agriculture National Agricultural Statistics Service published pesticide use information for the 1991 crop year. This report indicated that atrazine was used on 52% of the corn acres in Wisconsin at an average application rate of 1.04 pounds a.i./acre. A total of 2,048,000 pounds were applied in 1991 in Wisconsin.

1992. In October 1993 the United States Department of Agriculture National Agricultural Statistics Service published pesticide use information for the 1992 crop year. This report

indicated that atrazine was used on 59% of the corn acres in Wisconsin at an average application rate of 0.89 pounds a.i./acre. A total of 2,088,000 pounds were applied in 1992 in Wisconsin.

1993. In March 1994 the United States Department of Agriculture National Agricultural Statistics Service published pesticide use information for the 1993 crop year. This report indicated that atrazine was used on 48% of the corn acres in Wisconsin at an average application rate of 0.89 pounds a.i./acre. A total of 1,447,000 pounds were applied in 1993 in Wisconsin.

1994. In March 1995 the United States Department of Agriculture National Agricultural Statistics Service published pesticide use information for the 1994 crop year. This report indicated that atrazine was used on 52% of the corn acres in Wisconsin at an average application rate of 0.84 pounds a.i./acre. A total of 1,626,000 pounds were applied in 1994 in Wisconsin.

Summary of Trends in Atrazine Use

All sources of information on pesticide use in Wisconsin indicates that the use of atrazine has declined over the past ten years. The two components of pesticide use that are usually considered are the number of acres on which a compound is used and the rate of application, often expressed in pounds of a.i./acre/year. These two components together indicate the quantity of pesticide material used.

It is clear that the number of atrazine-treated acres in Wisconsin declined significantly between 1985 and 1994. The pesticide use surveys conducted by WASS indicate that the percentage of corn acres treated with atrazine decreased from 77% in 1985 to 52% in 1994. It is likely that this downward trend in atrazine use has resulted from an increased awareness of its environmental and carry-over problems and from the implementation of the atrazine rule. It is not clear at this time whether atrazine use will continue to decline or whether it will stabilize at or near current levels.

The average atrazine application rate decreased from 1.6 pounds a.i. in 1985 to 0.84 pounds a.i. in 1994. Opportunities for reducing application rates include using atrazine in combination with other herbicides, applying atrazine in a band over the corn row, and using additional mechanical weed control practices. Many farmers have utilized these strategies to reduce their atrazine application rates. In some cases, however, the atrazine rate that farmers are using is already at a level where further reductions are not possible. In these cases, further reducing atrazine use would mean switching to non-atrazine weed control strategies.

There are several reasons why farmers are reducing or eliminating their use of atrazine. One reason is the concern about carryover of atrazine phytotoxicity into the following year. Most

crops that commonly follow corn in a rotation can be damaged by significant atrazine residues remaining in the soil. The importance of this consideration has increased recently as more farmers are realizing the benefits of crop rotation. If the number of years of corn in a dairy rotation is reduced, for example, use of atrazine becomes less desirable because of carryover problems in new alfalfa seedings.

Certain aspects of the Food Security Act of 1985 have also increased the concerns about atrazine carryover problems. To remain in the government program, farmers must set aside a certain portion of their corn base each year to meet soil conservation goals. Due to annual changes in program requirements, it is desirable for a participating farmer to have the flexibility to seed down a corn field for conservation reasons. The possibility of atrazine carryover does not promote this flexibility.

Another major reason for the decline in atrazine use appears to be concern over environmental problems such as groundwater contamination. Several important studies in the last five years have documented atrazine contamination in groundwater and many farmers have responded to this threat by shifting their weed control strategies away from atrazine. These farmers have realized that a water supply contaminated with pesticides is a liability to their family, their farm operation, and their real estate investment.

Other reasons for farmers reducing atrazine use are: the implementation of the Department's atrazine rule, changes in the crops being planted, conversion to lower chemical input farming practices, weed resistance, and poor weed control performance. In reality, an individual farmer's decision to discontinue or reduce the reliance on atrazine may be based on a combination of these reasons. The specific reason that precipitates the final decision probably varies from case to case, but groundwater contamination has certainly been a major factor.

Environmental Fate of Atrazine

Behavior in Soil

The environmental fate - and in particular the leaching potential - of a pesticide applied to the soil is dependent on the characteristics of the environment and the chemical compound. For the chemical itself, the leaching potential is related to its mobility and persistence. Mobility refers to the water solubility and soil adsorbance of the chemical and persistence is measured by the rate of degradation of the compound in the soil. For a pesticide to leach to groundwater as a result of field applications, it must have relatively high mobility and persistence in the soil.

Atrazine has environmental fate characteristics that indicate a high leaching potential and explain its widespread occurrence in groundwater. It is moderately mobile in the soil with a water solubility of 33 ppm and a soil adsorption coefficient of 3.2. (The soil adsorption coefficient is the ratio of the amount of a pesticide adsorbed to soil to the amount dissolved in water). Persistence in soil is the factor which appears to give atrazine its high leaching potential; literature values indicate a surface soil half-life of 4 to 57 weeks depending on environmental conditions.

Because of the large number of management, environmental and climatic variables involved in the behavior of atrazine in the soil, it is currently impossible to establish a correlation between atrazine application rates and residue levels in groundwater. Even if a correlation could be established, it would only be applicable to the specific site where the research was conducted and to the weather conditions that prevailed during the course of the experiments.

Toxicology of Atrazine

Acute Toxicity

Based on acute animal studies, atrazine is known to be slightly toxic when ingested and only mildly irritating to exposed skin or eyes. Rats exhibit muscular weakness, hypoactivity, ptosis, dyspnea and prostration after oral administration of large amounts of atrazine.

Toxicological Properties - Acute Toxicity to Mammals

Type of Animal Study	Technical Grade Atrazine
Acute Oral LD50 (rat)	1,869 mg/kg
Acute Dermal LD50 (rabbit)	>3,100 mg/kg
Eye Irritation (rabbit)	Nonirritating
Primary Skin Irritation	Mildly Irritating

Chronic Toxicity

The Wisconsin Department of Health and Social Services (DHSS) selected a 1964 2 year chronic feeding study in dogs with Atrazine 80W for chronic exposure risk assessment determinations. Based on this study, DHSS determined a no observable effect level (NOEL) of 0.35 mg/kg/day. In this study dogs showed increased heart and liver weights at the 3.5 mg/kg/day dosage level. Effects on dogs at the 1,500 ppm feeding level included reduced

food intake, decreased body weight and reduced hemoglobin and hematocrit values. Another feeding study with dogs showed EKG alterations such as increased heart rate, decreased P-II values, atrial premature complexes, atrial fibrillations and moderate to severe cardiac lesions at the highest doses of atrazine fed (1,000 ppm).

Reproductive feeding studies (0 to 500 ppm) on rats showed no effects on the reproductive parameters studied. At the highest feeding rate (500 ppm), both parental rats had statistically significant decreases in body weight and food consumption and male rats had statistically significant increases in relative testes weight. The reproductive NOEL and LEL were 10 and 50 ppm respectively (2.5 and 25 mg/kg/day) and the parental NOEL and LEL were 50 and 500 ppm.

Teratological feeding studies on rats showed reduced body weight gain in the first half of the gestation cycle. Similar feeding studies with rabbits showed decreases in body weight and food consumption. Developmental feeding studies on rabbits showed an increase in resorption of the fetus, decreased fetal weights of male and female pups and delayed ossification of fetal appendages.

Lifetime feeding studies in rats are the basis for atrazine being classified by EPA as a class "C" or possible human carcinogen. The class "C" classification is assigned to a compound when there is limited animal evidence to indicate that a compound is a possible carcinogen. This classification can be based on studies which yield limited supportive animal evidence that a compound is carcinogenic. Such evidence can include (a) definitive malignant tumor response in a single species in a well-designed experiment (b) marginal tumor response in flawed studies (c) benign but not malignant tumors with an agent showing no response in a variety of short-term tests for mutagenicity, (d) marginal responses in a tissue known to have high and variable background rate. A compound classified as a Class A carcinogen is considered a known human carcinogen based on sufficient epidemiological evidence.

EPA has established a lifetime Maximum Contaminant Level (MCL) of 3.0 ppb for drinking water.

Wisconsin's Groundwater Standard for Atrazine

Pursuant to the Wisconsin Groundwater Law and based on a recommendation from DHSS, DNR established groundwater standards for atrazine in 1988 in NR 140, Wis. Admin. Code. The DHSS recommendation to DNR for the atrazine groundwater standards is contained in a DHSS document entitled "Public Health Related Groundwater Standards - 1986", Anderson, Belluck and Sinha, 1988. The ES for atrazine was established at 3.5 ppb and the PAL was set at 0.35 ppb.

In 1991, DHSS recommended to DNR that the atrazine ES standard be lowered to 3.0 ppb to be consistent with the lifetime MCL established by EPA. DHSS also recommended that the

groundwater standard for atrazine be modified to include the three chlorinated metabolites deethylatrazine, deisopropylatrazine, and diaminoatrazine. This recommendation was based on information from CIBA-GEIGY Corporation toxicologists indicating that these three chlorinated metabolites had toxicological properties similar to parent atrazine. In response to these recommendations, DNR adopted in January 1992 an ES of 3.0 ppb and a PAL of 0.30 ppb for total chlorinated atrazine residues.

CHAPTER 3 - ENVIRONMENT AFFECTED BY AND POTENTIAL ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION

The environment affected by the proposed new and expanded atrazine prohibition areas (Pas) includes portions of: Jackson, Manitowoc, Portage, Rock, and Sauk Counties. The total land area included in the proposed prohibition areas is approximately 18,000 acres.

No readily available information exists on the number of corn acres planted or the number of acres that have been treated with atrazine in the proposed Pas. It is estimated that approximately half the acres within the proposed Pas are planted to corn and approximately half the corn acres have received atrazine. This amounts to approximately 4,500 acres where atrazine prohibitions would specifically apply. The pre-PA rate of atrazine use on these 4,500 acres could have varied from less than 0.5 to 2.0 pounds/acre.

The proposed rule may lead to increased use of alternative herbicides which may also have environmental implications. Information gathered by the Department has indicated that Bladex (cyanazine), Roundup (glyphosate), Banvel (dicamba) and Accent (nicosulfuron) are among the most important alternative herbicides if atrazine use is reduced or eliminated. Many formulations of alternative herbicides are sprayed in liquid form, but the potential for drift and non-target exposures should not be significantly different than similar formulations of atrazine. Alternative herbicides, due to differences in mobility and persistence, do not generally have as great a potential to contaminate groundwater as atrazine. Also, many other corn herbicides, with the exception of Lasso (alachlor), have less restrictive groundwater ESs than atrazine. Little is known about the metabolites of alternative herbicides.

There is a possibility that some corn growers in the Pas might change their crop rotation as a result of further restrictions on the use of atrazine. Some corn growers are finding that weed problems which traditionally have been controlled by atrazine can be reduced by modifying the number of years of corn and other crops in the rotation. Shortening rotations, or reducing the number of years of certain crops in the rotation, can break the cycle of some weeds and reduce the need for atrazine and other herbicides.

The desired long-term effect of the proposed rule on the environment is a decrease in additional groundwater contamination by atrazine in the proposed PAs. This reduction in additional groundwater contamination would benefit the natural and human environments.

CHAPTER 4 - SIGNIFICANT ECONOMIC EFFECTS OF THE PROPOSED ACTION ON ATRAZINE USERS

(DATCP Analysis of the Technical and Economic Feasibility of Reducing or Eliminating Atrazine Use)

Background

In 1990 DATCP conducted an extensive analysis of the technical and economic feasibility of reducing or eliminating atrazine use. This analysis consisted of per-acre cost comparisons for weed control strategies that utilized full or "conventional" atrazine rates, reduced atrazine rates, or no atrazine. The weed control strategies -- including various combinations of atrazine, other herbicides, and mechanical weed control -- were developed in consultation with the University of Wisconsin Agronomy Department. These strategies were realistic, but were hypothetical in the sense that they were designed in the office rather than portraying what a particular grower was actually using in the field. Cost comparisons for the various weed control strategies were made for representative cropping systems including continuous corn, corn in rotation with soybeans, and corn in rotation with alfalfa on coarse and medium/fine soil texture groups.

The results of this analysis indicated that the feasibility of reducing or eliminating atrazine use varied considerably across the many different weed control situations facing corn producers. In some situations, such as routine weed control in continuous corn or corn/soybean rotations, reducing or eliminating atrazine seemed reasonable. In other situations, such as in a rescue treatment for grass weeds that escaped the planned weed control program, atrazine played a more important role. This analysis is described in detail in Chapter 4 of the Environmental Impact Statement dated January 1991 that accompanied the original Ag 30.

To supplement the hypothetical analysis conducted in 1990, in 1991 DATCP reviewed all relevant Wisconsin field projects, both research and demonstration, that have compared the effectiveness and profitability of various levels of atrazine use. The information that was reviewed included relevant data from the Profits through Efficient Production Systems (PEPS) program, the UW Nutrient and Pest Management Program, the DATCP Sustainable Agriculture Program, and relevant field trials conducted by the UW Agronomy Department.

The 1991 report also discusses weed control issues on sweet and seed corn in response to comments received during the 1990 public hearings. Sweet and seed corn have unique weed control needs including a potentially greater need for atrazine.

Lastly, the report discusses changes in the herbicide/weed control picture that are influencing the feasibility of reducing or eliminating atrazine use. This review is described in detail in Chapter 4 of the Environmental Impact Statement dated September 1991 that accompanied the 1992 amendments to Ag 30.

Conclusions

ATCP 31.09, in interpreting the Groundwater Law, states that groundwater protection rules "shall be designed, to the extent technically and economically feasible, to minimize the level of the pesticide substance in groundwater and maintain compliance with the preventive action limit for the pesticide substance statewide". From the 1990 Economic Evaluation and the 1991 Update it is possible to make some conclusions on the technical and economic feasibility of reducing or eliminating atrazine use. These conclusions can help determine what additional restrictions on atrazine use are appropriate. Throughout the discussion, it is useful to distinguish between individual uses of atrazine and the specific types of corn.

Technical Feasibility

Technical feasibility is generally considered to address the existence of suitable alternative weed control measures that can replace the individual uses of atrazine. These alternatives could potentially include alternative herbicides and mechanical weed control. Addressing the question of whether there are technically feasible alternatives to atrazine is independent of any economic or cost considerations. For instance, we can consider whether there are technically feasible alternatives to atrazine in specific situations, like routine weed control in continuous corn or for quackgrass control in first year corn after alfalfa sod, independent of cost. Furthermore, it is useful to consider whether the feasibility of reducing atrazine use varies between the various types of corn, such as field, sweet, and seed corn.

Field Corn. The feasibility analysis and discussions with the DATCP Atrazine Technical Committee have indicated that it is technically feasible to **reduce** or **eliminate** atrazine use on field corn. Particularly with new herbicide products entering the market and advancing technologies and expertise in mechanical weed control, it is technically possible to handle all weed control situations in field corn without the use of atrazine. In eliminating the use of atrazine, however, a higher level of management may be needed since weather and other factors make the timing of alternative weed control methods more critical.

Sweet and Seed Corn. The analysis indicated that on sweet corn and seed corn it is technically feasible to **reduce** atrazine use but it may not be technically feasible to **eliminate** atrazine use. Sweet and seed corn have unique weed control needs and problems, including

fewer registered alternative herbicides and higher potential for herbicide injury, that make atrazine a more integral component of the weed control strategy compared to field corn. There may be certain situations, such as when a rescue treatment is needed, where atrazine is the only technically feasible alternative. Although atrazine use is relatively more important on seed and sweet corn, it appears technically feasible to reduce application rates for routine use to 0.75-1.0 pound atrazine ai/acre.

Economic Feasibility

Economic feasibility goes beyond technical feasibility and considers the cost differences between atrazine and alternative weed control methods. It is possible, as in this analysis, to make per acre weed control cost comparisons for weed control strategies that use full atrazine, reduced atrazine, or no atrazine. It is also possible to use other economic parameters such as direct costs, production costs, or measures of profitability, such as gross margin analysis, to compare various weed control options. Furthermore, both micro and macroeconomic analysis can be conducted to determine the effects of modifying atrazine use on individual farms and the larger farm economy. No one method is specified for use by the Groundwater Law, so it is desirable to consider a range of economic indicators.

The guideline of economic feasibility in the Groundwater Law and ATCP 31 is somewhat difficult to interpret and implement because no specific measure or yardstick of economic feasibility is specified. Whereas it is possible to make cost comparisons between weed control strategies utilizing various levels of atrazine, it is much more difficult to interpret these results and decide what level of additional cost is acceptable in order to protect groundwater. Cost-benefit analysis is a possibility, but is often fraught with bias and was not specifically envisioned in the Groundwater Law. Short of some analytical or quantitative procedure for calculating acceptable or legitimate cost increases, we are left with a process of negotiation, qualitative input from the public, and group consensus to interpret how far it is feasible to further reduce atrazine use.

Field Corn. The 1990 and 1991 economic analyses indicated that it is economically feasible to **reduce** atrazine use on field corn. A one pound rate of atrazine has been used as a benchmark between higher and lower atrazine use rates in the analysis of the feasibility of reducing atrazine rates in the proposed AMAs. Data from the PEPs program, the NPM demonstrations, the DATCP Sustainable Agriculture Program, and the UW Agronomy field trials have consistently indicated that corn can be produced profitably using one pound or less of atrazine. This conclusion is corroborated by atrazine use patterns throughout Wisconsin. Most growers who continue to use atrazine use low application rates. At application rates of 1 pound or less, atrazine is used in premix products or to "spike" other herbicides in various tank mixes.

A determination of whether it is economically feasible to **eliminate** atrazine use on field corn depends largely on the extent of cost increase that is acceptable in order to further protect

groundwater. Whereas our analysis has indicated that there is no significant cost disadvantage when reducing atrazine rates to one pound or less, it did indicate a potential cost increase when eliminating atrazine and switching to alternative herbicides. The extent of this cost increase depends largely on weed pressure and the extent to which mechanical weed control is practical. Some research indicates that a switch from atrazine to Bladex would lead to little if any cost increase if row cultivation is used. Other sources of data suggest a $5 - $10/acre cost increase if atrazine was eliminated in favor of alternative herbicides on field corn. Still other individuals have testified to the department that in a worst case scenario loss of atrazine could lead to a $20-$30 cost increase/acre. The decision making process must resolve the question of whether these cost increases are economically feasible to minimize groundwater contamination.

Sweet and Seed Corn. Discussions with the Atrazine Technical Committee and sweet corn producers has indicated that it is economically feasible to reduce atrazine use on sweet corn and seed corn. The use of atrazine premix products, low levels of atrazine in tank mixes with other herbicides, and mechanical cultivation should allow routine atrazine application rates on sweet and seed corn to be reduced to 0.75 - 1.5 pounds ai/acre with a provision to allow additional atrazine use for rescue treatments.

It was previously stated that it is probably not technically feasible to eliminate the use of atrazine on sweet and seed corn. Since this determination has been made, discussion of the economic feasibility of eliminating atrazine use on sweet and seed corn is not relevant.

CHAPTER 5 - PERSONS DIRECTLY AFFECTED BY THE PROPOSED ACTION AND HOW THEY WILL BE AFFECTED

Atrazine Users - Field, Sweet, Seed and Silage Corn Growers

Atrazine users in the prohibition areas (PAs) would be affected by the proposed rule. Growers in PAs would not be able to apply atrazine or mix and load atrazine unless over a spill containment pad constructed in compliance with ATCP 29.151. Portable pads are available at a cost of approximately $1,800. Construction costs for acceptable concrete pads are estimated to be between $1,500 and $3,000. A description of the economic effects of reducing or eliminating atrazine use on corn crops is provided in Chapter 4.

Effects on the Pesticide Industry

Dealers and Distributors of Atrazine

Dealers and distributors of atrazine who service areas of proposed PAs would be affected by a reduction in the sales of atrazine. It is likely, however, that an increase in the sales of alternative herbicides would compensate for the reduction in atrazine sales.

Commercial Applicators of Atrazine

Commercial application services will be required to know where all the atrazine PAs are located to avoid inadvertent applications. Since many growers who cannot or chose not to use atrazine will use alternative herbicides, there should not be a significant reduction in business for commercial applicators. Any impact of the proposed rule on commercial applicators will depend on how they respond to changing weed control practices. Applicators that provide comprehensive services such as weed management consulting and non-atrazine or non-herbicide weed control programs may see an increase in business.

Manufacturers of Atrazine

Nineteen companies are licensed in Wisconsin to sell approximately 47 products containing atrazine. By eliminating atrazine use in the 8 proposed PAs, the proposed rule is expected to result in a small decrease in sales of atrazine products in Wisconsin. The extent of the impact on sales is related to the number of corn acres where atrazine use will be eliminated.

The impact of the reduction in atrazine sales in Wisconsin on the national atrazine market will be small unless this action serves as a precedent for other states.

Persons in Affected Areas Who Use Groundwater as a Source of Drinking Water

Groundwater is the source of drinking water for approximately 70% of Wisconsin residents. Residents whose private wells have been sampled and found to contain atrazine and metabolite concentrations above the 3.0 ppb ES have been advised by letter to find an alternative source of water for drinking and cooking purposes. These people incur inconvenience and costs associated with purchasing either bottled water or transporting water from a clean source. In some instances new wells must be installed at a cost ranging from $1,000 to more than $10,000. Some of these new wells have been partially funded by the Wisconsin Private Well Compensation Program. Property values can also decline in areas with groundwater contamination. Some homeowners with atrazine in their well above the ES have had to subtract the cost of replacing the well from the selling price of their home.

The rule is expected to reduce negative impacts on the quality of groundwater in Wisconsin. Since atrazine use and contamination is more severe in the PAs, greater benefits are expected for residents of these areas. Eliminating atrazine use in the proposed PAs should reduce additional atrazine inputs to wells previously contaminated and decrease the potential for new wells to become contaminated. As a result, health concerns and psychological stress associated with contaminated drinking water should be reduced by the rule. Also, the costs, inconvenience and effort associated with using bottled or other alternative sources of water should be reduced as the levels of atrazine in groundwater decline. Reductions in property values due to groundwater contamination by atrazine should diminish.

Effects on Costs to Consumers

The proposed action is not expected to have a measurable effect on consumer food costs, specifically on corn-derived products. It is unlikely that corn production will decline as a result of decreased atrazine use. Corn prices, which are tied to federal support programs and other factors such as weather, are not expected to change as a result of the proposed action.

State Agencies

DATCP would administer and enforce the proposed rule. Initially, a significant outreach effort will be needed to inform the regulated community of the new PAs. An increase in compliance and enforcement activities by DATCP will also be needed in the PAs.

Groundwater monitoring will need to continue to allow evaluation of the rule over time. Overall, a significant expenditure of staff, money and analytical services will be required.

DNR has authority to sample wells and is likely to continue these efforts. DHSS is expected to continue its cooperation with DNR and DATCP by offering information on possible health effects of atrazine and issuing health advisories regarding the use of water from contaminated wells.

CHAPTER 6 - ALTERNATIVES TO THE PROPOSED ACTION

No Action Beyond the Existing Rule

Under this option, no new PAs would be delineated and no new statewide restrictions would be imposed. The existing Chapter ATCP 30 (formerly Ag 30) promulgated in March 1993 would continue to apply to all areas of the state.

Advantages

An advantage of this option is that no additional rulemaking or compliance actions would be required for the Department. Also, from a weed control perspective, growers in the proposed PAs could continue using atrazine at the existing statewide levels.

Disadvantages

The main disadvantage of this option is that it would not provide adequate groundwater protection in the areas where exceedences of the atrazine ES have been found. A lack of response would not meet the department's mandates under the Groundwater Law.

Use on Field Corn Prohibited Statewide

Atrazine use on field corn would be prohibited under this option. No products containing atrazine could be applied for routine or rescue weed control treatments. Under this option atrazine use on sweet and seed corn would be limited statewide to the rates currently allowed in the AMAs: maximum application rates would be 0.75 - 1.0 pounds ai/acre based on soil texture. An additional amount could be used if a rescue treatment is needed as long as the total annual amount applied does not exceed the current maximum statewide rates.

Advantages

The main advantage of this option is that it provides a high degree of groundwater protection. Atrazine use would be limited to relatively low rates on sweet and seed corn. This option also recognizes the different weed control needs for sweet and seed corn as

compared to field corn. Atrazine is relatively less important for weed control on field corn because there are more suitable alternative herbicides registered for use.

Disadvantages

A disadvantage of this option is that it may be overly restrictive for some weed control situations on field corn. Eliminating atrazine use in field corn may lead to unacceptable cost increases for some growers.

Statewide Prohibition

Under this option atrazine use would be completely eliminated. No atrazine could be used for any crop in any part of the state. A prohibition on atrazine use could be imposed for the 1997 growing season or phased-in over 2-3 years. This is obviously the most restrictive action the Department could take in response to atrazine contamination in groundwater. This action should receive consideration because the NR 140 groundwater ES includes atrazine and the three chlorinated metabolites. Sampling results for atrazine and metabolites have indicated that this new ES is being exceeded much more frequently than the old ES which was based solely on parent atrazine.

Advantages

The biggest advantage of this option is that it would provide the highest degree of groundwater and public health protection from contamination by atrazine. No additional atrazine would be introduced into the environment to further contribute to the existing problem. The aquifers of the state could then begin to cleanse through degradation, dispersion and discharge into surface water. This option would be relatively easy to administer and enforce compared to a complicated system of AMAs and PAs.

Disadvantages

The main drawback of this option is that it is not clear, based on current data, whether atrazine use has the potential to exceed the new ES in all areas of the state. A statewide prohibition may eliminate atrazine use at low rates in areas where unacceptable contamination would not occur. This could lead to undue economic hardship on certain corn growers.

The Department has estimated the economic impact of eliminating the use of atrazine in Wisconsin. The overall analysis was based on separate analyses for continuous corn, corn in

rotation with alfalfa, and corn in rotation with other crops. The results indicated that the total economic cost of prohibiting atrazine use in Wisconsin would be between 1.6 and 10.9 million dollars. This wide range reflects the considerable cost differences between possible alternative weed control strategies. In situations where increased mechanical weed control is feasible, for instance, the analysis indicated that the economic impact could be greatly reduced.

Prohibit Atrazine Use in 1997 if Contamination is Worsening

Under ATCP 30 (formerly Ag 30), groundwater surveys will be conducted two and four years after the original Atrazine Rule implementation to evaluate how well the rule is working. Under this option, these and other surveys and research projects completed in 1996 would be used to determine whether atrazine contamination in groundwater is increasing, decreasing or staying the same. There would be a presumption of a ban on a specified date if the problem was getting worse. Specific criteria for making this determination would be described in the rule.

Advantages

The advantage of this approach is that it would attempt to base the decision of a statewide atrazine prohibition on survey and research data. It would formalize the decision making process by describing the specific circumstances that should signal the need for a statewide prohibition. As a result, confusion would be minimized at the time the surveys and research projects are evaluated and the decision on a statewide prohibition is made.

Disadvantages

The major disadvantage of this approach is that it would be difficult to produce survey and research data that could indisputably indicate whether an atrazine prohibition should be imposed. Even if the studies were statistically and objectively designed to the extent possible, different interpretations of the results could occur.

SUMMARY AND CONCLUSIONS

Groundwater monitoring initiatives in Wisconsin have discovered that the herbicide atrazine and its chlorinated metabolites are present in a variety of wells and aquifers around the state. The atrazine in groundwater is believed to have resulted from both use (non-point source) and improper handling, storage and disposal (point source). The distribution of atrazine detections in the state is widespread. Most areas where testing has occurred have shown detections and certain areas have more acute contamination problems.

Regulatory authority for protection of groundwater from pesticides including atrazine falls under the Wisconsin Groundwater Law (Ch. 160, Stats.) and Ch. ATCP 31, Wis. Adm. Code. Both the Groundwater Law and ATCP 31 describe the measures DATCP must take in response to documented groundwater contamination by pesticides. For groundwater contamination above the Enforcement Standard (ES), the department must prohibit the activity or practice which caused or may affect the contamination. For levels of contamination below the ES, the appropriate regulatory response is more complex. ATCP 31.09 states that any substance-specific groundwater protection rule "shall be designed, to the extent technically and economically feasible, to minimize the level of pesticide substance in groundwater and maintain compliance with the preventive action limit for the pesticide substance statewide."

The Atrazine Rule, Ch. ATCP 30 (formerly Ag 30), Wis. Adm. Code, was promulgated in March 1991 to protect Wisconsin's groundwater. This rule restricted the use of atrazine on a statewide basis and established one atrazine management area (AMA) and six prohibition areas (PAs) in which the use of atrazine was further restricted or prohibited.

Amendments to the Atrazine Rule promulgated in March 1992 established five additional AMAs and eight additional PAs in areas of the state where groundwater contamination is more acute. The AMAs were located in portions of Columbia, Dane, Green, Lafayette, and St. Croix counties.

Additional amendments to the Atrazine Rule were promulgated in March 1993. These amendments further limited the use of atrazine in the entire state. Specifically, the maximum allowable atrazine application rates for the entire state were lowered to 0.75 pounds/acre for coarse textured soils and 1.0 or 1.5 pounds/acre for medium/fine textured soils. The 1.5 pounds/acre is allowed on medium and fine textured soils if no atrazine was applied the previous year. An exemption is allowed on seed and sweet corn if a rescue treatment is needed.

Additional amendments were promulgated in March 1994. These amendments created 19 new PAs in 12 counties and enlarged three existing PAs where the Enforcement Standard (ES) for atrazine had been attained or exceeded.

Additional amendments were promulgated in March 1995. These amendments created 9 new PAs in 12 counties and enlarged four existing PAs where the Enforcement Standard (ES) for atrazine had been attained or exceeded.

Additional amendments were promulgated in April 1996. These amendments created 12 new PAs in 10 counties and enlarged two existing PAs where the Enforcement Standard (ES) for atrazine had been attained or exceeded.

Under this proposal, all statewide provisions in the current Atrazine Rule remain in effect. The proposed rule amendments would create six new PAs and enlarge two existing PAs. These actions are based on groundwater sample results for atrazine and metabolites that the Department has received in the last year. Most of the proposed PAs are based on a single well exceeding the ES. The proposed expansion of two existing PAs is due to newly discovered exceedences of the atrazine ES near an existing PA boundary.

The Environmental Impact Statement (EIS) contains: a description and discussion of the proposed rule; background information on atrazine, including information on the use of atrazine and findings of atrazine in groundwater; a discussion of the environment and persons affected by the proposed rule; and the significant economic effects of the proposed action. The EIS also discusses and compares possible alternative actions.

This EIS finds that promulgation of the proposed rule would not create any new adverse environmental impacts from the use of alternative herbicides. Alternative herbicides, due to differences in mobility and persistence, generally have less potential to contaminate groundwater as compared to atrazine. The major effect the proposed rule is expected to have on the environment is a reduction in additional groundwater contamination by atrazine across the state and in the PAs. This reduction in additional groundwater contamination will benefit the natural and human environments.

Several alternative regulatory strategies have been considered by DATCP staff. These include taking no action, prohibiting atrazine use on field corn, and prohibiting atrazine use statewide beginning in 1997 if contamination is worsening. Eliminating atrazine use statewide may provide greater protection of groundwater than the proposed rule but may also lead to greater economic hardship for farmers who desire to continue using atrazine.

It should be recognized that atrazine use on some sites under this rule may lead to groundwater contamination that exceeds the PAL. Additional studies conducted by DATCP in 1992 through 1996 should provide the data needed to evaluate the success of the rule.

STATE OF WISCONSIN
DEPARTMENT OF AGRICULTURE,
TRADE AND CONSUMER PROTECTION

By Nicholas J. Neher
Nicholas J. Neher
Administrator,
Agricultural Resource
Management Division

Dated: 10/30/96

Final Draft
12/23/96

ORDER OF THE STATE OF WISCONSIN
DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION
ADOPTING, AMENDING OR REPEALING RULES

The state of Wisconsin department of agriculture, trade and consumer protection proposes the following order to repeal portions of chapter ATCP 30 Appendix A, and to create portions of chapter ATCP 30 Appendix A relating to atrazine use restrictions.

Analysis Prepared by the Department of Agriculture, Trade and Consumer Protection

Statutory authority: ss. 93.07(1), 94.69(9), 160.19(2), and 160.21(1), Stats.

Statutes interpreted: ss. 94.69, 160.19(2) and 160.21(1), Stats.

In order to protect Wisconsin groundwater, current rules under ch. ATCP 30, Wis. Adm. Code, restrict the statewide rate at which atrazine pesticides may be applied. Current rules also prohibit the use of atrazine in areas where groundwater contamination levels attain or exceed state enforcement standards.

Based on new groundwater test data, this rule expands the number of areas in which atrazine use is prohibited and repeals one existing atrazine prohibition area.

Atrazine Prohibition Areas

Current rules prohibit the use of atrazine where atrazine contamination of groundwater equals or exceeds the current

groundwater enforcement standard under ch. NR 140, Wis. Adm. Code. Current rules prohibit atrazine use in 91 designated areas, including major prohibition areas in the lower Wisconsin river valley and much of Dane and Columbia counties.

This rule repeals and recreates 2 current prohibition areas to expand those areas, creates 6 new prohibition areas, and repeals 1 current prohibition area, resulting in a new total of 96 prohibition areas throughout the state. The rule includes maps describing each of the new and expanded prohibition areas.

Within every prohibition area, atrazine applications are prohibited. Atrazine mixing and loading operations are also prohibited unless conducted over a spill containment surface which complies with ss. ATCP 29.151(2) to (4), Wis. Adm. Code.

SECTION 1. The cover page to Appendix A to ch. ATCP 30 is repealed and recreated in the form attached.

SECTION 2. Prohibition area maps numbered 93-57-01, 94-37-01, and 96-50-01, contained in Appendix A to ch. ATCP 30, are repealed.

SECTION 3. The attached prohibition area maps, numbered 97-27-01, 97-36-01, 97-50-01, 97-50-02, 97-50-03, 97-50-04, 97-54-01 and 97-57-01 are created in Appendix A to ch. ATCP 30.

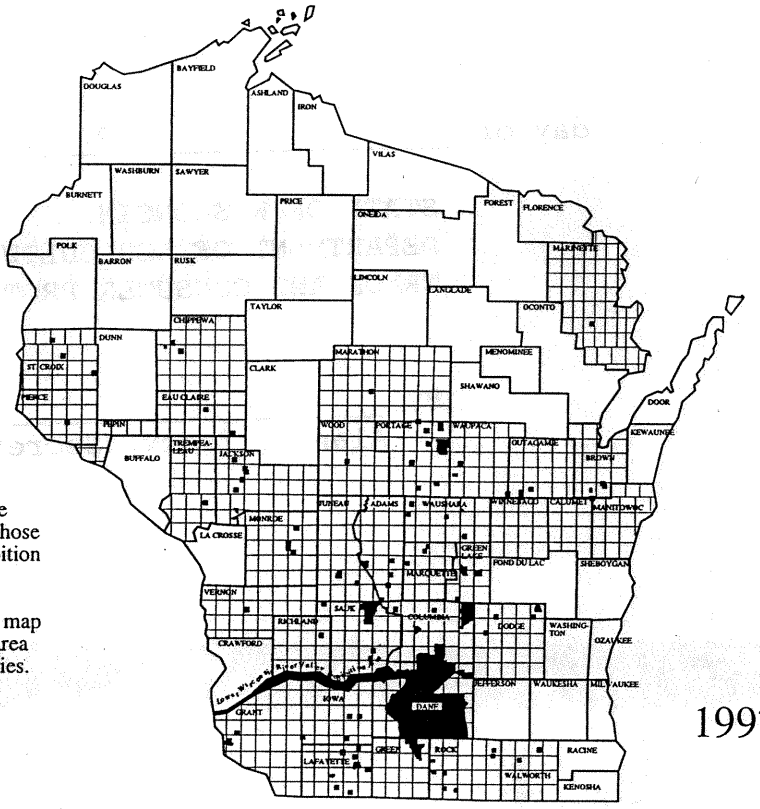
EFFECTIVE DATE. The rules contained in this order shall take effect on the first day of the month following publication in the Wisconsin administrative register, as provided under s. 227.22(2)(intro.), Stats.

Dated this _____ day of _____, 19___.

STATE OF WISCONSIN
DEPARTMENT OF AGRICULTURE,
TRADE AND CONSUMER PROTECTION

By _____
Alan T. Tracy, Secretary

Chapter ATCP 30
Appendix A
Atrazine Prohibition Areas



Township and Range lines are shown for those counties with prohibition areas.

Refer to the detailed map of each prohibition area for its exact boundaries.

1997 Rule

Guide to PA numbers

PA 96-01-01

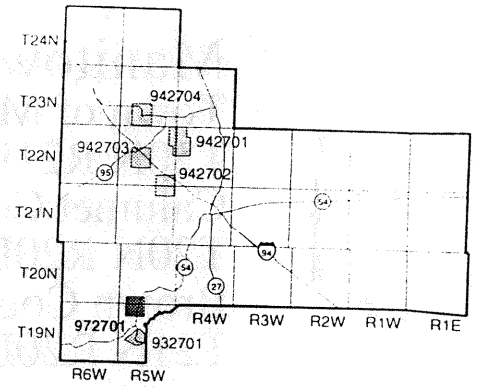
- Consecutive prohibition area number for that county for the year it was adopted or modified.
- County number - see table.
- The growing season for which the prohibition area was adopted or modified.

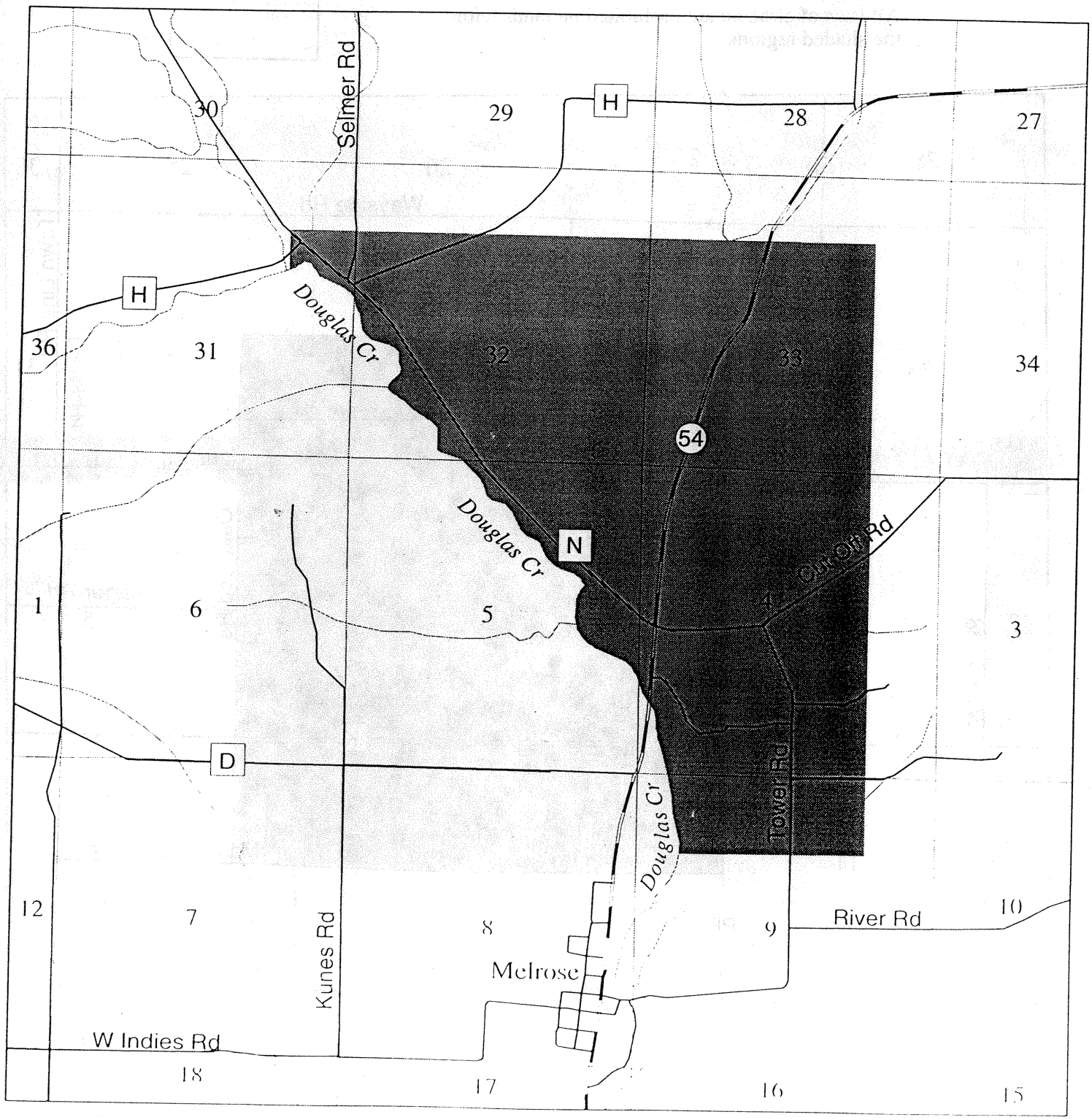
In the above example, the prohibition area was created or modified for the 1995 growing season, is in Adams County, and is the first prohibition area in Adams County adopted or modified for that year.

Adams	01	Jackson	27	Richland	53
Ashland	02	Jefferson	28	Rock	54
Barron	03	Juneau	29	Rusk	55
Bayfield	04	Kenosha	30	St. Croix	56
Brown	05	Kewaunee	31	Sauk	57
Buffalo	06	La Crosse	32	Sawyer	58
Burnett	07	Lafayette	33	Shawano	59
Calumet	08	Langlade	34	Sheboygan	60
Chippewa	09	Lincoln	35	Taylor	61
Clark	10	Manitowoc	36	Trempealeau	62
Columbia	11	Marathon	37	Vernon	63
Crawford	12	Marinette	38	Vilas	64
Dane	13	Marquette	39	Walworth	65
Dodge	14	Menominee	40	Washburn	66
Door	15	Milwaukee	41	Washington	67
Douglas	16	Monroe	42	Waukesha	68
Dunn	17	Oconto	43	Waupaca	69
Eau Claire	18	Oneida	44	Waushara	70
Florence	19	Outagamie	45	Winnebago	71
Fond du Lac	20	Ozaukee	46	Wood	72
Forest	21	Pepin	47		
Grant	22	Pierce	48		
Green	23	Polk	49		
Green Lake	24	Portage	50		
Iowa	25	Price	51		
Iron	26	Racine	52		

Jackson County
Towns of Melrose & Irving
T19-20N R5W **PA 97-27-01**

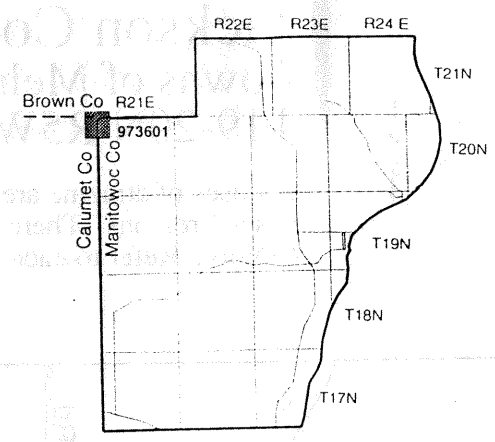
All uses of atrazine are prohibited on lands within the shaded regions. There are 6 prohibition areas in Jackson County. Refer to each map for specific locations.

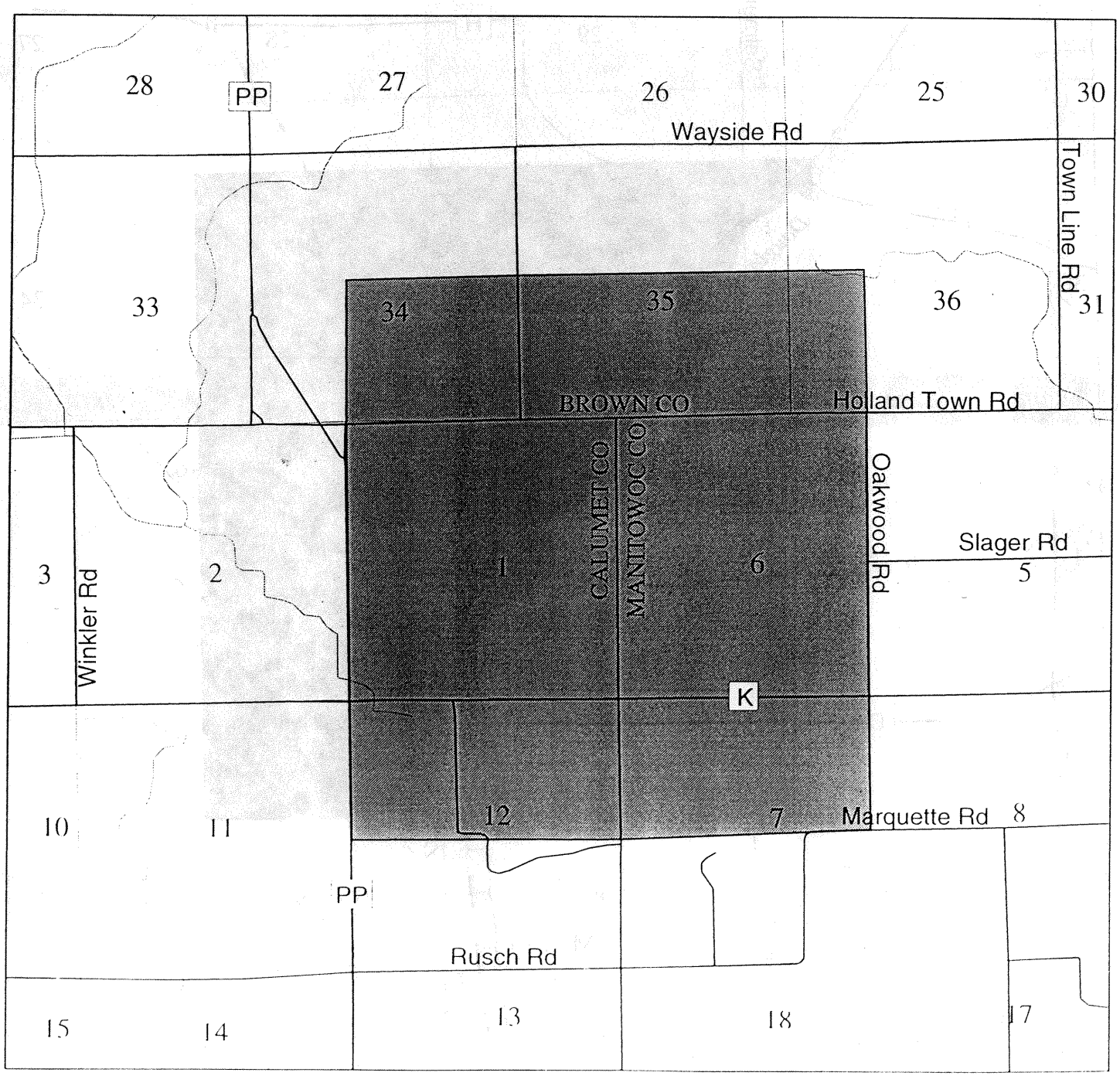




Manitowoc County
Town of Maple Grove
T20N R21E **PA 97-36-01**
Calumet County, Town of Brillion
T20N R20E
Brown County, Town of Holland
T21N R20E

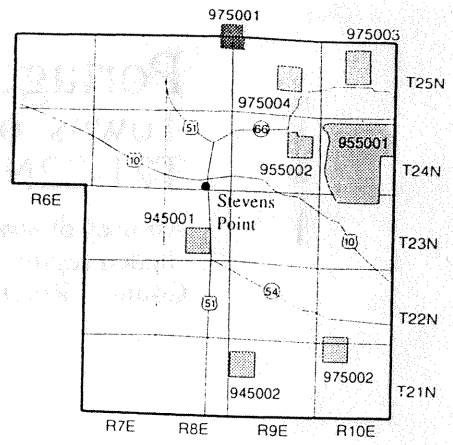
All uses of atrazine are prohibited on lands within the shaded regions.

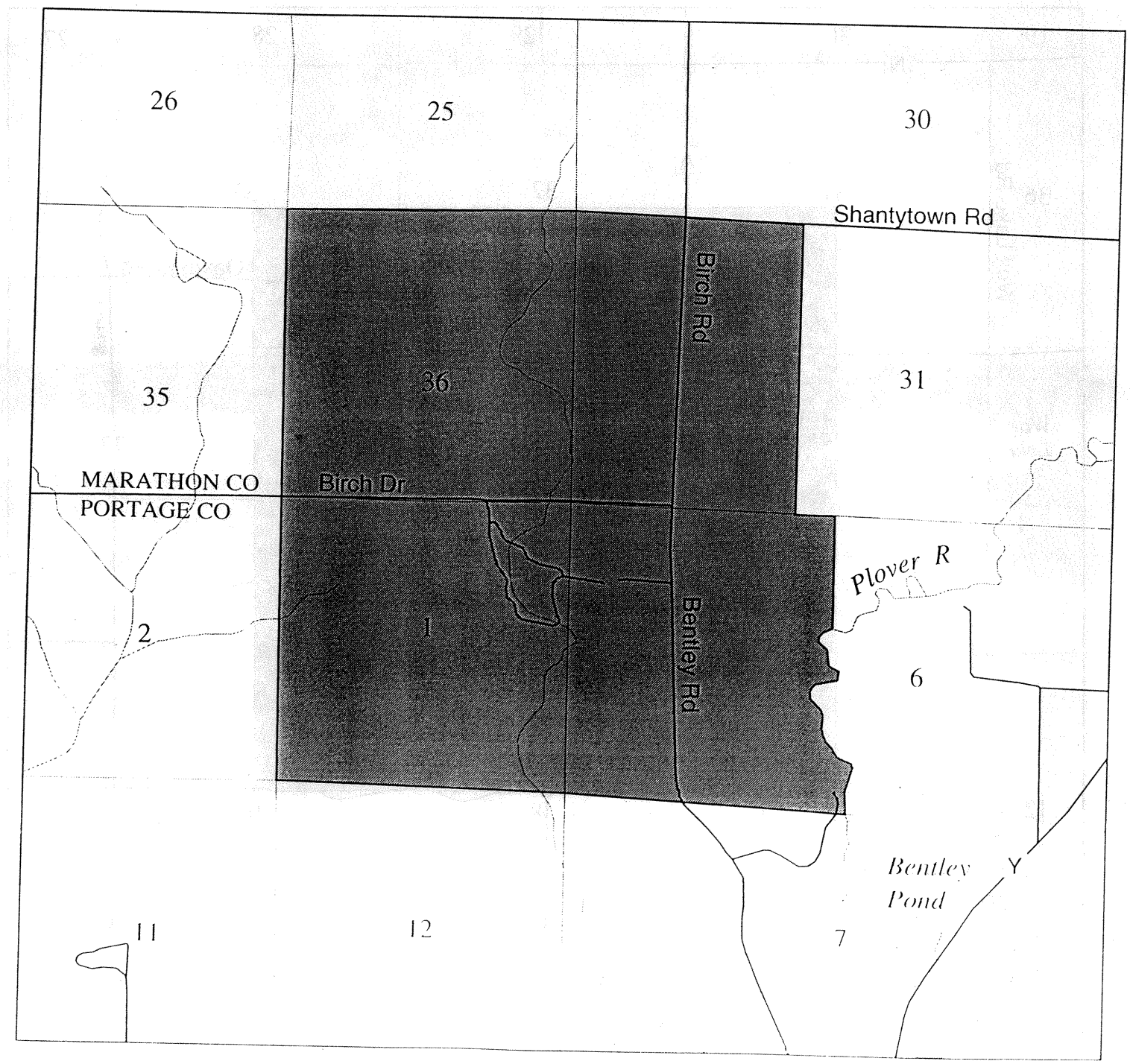




Portage County
Towns of Dewey & Sharon
T25-26N R8-9E **PA 97-50-01**
Marathon County
Towns of Guenther & Bevent

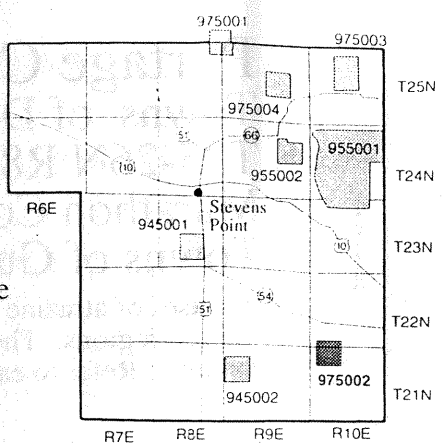
All uses of atrazine are prohibited on lands within the shaded regions. There are 8 prohibition areas in Portage County. Refer to each map for specific locations.

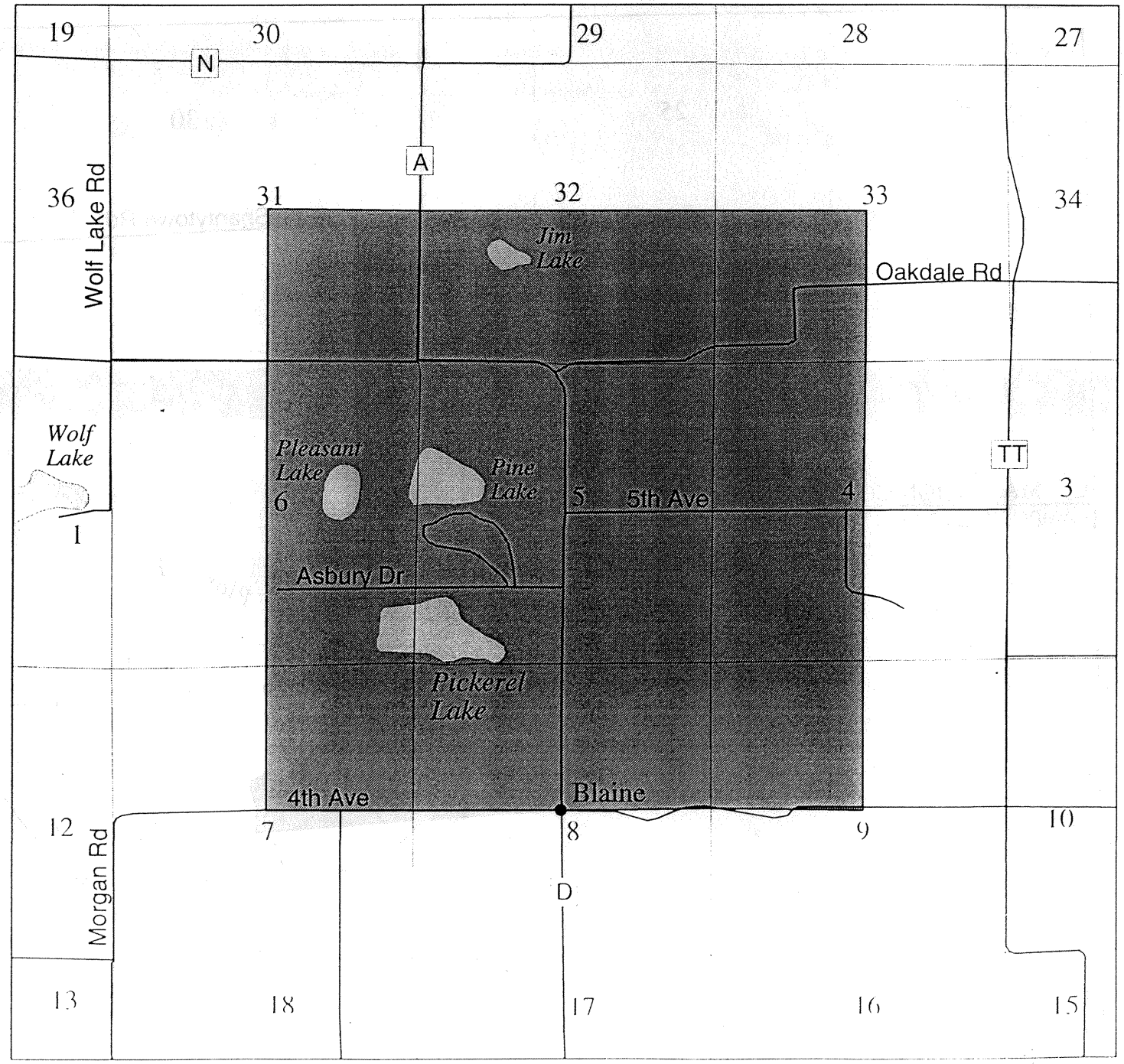




Portage County
Towns of Belmont & Lanark
T21-22N R10E **PA 97-50-02**

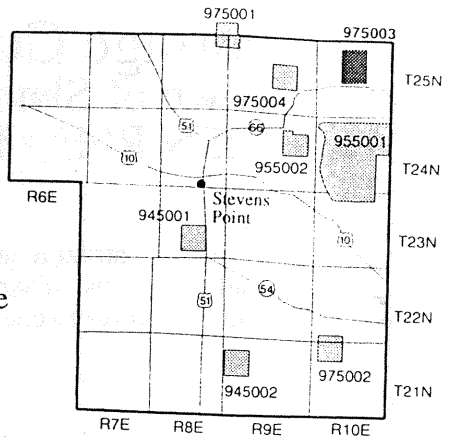
All uses of atrazine are prohibited on lands within the shaded regions. There are 8 prohibition areas in Portage County. Refer to each map for specific locations.

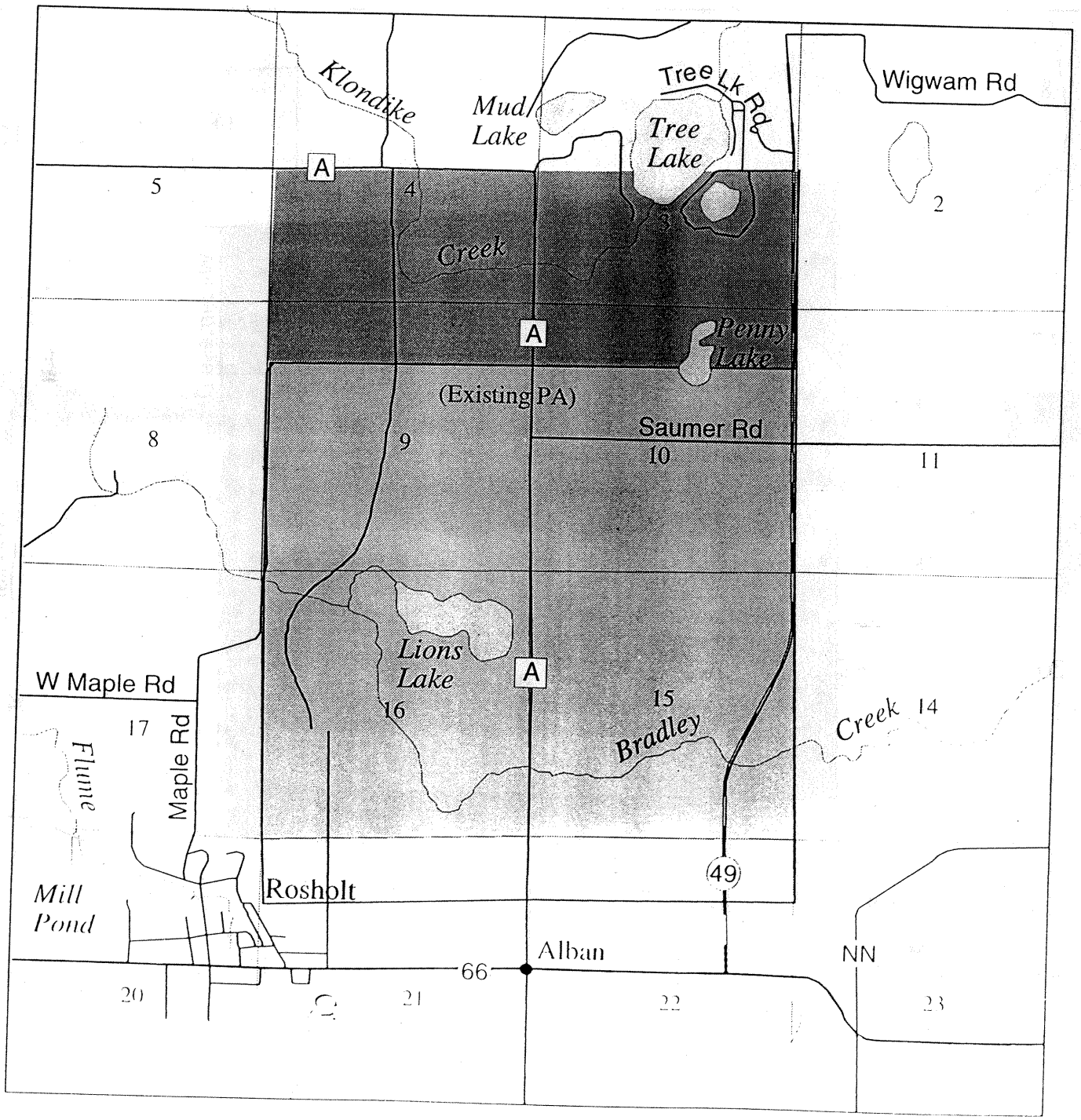




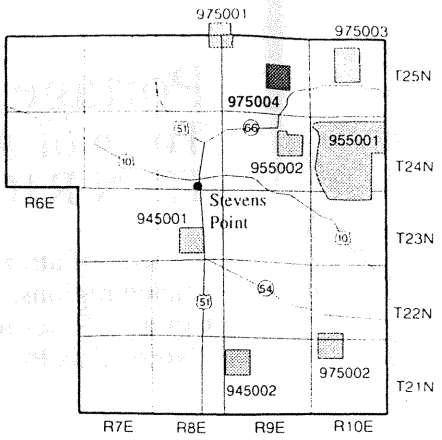
Portage County
Town of Alban
T25N R10E **PA 97-50-03***

All uses of atrazine are prohibited on lands within the shaded regions. There are 8 prohibition areas in Portage County. Refer to each map for specific locations.
***Note:** This PA is an expansion of PA 96-50-01.

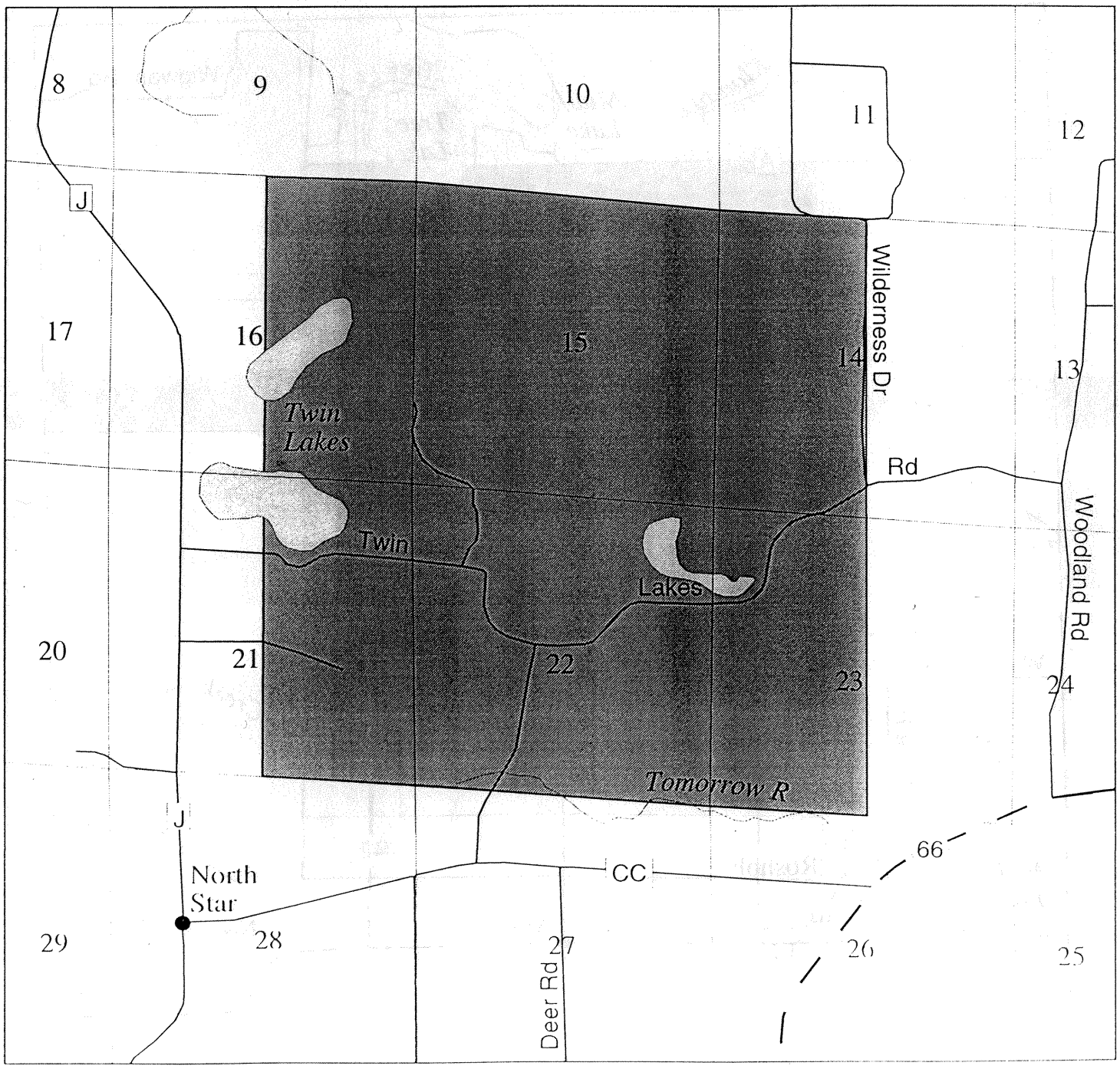




Portage County
Town of Sharon
T25N R9E **PA 97-50-04**

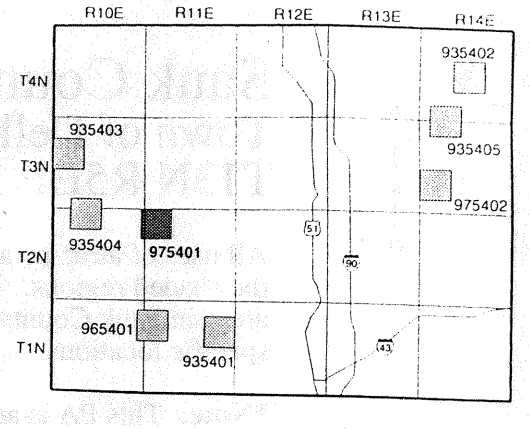


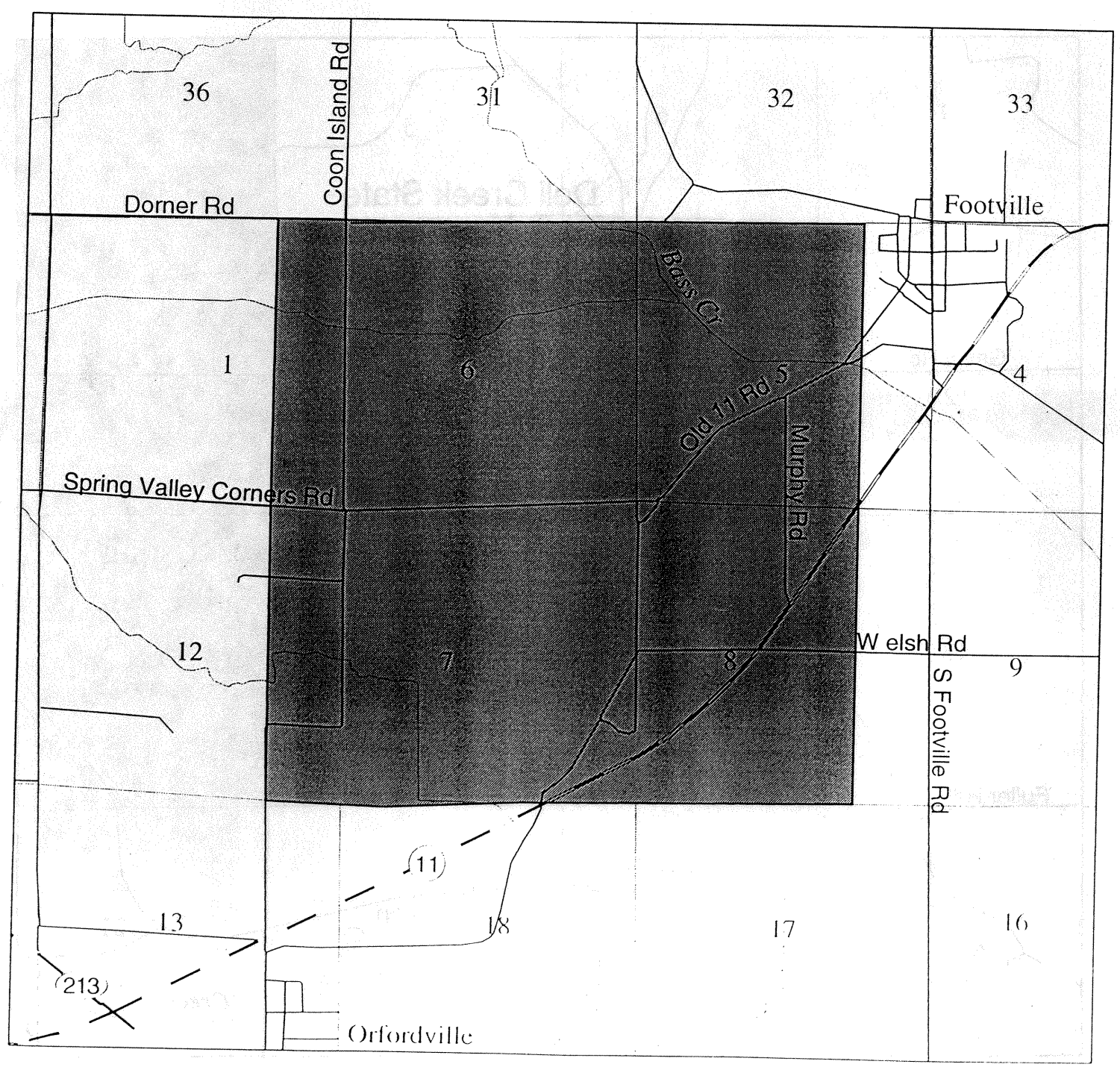
All uses of atrazine are prohibited on lands within the shaded regions. There are 8 prohibition areas in Portage County. Refer to each map for specific locations.



Rock County
Towns of Plymouth, & Spring Valley
T2N R10-11E **PA 97-54-01**

All uses of atrazine are prohibited on lands within the shaded regions. There are 8 prohibition areas in Rock County. Refer to each map for specific locations.

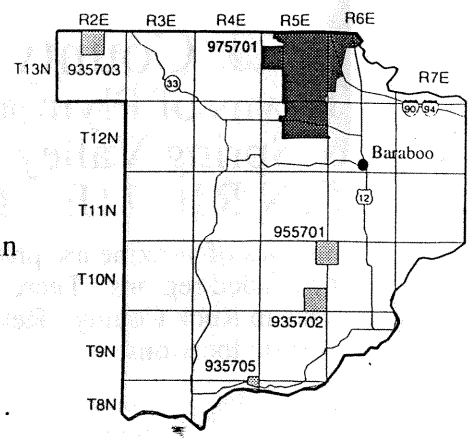


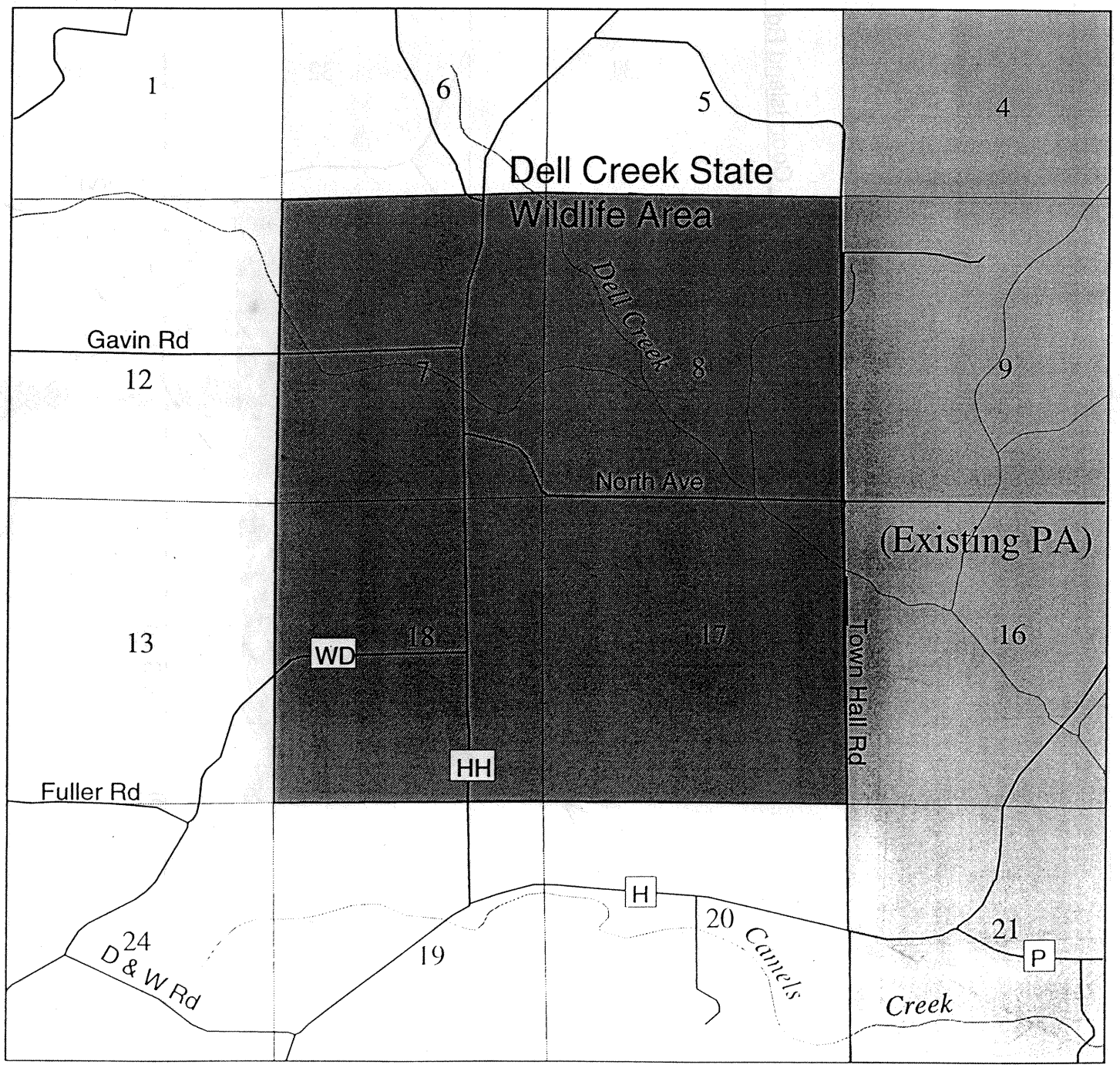


Sauk County
Town of Dellona
T13N R5E **PA 97-57-01***

All uses of atrazine are prohibited on lands within the shaded regions. There are 5 prohibition areas in Sauk County. Refer to each map for specific locations.

***Note:** This PA is an expansion of PA 93-57-01.





Chairman:
Agriculture Committee

Member:
Environment & Utilities
Government Operations
Natural Resources
Rural Affairs

Al Ott
State Representative • 3rd Assembly District

Assembly Agriculture Committee

MEMO

To: Members of the Assembly Agriculture Committee

From: Representative Al Ott, Chair

Date: January 24, 1997

The following clearinghouse rules have been referred to the Assembly Agriculture Committee:

Clearinghouse Rule 96-138
Relating to financial standards and security requirements for vegetable contractors. Submitted by the Department of Agriculture, Trade and Consumer Protection.

Clearinghouse Rule 96-139
Relating to potato late blight. Submitted by the Department of Agriculture, Trade and Consumer Protection.

Clearinghouse Rule 96-142
Relating to atrazine use restrictions. Submitted by the Department of Agriculture, Trade and Consumer Protection.

The deadline for action on these rules is February 22, 1997. If you would like a copy of any of the rules, please contact my office at 266-5831.

Office: P.O. Box 8953 • Madison, WI 53708 • (608) 266-5831 • Toll-Free: 1 (800) 362-9472
Home: P.O. Box 112 • Forest Junction, WI 54123-0112 • (414) 989-1240