

# Water Quality and Pesticides

It's getting real

Andrew Thostenson



Bridgette Readel





# EPA Proposes Dramatic Change in Atrazine Use



## EPA Proposes New Atrazine Restrictions

Biden Administration Proposes Atrazine Label Restrictions for Farmers

6/30/2022 | 12:59 PM CDT



By Todd Neeley, DTN Staff Reporter

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EPA proposed new label restrictions on atrazine products, in a proposal released on Thursday. (DTN file photo)

LINCOLN, Neb. (DTN) -- The EPA is proposing several label changes to atrazine products, designed to reduce runoff of the herbicide from farm fields.

The agency released a proposal for public comment on Thursday that would place new restrictions on atrazine use to protect aquatic plant species.

In December 2021, the U.S. Court of Appeals for the Ninth Circuit in San Francisco granted EPA's request to re-examine atrazine's label following a Biden administration executive order.

Atrazine is a herbicide widely used in agriculture across a range of crops, primarily corn but also sugarcane and sorghum, as well as a smaller amount in landscape care.

Environmental groups have lobbied for atrazine to be banned entirely, based on concerns about human health risks and environmental problems, particularly concerning water quality. Syngenta is the registrant and primary manufacturer of atrazine.

EPA proposes the following measures for all atrazine labels:

-- To prohibit application when soils are saturated or above field capacity (i.e., the soil's ability to retain water).

-- To prohibit application during rain or when a storm event, likely to produce runoff from the treated area, is forecast to

occur within 48 hours following application.

-- Prohibit aerial applications of all formulations.

-- To restrict annual application rates to 2 pounds of active ingredient or less per acre per year or less for applications to sorghum, field corn and sweet corn.

**Table 1. Proposed Label Changes for All Atrazine Technical Products**

**EPA PROPOSED—June 2022**

<b>Description</b>	<b>Proposed Label Changes for All Atrazine Technical Labels</b>
<b>Soil Saturation Restriction</b>	For all formulations, add the following restriction: “Do not apply atrazine products when soils are saturated or above field capacity.”
<b>Aerial Application Prohibition</b>	For all formulations, add the following restriction: “Aerial application is prohibited.”
<b>Precipitation Restriction</b>	For all formulations, add the following restrictions: <ul style="list-style-type: none"><li>• “Do not apply atrazine containing products during rain.”</li><li>• “Do not apply atrazine containing products when a storm event likely to produce runoff from the treated area is forecasted (by NOAA/National Weather Service, or other similar forecasting service) to occur within 48 hours following application.”</li></ul>
<b>Use Restrictions for Sorghum; Field Corn; Sweet Corn</b>	For all formulations, add the following restriction: “Do not apply more than 2.0 lbs ai/A/year”

Table C. Picklist for Field Corn

Definitions and explanations of various practices have yet to be explained

- Utilize  $\geq 30$  ft (Hydrological Soil Groups A & B) or  $\geq 100$  ft (Hydrological Soil Groups C & D) vegetative filter strip
- Cover crop
- Contour buffer strips
- Terrace farming
- Field border
- Grassed waterway
- Irrigation water management
- Contour farming
- Strip cropping
- Soil incorporation to a depth of 2.5 cm
- No tillage and reduced tillage

Region 2 States in Watersheds Included in Atrazine Concentration List 1 if Applying to Highly Erodible Lands

- At an application rate of 1.0 lb ai/A/year or less, **two** runoff reduction practices must be present from **Table C**.
- At an application rate above 1.0 lb ai/A/year, **four** runoff reduction practices must be present from **Table C**.
- Do not apply more than 1.6 lbs/A for pre-emergence applications.

Region 2 States in Watersheds Included in Atrazine Concentration List 1 if Applying to Non-Highly Erodible Lands

- At an application rate of 1.0 lb ai/A/year or less, **one** runoff reduction practice must be present from **Table C**.
- At an application rate above 1.0 lb ai/A/year, **two** runoff reduction practices must be present from **Table C**.

# Current Atrazine labeling

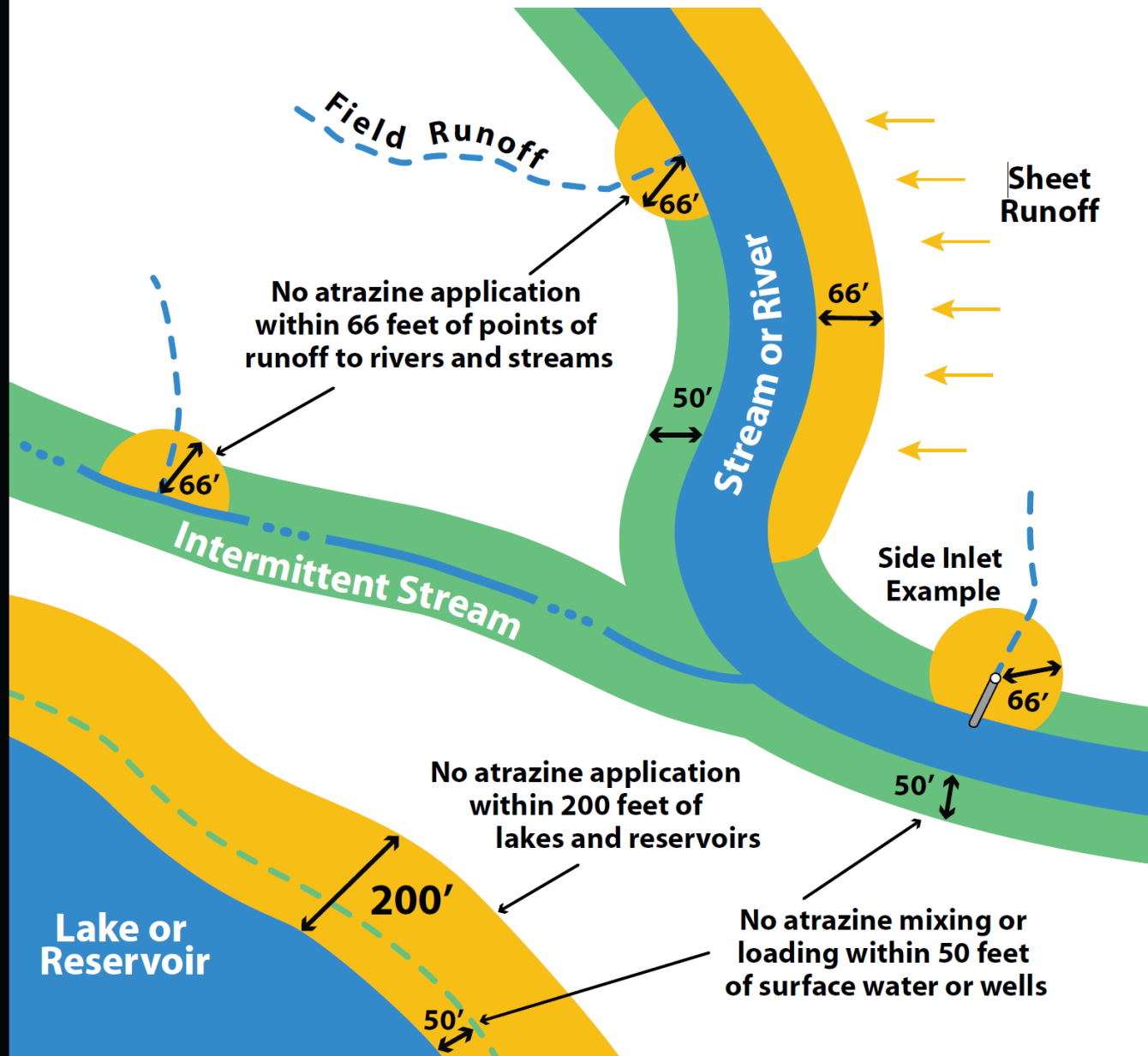


This product may not be applied aerially or by ground within **66 feet** of the points where field surface water runoff enters perennial or intermittent streams and rivers or within **200 feet** around natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the **66 foot** buffer or setback from runoff entry points must be planted to crop, seeded with grass or other suitable crop.

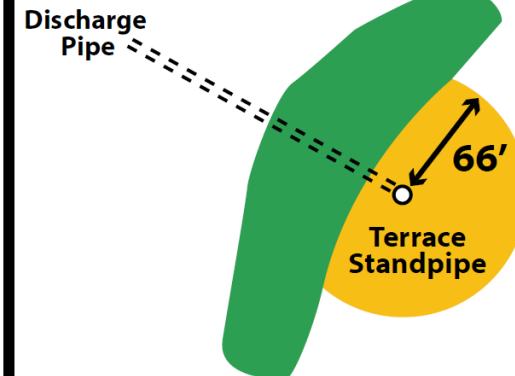
Manufactured for:  
Syngenta Crop Protection, LLC  
P. O. Box 18300  
Greensboro, North Carolina 27419-8300  
**SCP 497A-L38UU 1121**  
**4150889**

# Required Atrazine Product Setbacks

## Surface Water Setbacks for Atrazine Products



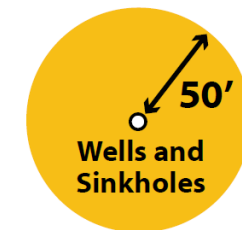
## Sixty-six Foot Atrazine Product Setback for Terrace Inlet Standpipes\*



Do not apply atrazine within 66 feet of any standpipe in a terraced field unless:  
-- Immediate incorporation to a 2-3 inch depth  
-- or No-till is used with no residue removal

\* Atrazine products vary on this requirement. Follow label of product being used.

## Fifty-foot Atrazine Product Setback for Wells and Sinkholes



Applies to all wells; including drinking water, irrigation, drainage, and abandoned wells

**READ THE LABEL!**

Existing atrazine setback requirements



Are these setbacks actually being followed?





# Setbacks Around Ditches/Small Creeks





# Rivers





# Lakes, ponds, potholes, streams, and farmland near Devils Lake, ND



Miller  
Waterfowl  
Production  
Area...



Potholes





Allowing pigweed  
to overrun a  
setback area is  
not realistic





# ***Super Tin***<sup>®</sup> **4L**

Triphenyltin Hydroxide Flowable Fungicide

Do not apply with aircraft within **300 feet** or with groundboom equipment within **100 feet** of any natural body of water such as rivers, streams, ponds, lakes and reservoirs. Do not apply with aircraft when wind speed is greater than 10 mph.



**UPI**

Manufactured for:

**United Phosphorus, Inc.**

630 Freedom Business Center, Suite 402

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Rev. 12/21/09

70506-212(010810-3542)

1-800-438-6071 • [www.upi-usa.com](http://www.upi-usa.com)



Cercospora  
Leaf Spot on  
sugarbeet

Not Sprayed

Sprayed

\$400+ per acre loss







Observe the following restrictions when spraying in the vicinity of aquatic areas such as lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, and estuaries.

Apply only during alternate years in fields adjacent to aquatic areas listed above.

Do not apply by ground or air within 100 feet of aquatic areas listed above.



Obviously, having a setback that is blighted is something farmers are unlikely to accept





## Loader and applicator requirements to minimize the potential for runoff to surface water:

- Maintain a 500 ft. vegetative buffer between treated area and surface water on neighboring land.
- Maintain a 500 ft. buffer between a standpipe drain outlet and surface water on neighboring land.
- Maintain a 66 ft. setback between the treated area and entry points to surface water bodies on non-highly erodible soils.
- Maintain a 300 ft. setback between the treated area and entry points to surface water bodies on highly erodible soils (HES).






Creating a refuge  
for Sugarbeet  
Root Maggots is  
NOT a good idea






# These statements are found throughout labels of products that are routinely used




**MUSTANG**  
INSECTICIDE

**Buffer Zone for Ground Application** (groundboom, overhead chemigation, or airblast) - Do not apply within **25 feet** of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

**Buffer Zone for Non-ULV Aerial Application** - Do not apply within **150 feet** of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).



Sold By:  
**FMC**  
FMC Corporation  
2929 Walnut Street  
Philadelphia, PA 19104




**Willowood**  
**TEB 3.6SC**

Observe the following restrictions when spraying in the vicinity of aquatic areas such as lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, and estuaries:

- Do not apply by ground or air within **100 feet** of aquatic areas listed above.
- Do not cultivate within **10 feet** of an aquatic area to allow growth of a vegetative filter strip.


Manufactured For:  
Willowood, LLC  
365 Interlocken Crescent, Suite #100  
Broomfield, CO 80021  
201.800.2211




**CAPTURE**  
LFR  
INSECTICIDE

**Ground Application** – Do not apply within **25 feet** of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, ponds, estuaries, and commercial fish ponds).

**Non-ULV Aerial Application** – Do not apply within **150 feet** of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, ponds, estuaries, and commercial fish ponds).



Sold By:  
**FMC**  
FMC Corporation  
2929 Walnut Street  
Philadelphia, PA 19104




**CORTEVA**  
**Enable 2F**  
FUNGICIDE

Do not make ground or aerial applications within **75 feet** of streams, rivers, ponds, lakes or reservoirs.

Produced for  
Dow AgroSciences LLC  
9330 Zionsville Road  
Indianapolis, IN 46268

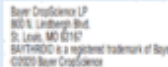
43714-016  
EPA Accepted: 01-11-03 and New registration added 03-21-18  
Label Code: 000470-1000



**BAYTHROID XL**  
INSECTICIDE

**Buffer Zone for Ground Application** (groundboom, overhead chemigation, or airblast) – Do not apply within **25 feet** of aquatic habitats (such as, but not limited to, lakes reservoirs, rivers, permanent streams; marshes or natural ponds, estuaries, and commercial fishponds).

**Buffer Zone for Non-ULV Aerial Application** – Do not apply within **150 feet** of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams; marshes or natural ponds, estuaries, and commercial fishponds).



Sayer CropScience LP  
800 N. Lindbergh Blvd.  
St. Louis, MO 63167  
BAYTHROID is a registered trademark of Bayer  
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While pesticides are found in water at extremely low levels, EPA is under pressure to minimize contamination. What's the solution?

Table 3. Common pesticides detected in North Dakota surface waters in 2021.

Everything PPB unless otherwise noted	Quantifiable Detections		Qs (Present below reporting limit)		Total	
	Number	Percent	Number	Percent	Number	Percent
Atrazine	158	91%	14	8%	172	99%
Hydroxy atrazine	146	84%	23	13%	169	97%
2,4-D	129	74%	35	20%	164	94%
Deethyl atrazine	156	90%	6	3%	162	93%
Bentazon	113	65%	13	7%	126	72%
Metolachlor ESA	113	65%	12	7%	125	72%
Acetochlor OA	98	56%	16	9%	114	66%
Metolachlor OA	86	49%	22	13%	108	62%
Prometon	63	36%	42	24%	105	60%
Acetochlor ESA	75	43%	22	13%	97	56%
Imazapyr	69	40%	26	15%	95	55%
Metolachlor	54	31%	33	19%	87	50%
Pyrasulfotole	15	9%	72	41%	87	50%
Dimethenamid OA	45	26%	31	18%	76	44%
Tebuconazole	11	6%	61	35%	72	41%
Dimethenamid	47	27%	18	10%	65	37%
Tebuthiuron	31	18%	34	20%	65	37%
Diuron	37	21%	22	13%	59	34%
Deisopropyl atrazine	14	8%	40	23%	54	31%
MCPA	22	13%	30	17%	52	30%
Propiconazole	6	3%	46	26%	52	30%
Saflufenacil	15	9%	35	20%	50	29%
Imazethapyr	14	8%	36	21%	50	29%
Tetraconazole	14	8%	35	20%	49	28%
Azoxystrobin	8	5%	36	21%	44	25%
Clothianidin	9	5%	30	17%	39	22%
Metalaxyl	7	4%	30	17%	37	21%



# Typical Water Hazard Statement



Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high-water mark. Do not contaminate water when disposing of equipment washwaters or rinsate. Drift or runoff may adversely affect aquatic invertebrates, sensitive wetland environments, and non-target plants. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.





# Enhanced Requirements

Mitigation Measures		Credits	
<b>Reduce number of applications</b> - Reduced number of applications of Enlist products per year. Applications may be made at any time during crop development but must maintain a minimum 12-day retreatment interval.	3 applications	0	
	2 applications	2	
	1 application	4	
<b>Residue Tillage Management:</b> no-till, strip-till, ridge-till, and mulch-till		4	
<b>Vegetative Filter Strips</b>	30 ft off-field vegetative buffer on down slope	HSG A or B	2
		HSG C or D	0
	100 ft off-field vegetative buffer on down slope	HSG A or B	4
		HSG C or D	1
<b>Field border:</b> border with dense vegetative stands with a minimum width of 30 ft.		2	
<b>Cover Crop</b>		2	
<b>Vegetative Barrier:</b> Permanent strips of dense vegetation along the contours of the field with a minimum width of 3 ft.		2	
<b>Contour Buffer Strips or Terrace</b>		2	
<b>Grassed Waterway</b>		2	
<b>Water and Sediment Basin</b>		1	
<b>Contour Farming or Contour Strip Cropping</b>		1	

\*Hydrologic Soil Group (HSG) definitions: A = Sand, loamy sand, or sandy loam; B = Sandy clay loam; C = Silt loam or loam; D = Clay loam, silty clay loam, sandy clay, silty clay or clay.



Table C. Picklist for Field Corn

Notice the similarity with the Enlist One Label!

- Utilize  $\geq 30$  ft (Hydrological Soil Groups A & B) or  $\geq 100$  ft (Hydrological Soil Groups C & D) vegetative filter strip
- Cover crop
- Contour buffer strips
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Region 2 States in Watersheds Included in Atrazine Concentration List 1 if Applying to Non-Highly Erodible Lands

- At an application rate of 1.0 lb ai/A/year or less, **one** runoff reduction practice must be present from Table C.
- At an application rate above 1.0 lb ai/A/year, **two** runoff reduction practices must be present from Table C.





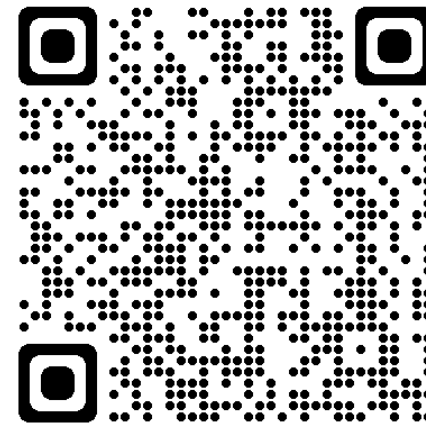
# EPA is committed to this approach

“These mitigation measures include surface water protection statements users would follow when precipitation occurs or is forecasted, as well as a pick list of conservation measures a grower must select from and use to reduce pesticide runoff from the field.”



## ESA WORKPLAN UPDATE:

### Nontarget Species Mitigation for Registration Review and Other FIFRA Actions



November 2022







# What are some practical solutions?



- Map it out and know your ground
- Review labeling statements and follow them? ★
- Use alternative a.i. on problematic sites
- Deploy conservation measures when doable ★
- Seek out conservation easements paid for from government or private entities
- Take action, **IGNORING** this is not an option! ★





How are you responding to these proposals?

Are you educating yourself on these issues?

Are you communicating with your commodity groups and professional associations?

Are you communicating with your representatives?

Are you commenting to EPA?



Contact us:

Thank you

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