

Setting the Record Straight on Atrazine

Atrazine, a popular and trusted herbicide for more than 50 years, is once again under attack. A recent flurry of negative articles, videos and blogs has been spreading false claims.

Atrazine is a well-tested, safe and beneficial product that is critical to American agriculture and the nation's economy. A robust scientific database of more than 6,000 studies and favorable regulatory reviews from around the world support these facts.

Syngenta will continue to support, defend and present the truth about this important product. Here are the **facts** about atrazine ...

Tap water is **safe to drink, where atrazine is concerned.**

- EPA's drinking water standard of 3 parts per billion (ppb) is highly protective with a very large margin of safety.
- The World Health Organization (WHO) in 2010 raised its recommended safe level of atrazine in drinking water from 2 ppb to 100 ppb.
- Australian regulators maintain a safety standard for atrazine at 40 parts per billion.
- An EPA Scientific Advisory Panel (SAP) in 2011 suggested a lower safety factor is justified by the science.
- It is physically impossible for anyone to be exposed to enough atrazine in drinking water to impact their health.

Atrazine does **not** cause cancer in humans.

- In 2000 EPA concluded that atrazine is "unlikely to cause cancer in humans."
- EPA stated very clearly in its presentation to the July 2011 (SAP) the available data do not support any association between atrazine exposure and any form of cancer.
- EPA's finding that atrazine is not likely to cause cancer is consistent with findings of the WHO and government agencies in the United Kingdom (UK), Canada and Australia.
- Findings from the 2011 government-sponsored Agricultural Health Study report found no consistent evidence of a link between the use of atrazine and the incidence of hormonally related cancers, including breast, prostate and ovarian cancer.

Atrazine does **not** cause birth defects.

- An EPA SAP reaffirmed in 2011 that atrazine does not affect reproductive or developmental outcomes, even at levels much higher than would ever be found in the natural environment. The panel also found children and developing infants are no more susceptible to atrazine than adults.
- Many regulatory agencies and organizations have concluded atrazine has no effect on developing fetuses, including: EPA, the Joint Meeting on Pesticide Residue (composed of the Food and Agriculture Organization of the United Nations and WHO), the European Union (EU) and the governments of Canada and Australia.
- There are no reliable epidemiology studies showing a causal link between atrazine and birth defects. The handful of studies that have been published are flawed and have been reviewed by regulatory authorities.
- It is physically impossible for atrazine levels in drinking water to ever reach concentrations high enough to have any effect on humans.

Atrazine is **not** an endocrine disruptor at concentrations that occur in the natural environment.

- Studies clearly show it is physically impossible to dissolve enough atrazine in water to reach a level at which it could have any impact on human health.
- An EPA SAP in 2011 found children and developing infants are no more susceptible to atrazine than adults.

Atrazine is **not** banned in the EU due to health concerns.

- The EU's decision on atrazine was not health based. Atrazine was not listed for use, based on an arbitrary and very low detection standard of 0.1 ppb in ground water. The health-based drinking water limit was established at 15 ppb.
- Atrazine received favorable safety reviews from EU regulators. The UK Scientific Committee on Plants found, "that the use of atrazine, consistent with good plant protection practice, will not have any harmful effects on human or animal health or any unacceptable effects on the environment."
- Many European farmers continue to rely on a triazine herbicide very similar to atrazine for weed control.

Atrazine does not cause gender deformities in frogs.

- EPA concluded in 2007 “that atrazine does not adversely affect amphibian gonadal development based on a review of laboratory and field studies, including studies submitted by Syngenta and studies published in the scientific literature.”
- Yale University scientist Dr. David Skelly reported in 2008 he found fewer hermaphroditic frogs in agricultural areas, where herbicide use would be higher than in suburban areas.
- The largest and most definitive study on frogs (Kloas 2009) clearly showed atrazine has no effect on frog sexual development or gender characteristics.
- EPA reiterated in April 2010 that “... atrazine does not adversely affect amphibian gonadal development based on a review of laboratory and field studies ... no additional testing is warranted to address this issue.”

Atrazine is not the cause of declining frog populations.

- Over the past 20 years, deformities and declines in frog populations have been linked to many causes, including natural fungal disease, non-native fish, natural parasites and habitat destruction, but never to atrazine.
- New research (Hof et al. 2011) has examined the three most likely causes for amphibian declines — pathogens, climate change and land-use changes.
- The native northern leopard frog continues to thrive in areas where atrazine is heavily used, including in irrigation ditches next to corn fields in the Midwest.

Atrazine is beneficial to the environment.

- Atrazine is essential to conservation tillage and no-till farming, which reduce soil erosion and fuel use and improve water and wildlife habitat.
- Atrazine helps farmers reduce aggregate soil erosion by up to 85 million tons per year — enough to fill more than 3 million dump trucks.
- Atrazine and other triazine herbicides help reduce emissions by up to 280,000 metric tons of CO₂ per year.
- Atrazine increases yields so farmers use less land for crops. This allows as many as 875,000 acres to remain in the Conservation Reserve Program, where it generates environmental benefits for everyone, including wildlife habitat and reduced soil erosion.

Atrazine is vital to farmers.

- Atrazine has been the backbone of weed control in the U.S. for more than 50 years.
- More than half of all U.S. corn acres, two-thirds of U.S. sorghum acres and up to 90 percent of U.S. sugar cane rely on atrazine.
- Atrazine helps growers control herbicide-resistant weeds.
- Atrazine boosts U.S. corn output by 600 million bushels per year.
- According to the EPA, farming without atrazine would cost corn growers as much as \$28 per acre in alternative herbicide costs and reduced yields.
- There is no substitute for atrazine. It is an off-patent, affordable and well-understood product.

Atrazine is good for the economy.

- Atrazine benefits U.S. corn, sorghum and sugar cane farmers by up to \$3.3 billion annually.
- Over five years, atrazine and its sister triazine herbicides provide between an \$18 billion and \$22 billion benefit to the U.S. economy.
- The benefits from the use of atrazine accounts for up to 85,000 U.S. jobs related to farming.

Atrazine passes the most stringent, up-to-date safety requirements in the world. Its safety has been established in more than 6,000 scientific studies over the past 50 years. To learn more about atrazine, visit the following websites:

www.atrazine.com

www.atrazinefacts.com

www.agsense.org

The Syngenta logo, featuring the word "syngenta" in a lowercase, sans-serif font with a registered trademark symbol, set against a green background.