

Pesticide Uses and Impacts in Los Alamos



County Council meeting December 14th, 2021

Typical pesticide use in Los Alamos

- **RoundUp, Ranger Pro** (active ingredient *glyphosate*)
 - Kills all plants
 - Used in smaller areas or spot sprayed
 - Typically used year-round as needed
- **EndRun** (active ingredients include **2,4-D**, **Dicamba**)
 - Kills broadleaf plants like clover, dandelion and similar
 - Sprayed on large areas ('boom sprayed')
 - Typically applied in spring (April-June) and fall (Aug-October).

Concerns about glyphosate

- Patented antibiotic
- Lowers vitamin D levels
- Sex specific endocrine disruptor
- Severely impairs adrenal hormone synthesis
- Patented mineral chelator
- Analog (mimic) of glycine
- Glyphosate and glyphosate-free Roundup products kill bees
- Formulations that include glyphosate like Roundup/Ranger Pro are significantly more toxic than glyphosate alone

Concerns about 2,4-D (1940s Dow Chemical)

- 2, 4-D works by attacking both the roots and leaves of weeds and making plant's cells grow out of control
- Declared a possible human carcinogen in 2015 by the International Agency for Research on Cancer
- 2,4-D is an endocrine-disrupting chemical as it mimics/inhibits hormones
- EPA reports 2,4-D has been detected in groundwater, surface water, and drinking water
- Ubiquitous - in 'weed and feed' products in lawns, parks, agriculture

Concerns about Dicamba

- Produces uncontrollable cell growth that leads to plant death
- Linked to non-Hodgkins lymphoma
- Implicated in canine malignant lymphoma raising the risk by as much as 70% in some dogs
- In the past was not used widely during warm months to avoid killing off target crops or trees
- 2016: EPA approved use against scientist warnings causing heavy crop damage and sickening farm workers by drifting spray alone

Myths of safe pesticides

- “Rigorously Tested”
 - Less than 1% of chemicals on the market in the US are tested for safety
- “Safe exposure limits”
 - Current toxicity testing and exposure limit-setting methods are inadequate
 - Data from studies of combinations of ingredients is not considered when setting safe limits by our regulatory agencies
 - Some compounds such as those that mimic/impact hormones are MORE toxic at a LOWER dose and current safety level settings are not able to address those safely

More recently on the myth of “rigorously tested”

- The EPA pesticide office granted 89% of industry requests to waive toxicity tests between 2011 and 2018
- Toxicity tests waived included over 90% of studies looking for developmental neurotoxicity, harm to the immune system and chronic cancer studies
- Glyphosate has been under scrutiny for its cancer-causing potential at the EPA since 1983 and yet EPA has not managed to require studies needed to confirm safety and glyphosate has been allowed to become the most widely used herbicide in the US

Glyphosate is persistent and accumulating rapidly

- Glyphosate accumulates in plants and has been found in 90% of foods tested in 2016
- Glyphosate levels found in soil, ground and rain water tested
- Study published in 2017 tracking levels of glyphosate in people's urine found
 - Number of people who tested positive for glyphosate increased by 500%
 - The levels of glyphosate found increased by 1208% during that time



US regulatory approach is reactionary

- Requires incontrovertible evidence of harm before preventative action is taken
- Places the burden on the public to show that a given chemical is harmful
- Does not consider potential health and environmental impacts when designing new technologies
- Discourages public participation in decision making about the control of hazards and the introduction of new technologies, chemicals, or other exposures
- **This results in decades of continued exposure and damage before any measures are taken**

Current herbicide use amounts

- 2019: Community Services Department sprayed 3,328 gallons or more than 3 fire trucks full
- 2020: CSD sprayed 1,664 gallons of herbicide
- 2020: Golf Course alone used 435.2 gallons of herbicide
- How much do other departments use?
- Bayer to stop selling glyphosate containing products for residential use in the US by 2023 due to the amount of losses from lawsuits

Operating without glyphosate is nothing new

- Until 1980s all public spaces were maintained without glyphosate
- 19 countries have either banned or severely restricted glyphosate use
- Over 150 cities in the US have banned glyphosate use in public areas
- 100s of school districts and campuses have banned glyphosate use
- Los Alamos County has maintained Western Area park, green area and sports field for over 5.5 years without use of glyphosate or other herbicides on the request of residents
- Los Alamos Traffic and Streets department has not used any herbicides for the past two years, relying on mechanical methods like mowing instead

Financial considerations of discontinuing glyphosate use

- How does the estimated cost increase compare to the county operating budget
- How does the community feel about that cost increase to protect health of employees, community and environment
- Long term benefits and savings of having healthier soil, pollinators, plants and community
- Creation and benefits of additional jobs to handle mechanical weed control
- Potential cost to the county from negligence lawsuits if the county continues use of glyphosate
- 3 landmark cases won against Bayer for a total of \$2.2 billion in damages
- Bayer has announced a settlement of \$10.9 billion to settle pending claims including \$1.2 billion for future litigation

Recent photos of public spaces



July 2021
Central and
15th St.

July 2021 Central and 15th St.







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ATTACHMENT A





July 2021, rockscaping along Central by Ruby K parking





October 29th, 2021, along sidewalk by golf course



ATTACHMENT A

Oct 29th, 2021, sidewalk by golf course



ATTACHMENT A

October 29th, 2021; recreation path by golf course



October 29th, 2021; sidewalk by golf course



Summary

- Stopping use of glyphosate on public areas of Los Alamos county will not create a significant increase in the yearly operating budget of the county
- It will provide additional jobs and long term benefits of protecting the health of our staff, community and environment
- Posting pesticide application information will allow for better transparency and enabling citizens to avoid contact as needed for their health
- Prioritizing and supporting expansion of integrative pest management efforts will enable staff to get the training and information needed to continue to adjust current practices to be more environmentally friendly and resource efficient

We need to look past decades of the world's most extensive PR campaign and take the **precautionary** approach in making our decisions going forward to proactively protect our staff, families, pets, community and the environment.



If we die,
we're taking
you with us.

Questions?

Sources

- 1) Patented antibiotic <https://www.uspto.gov/> patent number (US Patent 7,771,736) or directly: <https://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetacgi%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=7,771,736.PN.&OS=PN/7,771,736&RS=PN/7,771,736>
- 2) Suppresses CYP enzyme: www.ncbi.nlm.nih.gov/pmc/articles/PMC3945755/ and <https://www.researchgate.net/publication/236211603>
- 3) Endocrine disruptor <https://pubmed.ncbi.nlm.nih.gov/33812205>
- 4) Adrenal synthesis disruption and glycine analog (autoimmune and chronic disease association): <https://www.researchgate.net/publication/305318376>
- 5) Bee death <https://besjournals.onlinelibrary.wiley.com/doi/10.1111/1365-2664.13867?rss=1>
- 6) Adjuvants are not inert, formulations more toxic than glyphosate alone: <https://pubmed.ncbi.nlm.nih.gov/19105591/>
- 7) EPA: the agency of Yes. <https://theintercept.com/2021/06/30/epa-pesticides-exposure-opp/>
- 8) US President's Cancer Panel: <https://prescancerpanel.cancer.gov/>
- 9) Increased accumulation in humans: <https://jamanetwork.com/journals/jama/fullarticle/2658306>
- 10) IARC/WHO <https://www.iarc.who.int/wp-content/uploads/2018/07/MonographVolume112-1.pdf> and <https://www.iarc.who.int/featured-news/media-centre-iarc-news-glyphosate/>
- 11) Persistent in soil, water and plants; found in ground water and surface water; nutrient deficiency in crops due to chellating properties <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6918143/>
- 12) Banned: <https://www.carlsonattorneys.com/news-and-update/banning-roundup>