

## 8. REFERENCES

## CHAPTER 8. REFERENCES

- ACGIH. 2016. TLVs and BEIs based on the documentation of the threshold limit values for chemical substances and physical agents and biological exposure indices. Cincinnati, OH: American Conference of Governmental Industrial Hygienists. February 28, 2017.
- Acquavella JF, Alexander BH, Mandel JS, et al. 2004. Glyphosate biomonitoring for farmers and their families: Results from the Farm Family Exposure Study. *Environ Health Perspect* 112(3):321-326.
- Acquavella J, Garabrant D, Marsh G, et al. 2016. Glyphosate epidemiology expert panel review: A weight of evidence systematic review of the relationship between glyphosate exposure and non-Hodgkin's lymphoma or multiple myeloma. *Crit Rev Toxicol* 46(Suppl 1):28-43. <http://doi.org/10.1080/10408444.2016.1214681>.
- Acquavella JF, Gustin C, Alexander BH, et al. 2005. Implications for epidemiologic research on variation by pesticide in studies of farmers and their families. *Scand J Work Environ Health* 31 (Suppl 1):105-109; discussion 63-65. Acquavella JF, Weber JA, Cullen MR, et al. 1999. Human ocular effects from self-reported exposures to Roundup herbicides. *Hum Exp Toxicol* 18(8):479-486.
- Adam A, Marzuki A, Abdul Rahman H, et al. 1997. The oral and intratracheal toxicities of ROUNDUP and its components to rats. *Vet Hum Toxicol* 39(3):147-151.
- Agrisolutions. 2010. 62% Glyphosate IPA. Manufacturing concentrate. Submitted to the U.S. Environmental Protection Agency under FIFRA. [https://www3.epa.gov/pesticides/chem\\_search/ppls/001381-00245-20101027.pdf](https://www3.epa.gov/pesticides/chem_search/ppls/001381-00245-20101027.pdf). April 18, 2017.
- AIHA. 2015. Current ERPG values (2015). Fairfax, VA: American Industrial Hygiene Association. <https://www.aiha.org/get-involved/AIHAGuidelineFoundation/EmergencyResponsePlanningGuidelines/Documents/2015%20ERPG%20Levels.pdf>. March 22, 2016.
- Ait Bali Y, Ba-M'hamed S, Bennis M. 2017. Behavioral and immunohistochemical study of the effects of subchronic and chronic exposure to glyphosate in mice. *Front Behav Neurosci* 11:146. <https://doi.org/10.3389/fnbeh.2017.00146>.
- Ait Bali Y, Kaikai N, Ba-M'hamed S, et al. 2019. Learning and memory impairments associated to acetylcholinesterase inhibition and oxidative stress following glyphosate based-herbicide exposure in mice. *Toxicology* 415:18-525. <https://doi.org/10.1016/j.tox.2019.01.010>.
- Aitbali Y, Ba-M'hamed S, Elhidar N, et al. 2018. Glyphosate based-herbicide exposure affects gut microbiota, anxiety and depression-like behaviors in mice. *Neurotoxicol Teratol* 67:44-49. <https://doi.org/10.1016/j.ntt.2018.04.002>.
- Alferness PL. 1993. Volume 2. Touchdown: Determination of glyphosate and aminomethylphosphonic acid in corn grain, corn forage, and corn fodder by gas chromatography and mass-selective detection. Submitted under FIFRA to the U.S. Environmental Protection Agency. RR 92-042B. [https://archive.epa.gov/pesticides/methods/rammethods/web/pdf/1994\\_055m.pdf](https://archive.epa.gov/pesticides/methods/rammethods/web/pdf/1994_055m.pdf). April 10, 2017.
- Almeida LL, Teixeira AAC, Soares AF, et al. 2017. Effects of melatonin in rats in the initial third stage of pregnancy exposed to sub-lethal doses of herbicides. *Acta Histochem* 119(3):220-227. <https://doi.org/10.1016/j.acthis.2017.01.003>.
- Altamirano GA, Delconte MB, Gomez AL, et al. 2018. Postnatal exposure to a glyphosate-based herbicide modifies mammary gland growth and development in Wistar male rats. *Food Chem Toxicol* 118:111-118. <https://doi.org/10.1016/j.fct.2018.05.011>.
- Alvarez-Moya C, Silva MR, Ramirez CV, et al. 2014. Comparison of the *in vivo* and *in vitro* genotoxicity of glyphosate isopropylamine salt in three different organisms. *Genet Mol Biol* 37(1):105-110.
- Andreotti G, Beane Freeman LE, Hou L, et al. 2009. Agricultural pesticide use and pancreatic cancer risk in the Agricultural Health Study cohort. *Int J Cancer* 124:2495-2500.

## 8. REFERENCES

- Andreotti G, Koutros S, Hofmann JN, et al. 2018. Glyphosate use and cancer incidence in the Agricultural Health Study. *J Natl Cancer Inst* 110(5):509-516.
- Andreotti G, Lubin GH, Koutros S, et al. 2019. Response to Sheppard and Shaffer. *J Natl Cancer Inst*. 111(2): 216–218. <https://doi.org/10.1093/jnci/djy201>.
- Anifandis G, Amiridis G, Dafopoulos K, et al. 2017. The in vitro impact of the herbicide roundup on human sperm motility and sperm mitochondria. *Toxics* 6(1). <https://doi.org/10.3390/toxics6010002>.
- Anifandis G, Katsanaki K, Lagodonti G, et al. 2018. The effect of glyphosate on human sperm motility and sperm DNA fragmentation. *Int J Environ Res Public Health* 15(6). <https://doi.org/10.3390/ijerph15061117>.
- Aparicio VC, De Geronimo E, Marino D, et al. 2013. Environmental fate of glyphosate and aminomethylphosphonic acid in surface waters and soil of agricultural basins. *Chemosphere* 93(9):1866-1873. <https://doi.org/10.1016/j.chemosphere.2013.06.041>.
- Aparicio VC, Aimar S, De Gerónimo E, et al. 2018. Glyphosate and AMPA concentrations in wind-blown material under field conditions. *Land Degrad Dev* 29(5):1317-1326. <https://doi.org/10.1002/ldr.2920>.
- APVMA. 2017. Final regulatory position: Consideration of the evidence for a formal reconsideration of glyphosate. Australian Pesticides and Veterinary Medicines Authority. [http://apvma.gov.au/sites/default/files/publication/26561-glyphosate-final-regulatory-position-report-final\\_0.pdf](http://apvma.gov.au/sites/default/files/publication/26561-glyphosate-final-regulatory-position-report-final_0.pdf). April 18, 2017.
- Arbuckle TE, Lin Z, Mery LS. 2001. An exploratory analysis of the effect of pesticide exposure on the risk of spontaneous abortion in an Ontario farm population. *Environ Health Perspect* 109(8):851-857.
- Aris A, Leblanc S. 2011. Maternal and fetal exposure to pesticides associated to genetically modified foods in Eastern Townships of Quebec, Canada. *Reprod Toxicol* 31(4):528-533. 10.1016/j.reprotox.2011.02.004. Ascolani Yael J, Fuhr JD, Bocan GA, et al. 2014. Abiotic degradation of glyphosate into aminomethylphosphonic acid in the presence of metals. *J Agric Food Chem* 62(40):9651-9656. 10.1021/jf502979d.
- Astiz M, de Alaniz MJ, Marra CA. 2009. Antioxidant defense system in rats simultaneously intoxicated with agrochemicals. *Environ Toxicol Pharmacol* 28(3):465-473. <https://doi.org/10.1016/j.etap.2009.07.009>.
- ATSDR. 1989. Decision guide for identifying substance-specific data needs related to toxicological profiles; Notice. Agency for Toxic Substances and Disease Registry. *Fed Regist* 54(174):37618-37634.
- ATSDR. 2015. Glyphosate. Full SPL data. Substance priority list (SPL) resource page. Agency for Toxic Substances and Disease Registry, Centers for Disease Control and Prevention. <http://www.atsdr.cdc.gov/SPL/resources/index.html>. April 20, 2017.
- Avdatek F, Birdane YO, Turkmen R, et al. 2018. Ameliorative effect of resveratrol on testicular oxidative stress, spermatological parameters and DNA damage in glyphosate-based herbicide-exposed rats. *Andrologia* 50(7). <https://doi.org/10.1111/and.13036>.
- Baier CJ, Gallegos CE, Raisman-Vozari R, et al. 2017. Behavioral impairments following repeated intranasal glyphosate-based herbicide administration in mice. *Neurotoxicol Teratol* 64:63-72. <https://doi.org/10.1016/j.ntt.2017.10.004>.
- Balthazor TM, Hallas LE. 1986. Glyphosate-degrading microorganisms from industrial activated sludge. *Appl Environ Microbiol* 51(2):432-434.
- Band PR, Abanto Z, Bert J, et al. 2011. Prostate cancer risk and exposure to pesticides in British Columbia farmers. *The Prostate* 71(2):168-183. 10.1002/pros.21232.
- Barnes DG, Dourson M. 1988. Reference dose (RfD): Description and use in health risk assessments. *Regul Toxicol Pharmacol* 8(4):471-486.
- Battaglin WA, Kolpin DW, Scribner EA, et al. 2005. Glyphosate, other herbicides, and transformation products in Midwestern streams, 2002. *J Am Water Resour Assoc* 41(2):323-332. 10.1111/j.1752-1688.2005.tb03738.x.

## 8. REFERENCES

- Battaglin WA, Meyer MT, Kuivila KM, et al. 2014. Glyphosate and its degradation product AMPA occur frequently and widely in U.S. soils, surface water, groundwater, and precipitation. *J Am Water Resour Assoc* 50(2):275-290.
- Benbrook CM. 2016. Trends in glyphosate herbicide use in the United States and globally. *Environ Sci Eur* 28:3. 10.1186/s12302-016-0070-0.
- Benedetti AL, de Lourdes C, Trentin AG, et al. 2004. The effects of sub-chronic exposure of Wistar rats to the herbicide Glyphosate-Biocarb. *Toxicol Lett* 153(2):227-232. 10.1016/j.toxlet.2004.04.008.
- Benetoli LOdB, de Santana H, Carneiro CEA, et al. 2010. Adsorption of glyphosate in a forest soil: A study using Mössbauer and FT-IR spectroscopy. *Quim Nova* 33:855-859.
- Bento CPM, Goossens D, Rezaei M, et al. 2017. Glyphosate and AMPA distribution in wind-eroded sediment derived from loess soil. *Environ Pollut* 220(Pt B):1079-1089. <https://doi.org/10.1016/j.envpol.2016.11.033>.
- Biagini RE, Smith JP, Sammons DL, et al. 2004. Development of a sensitivity enhanced multiplexed fluorescence covalent microbead immunosorbent assay (FCMIA) for the measurement of glyphosate, atrazine and metolachlor mercapturate in water and urine. *Anal Bioanal Chem* 379(3):368-374. 10.1007/s00216-004-2628-8.
- Boerboom CM, Wyse DL. 1988. Influence of glyphosate concentration on glyphosate absorption and translocation in Canada thistle *Cirsium-arvense*. *Weed Sci* 36(3):291-295.
- Bolognesi C, Bonatti S, Degan P, et al. 1997. Genotoxic activity of glyphosate and its technical formulation Roundup. *J Agric Food Chem* 45(5):1957-1962.
- Bolognesi C, Carrasquilla G, Volpi S, et al. 2009. Biomonitoring of genotoxic risk in agricultural workers from five Colombian regions: Association to occupational exposure to glyphosate. *J Toxicol Environ Health A* 72(15-16):986-997. 10.1080/15287390902929741.
- Borggaard OK, Gimsing AL. 2008. Fate of glyphosate in soil and the possibility of leaching to ground and surface waters: A review. *Pest Manag Sci* 64(4):441-456. 10.1002/ps.1512.
- Brewster DW, Warren J, Hopkins WE, 2nd. 1991. Metabolism of glyphosate in Sprague-Dawley rats: Tissue distribution, identification, and quantitation of glyphosate-derived materials following a single oral dose. *Fundam Appl Toxicol* 17(1):43-51.
- Brouwer M, Schinasi L, Beane Freeman LE, et al. 2016. Assessment of occupational exposure to pesticides in a pooled analysis of agricultural cohorts within the AGRICOH consortium. *Occup Environ Med* 73(6):359-367. <https://doi.org/10.1136/oemed-2015-103319>.
- Brown LM, Blair A, Gibson R, et al. 1990. Pesticide exposures and other agricultural risk factors for leukemia among men in Iowa and Minnesota. *Cancer Res* 50:6585-6591.
- Brown LM, Burmeister LF, Everett GD, et al. 1993. Pesticide exposures and multiple myeloma in Iowa men. *Cancer Causes Control* 4:153-156.
- Brusick D, Aardema M, Kier L, et al. 2016. Genotoxicity Expert Panel review: Weight of evidence evaluation of the genotoxicity of glyphosate, glyphosate-based formulations, and aminomethylphosphonic acid. *Crit Rev Toxicol* 46(Supp1):56-74. 10.1080/10408444.2016.1214680. <http://www.ncbi.nlm.nih.gov/pubmed/27677670>.
- Bus JS. 2015. Analysis of Moms Across America report suggesting bioaccumulation of glyphosate in U.S. mother's breast milk: Implausibility based on inconsistency with available body of glyphosate animal toxicokinetic, human biomonitoring, and physio-chemical data. *Regul Toxicol Pharmacol* 73:758-764. 10.1016/j.yrtph.2015.10.022.
- Caballero M, Amiri S, Denney JT, et al. 2018. Estimated residential exposure to agricultural chemicals and premature mortality by Parkinson's disease in Washington State. *Int J Environ Res Public Health* 15(12). <https://doi.org/10.3390/ijerph15122885>.
- Caglar S, Kolankaya D. 2008. The effect of sub-acute and sub-chronic exposure of rats to the glyphosate-based herbicide Roundup. *Environ Toxicol Pharmacol* 25(1):57-62. 10.1016/j.etap.2007.08.011.

## 8. REFERENCES

- Cal EPA. 2010. The top 100 pesticides used pounds of active ingredients statewide in 2010 (all sites combined). California Environmental Protection Agency, Department of Pesticide Regulation. April 18, 2017.
- Camacho A, Mejia D. 2017. The health consequences of aerial spraying illicit crops: The case of Colombia. *J Health Econ* 54:147-160. <https://doi.org/10.1016/j.jhealeco.2017.04.005>.
- Cassault-Meyer E, Gress S, Seralini GE, et al. 2014. An acute exposure to glyphosate-based herbicide alters aromatase levels in testis and sperm nuclear quality. *Environ Toxicol Pharmacol* 38(1):131-140. 10.1016/j.etap.2014.05.007.
- Cattani D, Cesconetto PA, Tavares MK, et al. 2017. Developmental exposure to glyphosate-based herbicide and depressive-like behavior in adult offspring: Implication of glutamate excitotoxicity and oxidative stress. *Toxicology* 387:67-80. <https://doi.org/10.1016/j.tox.2017.06.001>.
- Cattani D, de Liz Oliveira Cavalli VL, Heinz Rieg CE, et al. 2014. Mechanisms underlying the neurotoxicity induced by glyphosate-based herbicide in immature rat hippocampus: Involvement of glutamate excitotoxicity. *Toxicology* 320:34-45. <http://doi.org/10.1016/j.tox.2014.03.001>.
- CDC. 2019. Fourth national report on human exposure to environmental chemicals, updated tables (January 2019). Centers for Disease Control and Prevention. <https://www.cdc.gov/exposurereport/>. July 2, 2020.
- CDPH. 2013. Chemical selection planning. Screening of four pesticides for possible future biomonitoring. California Department of Public Health, Department of Toxic Substances Control, Office of Environmental Health Hazard Assessment. [http://biomonitoring.ca.gov/sites/default/files/downloads/PesticideScreen081413\\_0.pdf](http://biomonitoring.ca.gov/sites/default/files/downloads/PesticideScreen081413_0.pdf). April 10, 2017.
- Chang CB, Chang CC. 2009. Refractory cardiopulmonary failure after glyphosate surfactant intoxication: A case report. *J Occup Med Toxicol* 4:2. 10.1186/1745-6673-4-2.
- Chang CY, Peng YC, Hung DZ, et al. 1999. Clinical impact of upper gastrointestinal tract injuries in glyphosate-surfactant oral intoxication. *Hum Exp Toxicol* 18(8):475-478.
- Chang ET, Delzell E. 2016. Systematic review and meta-analysis of glyphosate exposure and risk of lymphohematopoietic cancers. *J Environ Sci Health Part B* 51(6):402-434.
- Chang FC, Simcik MF, Capel PD. 2011. Occurrence and fate of the herbicide glyphosate and its degradate aminomethylphosphonic acid in the atmosphere. *Environ Toxicol Chem* 30(3):548-555. 10.1002/etc.431.
- ChemID Plus. 2017. Glyphosate. ChemIDplus: A Toxnet database. Bethesda, MD: U.S. National Library of Medicine. <http://chem.sis.nlm.nih.gov/chemidplus/>. April 20, 2017.
- Chen YJ, Wu ML, Deng JF, et al. 2009. The epidemiology of glyphosate-surfactant herbicide poisoning in Taiwan, 1986-2007: A poison center study. *Clin Toxicol (Phila)* 47(7):670-677. 10.1080/15563650903140399.
- Cho YS, Moon JM, Chun BJ, et al. 2019. Use of qSOFA score in predicting the outcomes of patients with glyphosate surfactant herbicide poisoning immediately upon arrival at the emergency department. *Shock* 51(4):447-452. <https://doi.org/10.1097/SHK.0000000000001201>.
- Churusielska K, Graffstein B, Szarapinska-Kwaszewska J, et al. 2000. Glyphosate. Evaluation of chronic activity and possible far-reaching effects. Part 2. Studies on mutagenic activity. *Pestycydy* 3-4:21-25.
- Clewell HJ, Andersen ME. 1985. Risk assessment extrapolations and physiological modeling. *Toxicol Ind Health* 1(4):111-131.
- Cocco P, Satta G, Dubois S, et al. 2013. Lymphoma risk and occupational exposure to pesticides: Results of the Epilymph study. *Occup Environ Med* 70(2):91-98. 10.1136/oemed-2012-100845.
- Connolly A, Basinas I, Jones KC, et al. 2018. Characterising glyphosate exposures among amenity horticulturists using multiple spot urine samples. *Int J Hyg Environ Health* 221:1012-1022.
- Conrad A, Schroter-Kermani C, Hoppe H, et al. 2017. Glyphosate in German adults- time trend (2002 to 2015) of human exposure to a widely used herbicide. *Int J Hyg Environ Health* 220:8-16.

## 8. REFERENCES

- Contardo-Jara V, Klingelmann E, Wiegand C. 2009. Bioaccumulation of glyphosate and its formulation Roundup Ultra in *Lumbriculus variegatus* and its effects on biotransformation and antioxidant enzymes. *Environ Pollut* 157(1):57-63. 10.1016/j.envpol.2008.07.027.
- Coupe RH, Kalkhoff SJ, Capel PD, et al. 2012. Fate and transport of glyphosate and aminomethylphosphonic acid in surface waters of agricultural basins. *Pest Manag Sci* 68(1):16-30. <http://doi.org/10.1002/ps.2212>.
- Curtis KM, Savitz DA, Weinberg CR, et al. 1999. The effect of pesticide exposure on time to pregnancy. *Epidemiology* 10(2):112-117.
- Curwin BD, Hein MJ, Sanderson WT, et al. 2005. Pesticide contamination inside farm and nonfarm homes. *J Occup Environ Hyg* 2(7):357-367.
- Curwin BD, Hein MJ, Sanderson WT, et al. 2007a. Pesticide dose estimates for children of Iowa farmers and non-farmers. *Environ Res* 105(3):307-315. 10.1016/j.envres.2007.06.001.
- Curwin BD, Hein MJ, Sanderson WT, et al. 2007b. Urinary pesticide concentrations among children, mothers and fathers living in farm and non-farm households in Iowa. *Ann Occup Hyg* 51(1):53-65. 10.1093/annhyg/mel062.
- Dallegrave E, Mantese FD, Coelho RS, et al. 2003. The teratogenic potential of the herbicide glyphosate-Roundup in Wistar rats. *Toxicol Lett* 142(1-2):45-52.
- Dallegrave E, Mantese FD, Oliveira RT, et al. 2007. Pre- and postnatal toxicity of the commercial glyphosate formulation in Wistar rats. *Arch Toxicol* 81(9):665-673. 10.1007/s00204-006-0170-5.
- Dar MA, Sultana M, Mir AH, et al. 2019. Effect of Repeated Oral Administration of Roundup and Ammonium Nitrate on Liver of Wistar Rats. *Proc Natl Acad Sci India Sect B* 89(2):505-510. <https://doi.org/10.1007/s40011-017-0961-x>.
- Dayton SB, Sandler DP, Blair A, et al. 2010. Pesticide use and myocardial infarction incidence among farm women in the Agricultural Health Study. *J Occup Environ Med* 52(7):693-697. 10.1097/JOM.0b013e3181e66d25.
- Dedeke GA, Owagboriaye FO, Ademolu KO, et al. 2018. Comparative assessment on mechanism underlying renal toxicity of commercial formulation of Roundup herbicide and glyphosate alone in male albino rat. *Int J Toxicol* 37(4):285-295.
- De Almeida LKS, Pletschke BI, Frost CL. 2018. Moderate levels of glyphosate and its formulations vary in their cytotoxicity and genotoxicity in a whole blood model and in human cell lines with different estrogen receptor status. *3 Biotech* 8(10):438. <https://doi.org/10.1007/s13205-018-1464-z>.
- De Roos AJ, Blair A, Rusiecki JA, et al. 2005a. Cancer incidence among glyphosate-exposed pesticide applicators in the Agricultural Health Study. *Environ Health Perspect* 113(1):49-54.
- De Roos AJ, Cooper GS, Alavanja MC, et al. 2005b. Rheumatoid arthritis among women in the Agricultural Health Study: Risk associated with farming activities and exposures. *Ann Epidemiol* 15(10):762-770. 10.1016/j.annepidem.2005.08.001.
- De Roos AJ, Zahm SH, Cantor KP, et al. 2003. Integrative assessment of multiple pesticides as risk factors for non-Hodgkin's lymphoma among men. *Occup Environ Med* 60(9):E11.
- Dechartres J, Pawluski JL, Gueguen M-M, et al. 2019. Glyphosate and glyphosate-based herbicide exposure during the peripartum period affects maternal brain plasticity, maternal behaviour and microbiome. *J Neuroendocrinol Ahead of Print*. <https://doi.org/10.1111/jne.12731>.
- Defarge N, Takacs E, Lozano VL, et al. 2016. Co-formulants in glyphosate-based herbicides disrupt aromatase activity in human cells below toxic levels. *Int J Environ Res Public Health* 13(3). <https://doi.org/10.3390/ijerph13030264>.
- Dimitrov BD, Gadeva PG, Benova DK, et al. 2006. Comparative genotoxicity of the herbicides Roundup, Stomp and Reglone in plant and mammalian test systems. *Mutagenesis* 21(6):375-382. 10.1093/mutage/gel044.
- DOE. 2018. Table 3: Protective Action Criteria (PAC) Rev. 29a based on applicable 60-minute AEGLs, ERPGs, or TEELs. The chemicals are listed by CASRN. June 2018. Oak Ridge, TN: U.S. Department of Energy. [https://sp.eota.energy.gov/pac/docs/Revision\\_29A\\_Table3.pdf](https://sp.eota.energy.gov/pac/docs/Revision_29A_Table3.pdf). July 26, 2018.

## 8. REFERENCES

- Doublet J, Mamy L, Barriuso E. 2009. Delayed degradation in soil of foliar herbicides glyphosate and sulcotrione previously absorbed by plants: Consequences on herbicide fate and risk assessment. *Chemosphere* 77(4):582-589. 10.1016/j.chemosphere.2009.06.044.
- Dow. 2017. Rodeo herbicide. Specimen label revised 01-05-17. Dow Chemical Company, Dow Agrosciences.
- Duke SO. 2011. Glyphosate degradation in glyphosate-resistant and -susceptible crops and weeds. *J Agric Food Chem* 59(11):5835-5841. 10.1021/jf102704x.
- Duke SO, Powles SB. 2008. Glyphosate: A once-in-a-century herbicide. *Pest Manag Sci* 64(4):319-325. 10.1002/ps.1518.
- ECHA. 2016. CLH report. Proposal for harmonised classification and labelling. Based on Regulation (EC) No 1272/2008 (CLP Regulation), Annex VI, Part 2. Substance name: N-(phosphonomethyl)glycine; glyphosate (ISO). European Chemicals Agency. [https://echa.europa.eu/documents/10162/13626/clh\\_report\\_glyphosate\\_en.pdf](https://echa.europa.eu/documents/10162/13626/clh_report_glyphosate_en.pdf). November 22, 2017.
- EFSA. 2015. Conclusion on the peer review of the pesticide risk assessment of the active substance glyphosate. *EFSA (Journal European Food Safety Authority)* 13(11):4302. <http://onlinelibrary.wiley.com/doi/10.2903/j.efsa.2015.4302/epdf>. April 25, 2017.
- Elie-Caille C, Heu C, Guyon C, et al. 2010. Morphological damages of a glyphosate-treated human keratinocyte cell line revealed by a micro- to nanoscale microscopic investigation. *Cell Biol Toxicol* 26(4):331-339. <https://doi.org/10.1007/s10565-009-9146-6>.
- El-Shenawy NS. 2009. Oxidative stress responses of rats exposed to Roundup and its active ingredient glyphosate. *Environ Toxicol Pharmacol* 28(3):379-385. <https://doi.org/10.1016/j.etap.2009.06.001>.
- Elsner P, Darr-Foit S, Schliemann S. 2018. Occupational koebnerization of psoriasis caused by glyphosate. *J Dtsch Dermatol Ges* 16(1):70-71. <https://doi.org/10.1111/ddg.13393>.
- Engel LS, Hill DA, Hoppin JA, et al. 2005. Pesticide use and breast cancer risk among farmers' wives in the Agricultural Health Study. *Am J Epidemiol* 161:121-135.
- EPA. 1985a. April 03, 1985. Memorandum. 4 Page(s). William Dykstra. Toxicology Branch. Glyphosate; EPA Reg. # 524-308; mouse oncogenicity study Accession No. 251007-014. Tox review 004370. U.S. Environmental Protection Agency. <https://archive.epa.gov/pesticides/chemicalsearch/chemical/foia/web/pdf/103601/103601-183.pdf>. April 10, 2016.
- EPA. 1985b. December 12, 1985. Memorandum. 3 Page(s). William Dykstra. Toxicology branch. EPA Reg. No. 524-308; Roundup; glyphosate; pathology report on additional kidney sections. Caswell No. 661A. Accession No. 259621. Tox review 004855 (part 1 of 2, see review of 12/4/85). U.S. Environmental Protection Agency. <https://archive.epa.gov/pesticides/chemicalsearch/chemical/foia/web/pdf/103601/103601-207.pdf>. April 10, 2016.
- EPA. 1985c. March 27, 1985. Memorandum. 5 Page(s). Stephen Saunders. Toxicology Branch. 4-week subchronic inhalation in rats with Roundup 33 1/3% use-dilution. EPA Reg. No. 524-308; Accession No. 252621. U.S. Environmental Protection Agency. <https://archive.epa.gov/pesticides/chemicalsearch/chemical/foia/web/pdf/103601/103601-178.pdf>. May 31, 2018.
- EPA. 1986a. March 12, 1986. Memorandum. 4 Page(s). William Dykstra. Toxicology Branch. EPA Reg. No. 524-308; Glyphosate; miscellaneous data; one-year dog study. Accession No. 260021 Tox review 004975. U.S. Environmental Protection Agency. <https://archive.epa.gov/pesticides/chemicalsearch/chemical/foia/web/pdf/103601/103601-212.pdf>. April 10, 2016.

## 8. REFERENCES

- EPA. 1986b. March 11, 1986. Memorandum. 9 Page(s). William Dykstra. Toxicology Branch. Glyphosate; EPA Registration No. 524-308; Roundup; additional histopathological evaluations of kidneys in the chronic feeding study of glyphosate in mice. Accession No. 260023. Tox review 005590. U.S. Environmental Protection Agency. <https://archive.epa.gov/pesticides/chemicalsearch/chemical/foia/web/pdf/103601/103601-211.pdf>. April 10, 2016.
- EPA. 1986c. Guidance for the reregistration of pesticide products containing glyphosate as the active ingredient. Washington, DC: U.S. Environmental Protection Agency. PB87103214. <https://ntrl.ntis.gov/NTRL/#>. April 6, 2017.
- EPA. 1987. January 12, 1987. Memorandum. 5 Page(s). William Dykstra. Toxicology Branch. Glyphosate; Roundup; EPA Reg. No. 524-308; Addendum to one year dog study with glyphosate; PP# 6F3380/6H5502; Glyphosate in/on soybeans; revised Section F; and amended label text. Acc 264334. Tox review 005651 (excerpt). U.S. Environmental Protection Agency. <https://archive.epa.gov/pesticides/chemicalsearch/chemical/foia/web/pdf/103601/103601-229.pdf>. April 10, 2016.
- EPA. 1989. June 19, 1989. Memorandum. 63 Page(s). William Dykstra. Toxicology Branch. Glyphosate - EPA Registration Nos. 524-318 and 524-333 - Historical control for mouse kidney tumors. MRID 00130406. Pages 19-23 removed, claimed confidential. Pgs 25-31, 33-40, 42-50, 52, 54-63 removed, RD. Tox review 007252. U.S. Environmental Protection Agency. <https://archive.epa.gov/pesticides/chemicalsearch/chemical/foia/web/pdf/103601/103601-249.pdf>. April 10, 2016.
- EPA. 1990. Method 547. Determination of glyphosate in drinking water by direct-aqueous-injection HPLC, post-column derivatization, and fluorescence detection. Cincinnati, OH: U.S. Environmental Protection Agency. PB87103214. <http://www.waters.com/webassets/cms/library/docs/720002729en.pdf>. April 6, 2017.
- EPA. 1991a. June 03, 1991. Memorandum. 40 Page(s). William Dykstra. Toxicology Branch. Glyphosate; 2-Year combined chronic toxicity/carcinogenicity study in Sprague-Dawley rats - List A Pesticide for Reregistration Pages 29-40 removed-registrant data. MRID 416438-01. Tox review 008390. U.S. Environmental Protection Agency. <https://archive.epa.gov/pesticides/chemicalsearch/chemical/foia/web/pdf/103601/103601-263.pdf>. April 10, 2016.
- EPA. 1991b. December 13, 1991. Memorandum. 38 Page(s). William Dykstra. Toxicology Branch I. Glyphosate - EPA Registration No. 524-308 - 2-Year chronic feeding/oncogenicity study in rats with technical glyphosate. MRID 416438-01. Tox review 008897. U.S. Environmental Protection Agency. <https://archive.epa.gov/pesticides/chemicalsearch/chemical/foia/web/pdf/103601/103601-268.pdf>. April 10, 2016.
- EPA. 1991c. October 30, 1991. Memorandum: Second peer review of glyphosate. U.S. Environmental Protection Agency. [https://www3.epa.gov/pesticides/chem\\_search/cleared\\_reviews/csr\\_PC-103601\\_30-Oct-91\\_265.pdf](https://www3.epa.gov/pesticides/chem_search/cleared_reviews/csr_PC-103601_30-Oct-91_265.pdf). September 22, 2017.
- EPA. 1992a. July 29, 1992. Memorandum. 48 Page(s). William Dykstra. Toxicology Branch I. Glyphosate (Roundup); review of 2-generation rat reproduction study; PP #0F03865, 2H05635 - Glyphosate in/on wheat. MRID 416215-01. Pages 9-10, 21-48 removed, registrant data. Tox review 009634. U.S. Environmental Protection Agency. <https://archive.epa.gov/pesticides/chemicalsearch/chemical/foia/web/pdf/103601/103601-273.pdf>. April 10, 2016.
- EPA. 1992b. Data evaluation report. Test material: Glyphosate, technical; sample No. 96. Toxicological investigation of: CP67573-3, MRID 00067039. In: July 22, 1992. Memorandum. Glyphosate-List A chemical for reregistration-rereview of toxicology studies for acceptability. The attached 7-22-92 memorandum contains the agency reviews for the following glyphosate studies: MRID numbers 0046362, 00046363, 00046364, 00067039, 00078619, 00078620, 00093879,

## 8. REFERENCES

- 00098460, 00105995, 00132681, 00132683, 00132685 and 00132686 [Received via FOIA request]. HED pages 3-5. U.S. Environmental Protection Agency.
- EPA. 1992c. Data evaluation report. Test material: Glyphosate technical, white powder. 21-Day dermal toxicity study in rats, MRID 00098460. In: July 22, 1992. Memorandum. Glyphosate-List A chemical for reregistration-rereview of toxicology studies for acceptability. The attached 7-22-92 memorandum contains the Agency reviews for the following glyphosate studies: MRID numbers 0046362, 00046363, 00046364, 00067039, 00078619, 00078620, 00093879, 00098460, 00105995, 00132681, 00132683, 00132685 and 00132686 [Received via FOIA request]. HED pages 9-16. U.S. Environmental Protection Agency.
- EPA. 1992d. Data evaluation report. Test material: Glyphosate, technical; 98.7% purity; lot XHJ-64; white powder. A lifetime feeding study of glyphosate in rats. MRID 00098460. In: July 22, 1992. Memorandum. Glyphosate-List A chemical for reregistration-rereview of toxicology studies for acceptability. The attached 7-22-92 memorandum contains the agency reviews for the following glyphosate studies: MRID numbers 0046362, 00046363, 00046364, 00067039, 00078619, 00078620, 00093879, 00098460, 00105995, 00132681, 00132683, 00132685 and 00132686 [Received via FOIA request]. HED pages 17-40. U.S. Environmental Protection Agency.
- EPA. 1992e. Data evaluation report. Test material: Glyphosate, technical; 98.7% purity; lot XHJ-64; white powder. Teratology study in rats. MRID 00098460. In: July 22, 1992. Memorandum. Glyphosate-List A chemical for reregistration-rereview of toxicology studies for acceptability. The attached 7-22-92 memorandum contains the Agency reviews for the following glyphosate studies: MRID numbers 0046362, 00046363, 00046364, 00067039, 00078619, 00078620, 00093879, 00098460, 00105995, 00132681, 00132683, 00132685 and 00132686 [Received via FOIA request]. HED pages 41-49. U.S. Environmental Protection Agency.
- EPA. 1992f. Data evaluation report. Test material: Glyphosate, technical; 98.7% purity; lot XHJ-64; white powder. Teratology study in rabbits. MRID 00046363. In: July 22, 1992. Memorandum. Glyphosate-List A chemical for reregistration-rereview of toxicology studies for acceptability. The attached 7-22-92 memorandum contains the Agency reviews for the following glyphosate studies: MRID numbers 0046362, 00046363, 00046364, 00067039, 00078619, 00078620, 00093879, 00098460, 00105995, 00132681, 00132683, 00132685 and 00132686 [Received via FOIA request]. HED pages 50-58. U.S. Environmental Protection Agency.
- EPA. 1992g. Data evaluation report. Test material: Glyphosate, technical; 98.7% purity; lot XHJ-64. A three-generation reproduction study with glyphosate in rats. MRID 00105995. In: July 22, 1992. Memorandum. Glyphosate-List A chemical for reregistration-rereview of toxicology studies for acceptability. The attached 7-22-92 memorandum contains the Agency reviews for the following glyphosate studies: MRID numbers 0046362, 00046363, 00046364, 00067039, 00078619, 00078620, 00093879, 00098460, 00105995, 00132681, 00132683, 00132685 and 00132686 [Received via FOIA request]. HED pages 59-72. U.S. Environmental Protection Agency.
- EPA. 1992h. Data evaluation report. Test material: C14-Glyphosate; specific activity 5mCi/m mole. A study of the plasma and bone marrow levels of glyphosate following the intraperitoneal administration in the rat. MRID 00132685. In: July 22, 1992. Memorandum. Glyphosate-List A chemical for reregistration-rereview of toxicology studies for acceptability. The attached 7-22-92 memorandum contains the Agency reviews for the following glyphosate studies: MRID numbers 0046362, 00046363, 00046364, 00067039, 00078619, 00078620, 00093879, 00098460, 00105995, 00132681, 00132683, 00132685 and 00132686 [Received via FOIA request]. HED pages 77-80. U.S. Environmental Protection Agency.



## 8. REFERENCES

- EPA. 1992i. Data evaluation report. Test material: Glyphosate; technical; sample No. 4. Final report on salmonella mutagenicity assay of Glyphosate. MRID 0078620. In: July 22, 1992. Memorandum. Glyphosate-List A chemical for reregistration-rereview of toxicology studies for acceptability. The attached 7-22-92 memorandum contains the Agency reviews for the following glyphosate studies: MRID numbers 0046362, 00046363, 00046364, 00067039, 00078619, 00078620, 00093879, 00098460, 00105995, 00132681, 00132683, 00132685 and 00132686 [Received via FOIA request]. HED pages 87-90. U.S. Environmental Protection Agency.
- EPA. 1992j. Data evaluation report. Test material: Glyphosate; technical; 98.7% purity; lot no. XHJ-64. MRID 00046364. In: July 22, 1992. Memorandum. Glyphosate-List A chemical for reregistration-rereview of toxicology studies for acceptability. The attached 7-22-92 memorandum contains the Agency reviews for the following glyphosate studies: MRID numbers 0046362, 00046363, 00046364, 00067039, 00078619, 00078620, 00093879, 00098460, 00105995, 00132681, 00132683, 00132685 and 00132686 [Received via FOIA request]. HED pages 91-95. U.S. Environmental Protection Agency.
- EPA. 1993. Reregistration Eligibility Decision (RED): Glyphosate. U.S. Environmental Protection Agency. EPA738R93014.  
[https://www3.epa.gov/pesticides/chem\\_search/reg\\_actions/reregistration/red\\_PC-417300\\_1-Sep-93.pdf](https://www3.epa.gov/pesticides/chem_search/reg_actions/reregistration/red_PC-417300_1-Sep-93.pdf). April 27, 2017.
- EPA. 1996. April 26, 1996. DER. 6 Page(s). M. Perry. Toxicology Branch. Dermal sensitization - Guinea pig OPPTS 870.2600 [81-6]. MRID 43404902. U.S. Environmental Protection Agency.  
<https://archive.epa.gov/pesticides/chemicalsearch/chemical/foia/web/pdf/103601/103601-284.pdf>. April 10, 2016.
- EPA. 2005a. Guidelines for carcinogenic risk assessment. Washington, DC: U.S. Environmental Protection Agency. EPA630/P-03/001F. March 2005.  
[https://www.epa.gov/sites/production/files/2013-09/documents/cancer\\_guidelines\\_final\\_3-25-05.pdf](https://www.epa.gov/sites/production/files/2013-09/documents/cancer_guidelines_final_3-25-05.pdf). June 6, 2018.
- EPA. 2005b. Toxic chemical release inventory reporting forms and instructions: Revised 2004 version. Section 313 of the Emergency Planning and Community Right-to-Know Act (Title III of the Superfund Amendments and Reauthorization Act of 1986). U.S. Environmental Protection Agency, Office of Environmental Information. EPA260B05001.
- EPA. 2009a. Registration Review; Glyphosate docket opened for review and comment. U.S. Environmental Protection Agency. Fed Regist 74(139):36217-36219.  
[https://www3.epa.gov/pesticides/chem\\_search/ppls/042750-00056-20110615.pdf](https://www3.epa.gov/pesticides/chem_search/ppls/042750-00056-20110615.pdf). April 6, 2017.
- EPA. 2009b. National primary drinking water regulations. Washington, DC: U.S. Environmental Protection Agency, Office of Ground Water and Drinking Water. EPA816F090004.  
[https://www.epa.gov/sites/production/files/2016-06/documents/npwdr\\_complete\\_table.pdf](https://www.epa.gov/sites/production/files/2016-06/documents/npwdr_complete_table.pdf). February 28, 2017.
- EPA. 2009c. Memorandum: Updated review of glyphosate (103601) incident report. U.S. Environmental Protection Agency.  
<https://archive.epa.gov/pesticides/chemicalsearch/chemical/foia/web/pdf/103601/103601-2009-02-26a.pdf>. May 17, 2017.
- EPA. 2010. Clearcast herbicide. Washington, DC: U.S. Environmental Protection Agency, Office of Chemical Safety and Pollution Prevention.
- EPA. 2011. Notification: Revised container disposal instructions per PR notice 2007-4: Albaugh Technical Glyphosate Acid. EPA Reg. No. 42750-56. U.S. Environmental Protection Agency.  
[https://www3.epa.gov/pesticides/chem\\_search/ppls/042750-00056-20110615.pdf](https://www3.epa.gov/pesticides/chem_search/ppls/042750-00056-20110615.pdf). April 6, 2017.
- EPA. 2012a. Data evaluation record. Glyphosate. Study type: OCSPP 890.1550, steroidogenesis assay. Task assignment No. 2-57-2012 (MRID 48617005 [Received via FOIA request]). U.S. Environmental Protection Agency.

## 8. REFERENCES

- EPA. 2012b. Data evaluation record. Glyphosate. Study type: OCSPP 890.1600, *in vivo* uterotrophic assay. Task assignment No. 2-34-2012 (MRID 48617003 [Received via FOIA request]. U.S. Environmental Protection Agency.
- EPA. 2012c. Data evaluation record. Glyphosate. Study type: OCSPP 890.1200, aromatase assay. Task assignment No. 2-74-2012 (MRID 48671303) [Received via FOIA request]. U.S. Environmental Protection Agency.
- EPA. 2012d. Drinking water standards and health advisories. Washington, DC: U.S. Environmental Protection Agency, Office of Water. EPA 822-S-12-001. <https://nepis.epa.gov/Exe/ZyPDF.cgi/P100N01H.PDF?Dockey=P100N01H.PDF>. April 24, 2017.
- EPA. 2012e. Glyphosate. Section 3 registration concerning the application of glyphosate to carrots, sweet potato, teff, and oilseeds (crop group (CG) 20) and to update the CG definitions for bulb vegetable (CG 3-07), fruiting vegetable (CG 8-10), citrus fruit (CG 10-10), pome fruit (CG 11-10), and berry (CG 13-07). Summary of analytical chemistry and residue data. Washington, DC: U.S. Environmental Protection Agency. <https://www.regulations.gov/document?D=EPA-HQ-OPP-2012-0132-0012>. April 6, 2017.
- EPA. 2013a. Memorandum. 14-Mar-2013. Memorandum: Glyphosate. Review and generation of data evaluation records. Reproduction and fertility effects study-rat OCSPP870.3800; OECD 416. MRID numbers 48865101, 48865102, 48865103, 48865104, 48865105 [Received via FOIA request]. U.S. Environmental Protection Agency.
- EPA. 2013b. Memorandum. February 27, 2013. Memorandum: Glyphosate. Immunotoxicity study in mice. MRID 48934207 [Received via FOIA request]. U.S. Environmental Protection Agency.
- EPA. 2013c. Memorandum. 04-Jun-2013. Memorandum: Glyphosate. Review and generation of data evaluation records. MRID numbers 44320610, 44320612. [Received via FOIA request]. U.S. Environmental Protection Agency.
- EPA. 2014. Final registration of Enlist Duo™ herbicide. Washington, DC: U.S. Environmental Protection Agency. [https://www.epa.gov/sites/production/files/2014-10/documents/final\\_registration\\_-\\_enlist\\_duo.pdf](https://www.epa.gov/sites/production/files/2014-10/documents/final_registration_-_enlist_duo.pdf). April 20, 2017.
- EPA. 2015a. Memorandum. November 17, 2015. Glyphosate, updated data evaluation record for a mouse carcinogenicity study. MRID 00130406 [Received via FOIA request]. U.S. Environmental Protection Agency.
- EPA. 2015b. Memorandum. June 29, 2015. EDSP weight of evidence conclusions on the tier 1 screening assays for the list 1 chemicals. EDSP: Weight of evidence analysis of potential Minteraction with the estrogen, androgen or thyroid pathways. U.S. Environmental Protection Agency. <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OPP-2009-0361-0047&disposition=attachment&contentType=pdf>. April 14, 2016.
- EPA. 2015c. Memorandum. November 17, 2015. Glyphosate. Review and generation of data evaluation records for three rodent carcinogenicity studies. MRID numbers 49707601, 49631701, 49631702. U.S. Environmental Protection Agency.
- EPA. 2015d. Memorandum. June 29, 2015. Glyphosate. Data Evaluation Records (DERs) for EDSP Tier 1 Assays. U.S. Environmental Protection Agency. <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OPP-2009-0361-0047&disposition=attachment&contentType=pdf>. June 6, 2018.
- EPA. 2016a. Memorandum. 07-Sep-2016. Glyphosate. Completion and submission of toxicology data evaluation records. MRID numbers 49957402, 49987403, 49957404, 49987401, 44320620, 44320621, 44320622, 44320623, 44320624, 44320625 and 47007908 [Received via FOIA request]. U.S. Environmental Protection Agency.
- EPA. 2016b. Acute Exposure Guideline Levels (AEGs) values. U.S. Environmental Protection Agency. <https://www.epa.gov/aegl/access-acute-exposure-guideline-levels-aegls-values#chemicals>. February 28, 2017.

## 8. REFERENCES

- EPA. 2016c. Glyphosate Issue Paper: Issue of Carcinogenic Potential. U.S. Environmental Protection Agency. [https://www.epa.gov/sites/production/files/2016-09/documents/glyphosate\\_issue\\_paper\\_evaluation\\_of\\_carcinogenic\\_potential.pdf](https://www.epa.gov/sites/production/files/2016-09/documents/glyphosate_issue_paper_evaluation_of_carcinogenic_potential.pdf). July 21, 2020.
- EPA. 2017a. Air toxics data. Ambient Monitoring Technology Information Center (AMTIC). Washington, DC: U.S. Environmental Protection Agency. <https://www3.epa.gov/ttnamti1/toxdat.html#data>. April 20, 2017.
- EPA. 2017b. Memorandum. December 13, 2017. Glyphosate: Preparation of data evaluation records for developmental rat and rabbit toxicity studies. MRID numbers 43320615, 43320616. Washington, DC: U.S. Environmental Protection Agency, Office of Chemical Safety and Pollution Prevention.
- EPA. 2017c. Revised glyphosate issue paper. Evaluation of carcinogenic potential. December 12, 2017. U.S. Environmental Protection Agency, Office of Pesticide Programs.
- EPA. 2017d. Glyphosate. Draft Human Health Risk Assessment in Support of Registration Review. December 12, 2017. U.S. Environmental Protection Agency, Office of Pesticide Programs.
- EPA. 2020. Interim Registration Review Decision. Case Number 0178. January 22, 2020. U.S. Environmental Protection Agency, Office of Pesticide Programs. <https://www.epa.gov/sites/production/files/2020-01/documents/glyphosate-interim-reg-review-decision-case-num-0178.pdf>
- EPA. Undated. Data evaluation record. Study 1. Chem 417300, Cas No. 1071-83-6. Glyphosate acid: [p-methylene-14C]glyphosate acid: Aqueous hydrolysis at pH 5, 7 and 9 and 25 C. Laboratory project ID: PMS 406. Unpublished study performed by ZENECA Inc., Richmond, CA and submitted by ZENECA Ag Products, Wilmington, DE. Kevin Poff. Environmental Fate & Effects Division. Study 1. Aqueous hydrolysis. MRID 44320642. Pages 4-15 removed, registration data. <https://archive.epa.gov/pesticides/chemicalsearch/chemical/foia/web/pdf/103601/417300-002.pdf>. April 6, 2017.
- EPA CompTox Dashboard. Undated. <https://comptox.epa.gov/dashboard>. July 22, 2020.
- EPI Suite. 2012. Glyphosate. EPI Suite™-Estimation Program Interface. Suite version 4.11. Washington, DC: U.S. Environmental Protection Agency, Office of Pollution Prevention and Toxics. <https://www.epa.gov/tsca-screening-tools/epi-suitetm-estimation-program-interface>. March 2, 2017.
- Eriguchi M, Iida K, Ikeda S, et al. 2019. Parkinsonism relating to intoxication with glyphosate. *Intern Med* 58(13):1935-1938. <https://doi.org/10.2169/internalmedicine.2028-18>.
- Eriksson M, Hardell L, Carlberg M, et al. 2008. Pesticide exposure as risk factor for non-Hodgkin lymphoma including histopathological subgroup analysis. *Int J Cancer* 123(7):1657-1663. 10.1002/ijc.23589.
- FAO. 1997. In: Glyphosate (158). Food and Agriculture Organization of the United Nations, 509-534. [http://www.fao.org/fileadmin/templates/agphome/documents/Pests\\_Pesticides/JMPR/Evaluation97/Glypho.PDF](http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/JMPR/Evaluation97/Glypho.PDF). April 19, 2017.
- FAO. 2005. Glyphosate (158). First draft prepared by Dugald MacLachlan, Australian Government Department of Agriculture, Fisheries and Forestry, Canberra. In: Pesticide residues in food-2005. Report of the Joint Meeting of the FAO panel of experts on pesticide residues in food and the environment and the WHO core assessment group on pesticide residues, Rome, Italy, 20-29 September 2005. Food and Agriculture Organization of the United Nations. [http://www.fao.org/fileadmin/templates/agphome/documents/Pests\\_Pesticides/JMPR/JMPR05report.pdf](http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/JMPR/JMPR05report.pdf). April 10, 2017.
- FAO and WHO. 2016. Pesticides residues in food 2016. Special session of the Joint FAO/WHO meeting on pesticide residues. FAO plant production and protection paper. Food and Agriculture Organization of the United Nations, World Health Organization. <http://www.fao.org/3/a-i5693e.pdf>. April 25, 2017.

## 8. REFERENCES

- FDA. 2013a. Pesticide monitoring program 2009 pesticide report. U.S. Food and Drug Administration. <https://www.fda.gov/downloads/Food/FoodborneIllnessContaminants/Pesticides/UCM352872.pdf>. April 19, 2017.
- FDA. 2013b. Pesticide monitoring program 2010 pesticide report. U.S. Food and Drug Administration. <https://www.fda.gov/downloads/Food/FoodborneIllnessContaminants/Pesticides/UCM371200.pdf>. April 19, 2017.
- FDA. 2013c. Everything added to food in the United States (EAFUS). Washington, DC: U.S. Food and Drug Administration. <http://www.accessdata.fda.gov/scripts/fcn/fcnavigation.cfm?rpt=eafuslisting>. February 28, 2017.
- FDA. 2014. Pesticide monitoring program 2011 pesticide report. U.S. Food and Drug Administration. <https://www.fda.gov/downloads/Food/FoodborneIllnessContaminants/Pesticides/UCM382443.pdf>. April 19, 2017.
- FDA. 2015. Pesticide monitoring program. Fiscal year 2012 pesticide report. U.S. Food and Drug Administration. [www.fda.gov/Food/FoodborneIllnessContaminants/Pesticides/default.htm](http://www.fda.gov/Food/FoodborneIllnessContaminants/Pesticides/default.htm). April 7, 2017.
- FDA. 2016. Pesticide monitoring program. Fiscal year 2013 pesticide report. U.S. Food and Drug Administration. <https://www.fda.gov/downloads/Food/FoodborneIllnessContaminants/Pesticides/UCM508084.pdf>. April 7, 2017.
- FDA. 2017. Pesticide monitoring program. Fiscal year 2017 pesticide report. U.S. Food and Drug Administration. <https://www.fda.gov/downloads/Food/FoodborneIllnessContaminants/Pesticides/UCM546325.pdf>. April 7, 2017.
- FDA. 2018. Questions and answers on glyphosate. U.S. Food and Drug Administration. <https://www.fda.gov/Food/FoodborneIllnessContaminants/Pesticides/ucm583713>. September 06, 2018.
- Feng JC, Thompson DG. 1990b. Fate of glyphosate in a Canadian forest watershed: 2. Persistence in foliage and soils. *J Agric Food Chem* 38(4):1118-1125.
- Feng JC, Thompson DG, Reynolds PE. 1990a. Fate of glyphosate in a Canadian forest watershed: 1. Aquatic residues and off-target deposit assessment. *J Agric Food Chem* 38(4):1110-1118.
- Flower KB, Hoppin JA, Lynch CF, et al. 2004. Cancer risk and parental pesticide application in children of Agricultural Health Study participants. *Environ Health Perspect* 112:631-635. 10.1289/ehp.6586.
- Ford B, Bateman LA, Gutierrez-Palominos, et al. 2017. Mapping proteome-wide targets of glyphosate in mice. *Cell Chem Biol* 24:133-140.
- Frank CL, Brown JP, Wallace K, et al. 2017. Developmental neurotoxicants disrupt activity in cortical networks on microelectrode arrays: results of screening 86 compounds during neural network formation. *Toxicol Sci* 160(1):121-135. <https://doi.org/10.1093/toxsci/kfx169>.
- Funke T, Han H, Healy-Fried ML, et al. 2006. Molecular basis for the herbicide resistance of Roundup ready crops. *Proc Natl Acad Sci USA* 103(35):13010-13015. <http://doi.org/10.1073/pnas.0603638103>.
- Gallegos CE, Baier CJ, Bartos M, et al. 2018. Perinatal glyphosate-based herbicide exposure in rats alters brain antioxidant status, glutamate and acetylcholine metabolism and affects recognition memory. *Neurotox Res* 34(3):363-374. <https://doi.org/10.1007/s12640-018-9894-2>.
- Garcia AM, Benavides FG, Fletcher T, et al. 1998. Paternal exposure to pesticides and congenital malformations. *Scand J Work Environ Health* 24(6):473-480.
- Garry VF, Harkins ME, Erickson LL, et al. 2002. Birth defects, season of conception, and sex of children born to pesticide applicators living in the Red River Valley of Minnesota, USA. *Environ Health Perspect* 110(Suppl 3):441-449.
- Gasnier C, Dumont C, Benachour N, et al. 2009. Glyphosate-based herbicides are toxic and endocrine disruptors in human cell lines. *Toxicology* 262(3):184-191. 10.1016/j.tox.2009.06.006.

## 8. REFERENCES

- Gehin A, Guillaume YC, Millet J, et al. 2005. Vitamins C and E reverse effect of herbicide-induced toxicity on human epidermal cells HaCaT: a biochemometric approach. *Int J Pharm* 288(2):219-226. <https://doi.org/10.1016/j.ijpharm.2004.09.024>.
- George J, Prasad S, Manmood Z, et al. 2010. Studies on glyphosate-induced carcinogenicity in mouse skin: A proteomic approach. *J Proteomics* 73:951-964.
- George J, Shukla Y. 2013. Emptying of intracellular calcium pool and oxidative stress imbalance are associated with the glyphosate-induced proliferation in human skin keratinocytes HaCaT cells. *ISRN Dermatol* 2013825180. <https://doi.org/10.1155/2013/825180>.
- Gerritse RG, Beltran J, Hernandez F. 1996. Adsorption of atrazine, simazine, and glyphosate in soils of the Gngangara Mound, Western Australia. *Aust J Soil Res* 34(4):599-607.
- Glass RL. 1987. Adsorption of glyphosate by soils and clay minerals. *J Agric Food Chem* 35(4):497-500.
- Goldner WS, Sandler DP, Yu F, et al. 2010. Pesticide use and thyroid disease among women in the Agricultural Health Study. *Am J Epidemiol* 171(4):455-464. 10.1093/aje/kwp404.
- Goldsborough LG, Beck AE. 1989. Rapid dissipation of glyphosate in small forest ponds. *Arch Environ Contam Toxicol* 18(4):537-544.
- Gomes MP, Smedbol E, Chalifour A, et al. 2014. Alteration of plant physiology by glyphosate and its by-product aminomethylphosphonic acid: An overview. *J Exp Bot* 65(17):4691-4703. 10.1093/jxb/eru269.
- Grandcoin A, Piel S, Baures E. 2017. AminoMethylPhosphonic acid (AMPA) in natural waters: Its sources, behavior and environmental fate. *Water Res* 117:187-197. <https://doi.org/10.1016/j.watres.2017.03.055>.
- Greim H, Saltmiras D, Mostert V, et al. 2015. Evaluation of carcinogenic potential of the herbicide glyphosate drawing on tumor incidence data from fourteen chronic/carcinogenicity rodent studies. *Crit Rev Toxicol* 45(3):185-208.
- Grisolia CK. 2002. A comparison between mouse and fish micronucleus test using cyclophosphamide, mitomycin C and various pesticides. *Mutat Res* 518(2):145-150.
- Guerrero Schimpf M, Milesi MM, Ingaramo PI, et al. 2017. Neonatal exposure to a glyphosate based herbicide alters the development of the rat uterus. *Toxicology* 376:2-14. <https://doi.org/10.1016/j.tox.2016.06.004>.
- Guerrero Schimpf M, Milesi MM, Luque EH, et al. 2018. Glyphosate-based herbicide enhances the uterine sensitivity to estradiol in rats. *J Endocrinol*. <https://doi.org/10.1530/JOE-18-0207>.
- Hamdaoui LN, M.; Rahmouni, F.; Harrabi, B.; Ayadi, F.; Sahnoun, Z.; Rebai, T. 2018. Subchronic exposure to kalach 360 SL-induced endocrine disruption and ovary damage in female rats. *Arch Physiol Biochem* 124(1):27-34. <https://doi.org/10.1080/13813455.2017.1352606>.
- Hao Y, Chen H, Xu W, et al. 2019. Roundup confers cytotoxicity through DNA damage and Mitochondria-Associated apoptosis induction. *Environ Pollut* 252(Part\_A):917-923. <https://doi.org/10.1016/j.envpol.2019.05.128>.
- Hardell L, Eriksson M, Nordstrom M. 2002. Exposure to pesticides as risk factor for non-Hodgkin's lymphoma and hairy cell leukemia: Pooled analysis of two Swedish case-control studies. *Leuk Lymphoma* 43(5):1043-1049.
- Health Canada. 2015. Proposed re-evaluation decision. Glyphosate. PRVD2015-01. Ottawa, Ontario: Health Canada, Pest Management Regulatory Agency.
- Health Canada. 2017. Re-evaluation decision. Glyphosate. Ottawa, Ontario: Pest Management Regulatory Agency, Health Canada. [http://publications.gc.ca/collections/collection\\_2017/sc-hc/H113-28/H113-28-2017-1-eng.pdf](http://publications.gc.ca/collections/collection_2017/sc-hc/H113-28/H113-28-2017-1-eng.pdf). September 22, 2017.
- Heydens WF, Healy CE, Hotz KJ, et al. 2008. Genotoxic potential of glyphosate formulations: Mode-of-action investigations. *J Agric Food Chem* 56:1517-1523.
- Hiraiwa K, Okabayashi M, Ohtani K, et al. 1990. Comparison between the effect of hemodialysis, hemoperfusion and diuresis on glyphosate excretion in Roundup herbicide poisoning. *Jpn J Toxicol* 3:165-171.

## 8. REFERENCES

- Holečková BH. 2006. Evaluation of the *in vitro* effect of glyphosate-based herbicide on bovine lymphocytes using chromosome painting. *Bull Vet Inst Pulawy* 50:533-536.
- Hoppin JA, Umbach DM, London SJ, et al. 2002. Chemical predictors of wheeze among farmer pesticide applicators in the Agricultural Health Study. *Am J Respir Crit Care Med* 165(5):683-689. 10.1164/ajrccm.165.5.2106074.
- Hoppin JA, Umbach DM, London SJ, et al. 2006a. Pesticides and adult respiratory outcomes in the Agricultural Health Study. *Ann N Y Acad Sci* 1076:343-354.
- Hoppin JA, Umbach DM, London SJ, et al. 2006b. Pesticides associated with wheeze among commercial pesticide applicators in the Agricultural Health Study. *Am J Epidemiol* 163(12):1129-1137. 10.1093/aje/kwj138.
- Hoppin JA, Umbach DM, London SJ, et al. 2008. Pesticides and atopic and nonatopic asthma among farm women in the Agricultural Health Study. *Am J Respir Crit Care Med* 177(1):11-18. 10.1164/rccm.200706-821OC.
- Hoppin JA, Umbach DM, London SJ, et al. 2009. Pesticide use and adult-onset asthma among male farmers in the Agricultural Health Study. *Eur Respir J* 34(6):1296-1303. 10.1183/09031936.00005509.
- Hoppin JA, Umbach DM, Long S, et al. 2017. Pesticides are associated with allergic and non-allergic wheeze among male farmers. *Environ Health Perspect* 125(4):535-543. <https://doi.org/10.1289/EHP315>
- Hoppin JA, Valcin M, Henneberger PK, et al. 2007. Pesticide use and chronic bronchitis among farmers in the Agricultural Health Study. *Am J Ind Med* 50(12):969-979. 10.1002/ajim.20523.
- Hori Y, Fujisawa M, Shimada K, et al. 2003. Determination of the herbicide glyphosate and its metabolite in biological specimens by gas chromatography-mass spectrometry. A case of poisoning by Roundup herbicide. *J Anal Toxicol* 27(3):162-166.
- Hsiao CT, Lin LJ, Hsiao KY, et al. 2008. Acute pancreatitis caused by severe glyphosate-surfactant oral intoxication. *Am J Emerg Med* 26(3):384 e383-385. 10.1016/j.ajem.2007.06.024.
- IARC. 2017. Glyphosate. Some organophosphate insecticides and herbicides. In: IARC monographs on the evaluation of carcinogenic risks to humans. Volume 112. International Agency for Research on Cancer. <http://monographs.iarc.fr/ENG/Monographs/vol112/mono112.pdf>. June 4, 2018.
- Ibanez M, Pozo OJ, Sancho JV, et al. 2005. Residue determination of glyphosate, glufosinate and aminomethylphosphonic acid in water and soil samples by liquid chromatography coupled to electrospray tandem mass spectrometry. *J Chromatogr A* 1081(2):145-155.
- Ibrahim YA. 2015. A regulatory perspective on the potential carcinogenicity of glyphosate. *J Toxicol Health* 2:Article 1. 10.7243/2056-3779-2-1.
- IPCS. 1994. Glyphosate. Environmental Health Criteria 159. Geneva, Switzerland: World Health Organization. ISBN 92-4-157159-4.
- IPCS. 2005. International Chemical Safety Cards. Glyphosate. ICSC: 0160. International Programme on Chemical Safety and the European Commission. [http://www.ilo.org/safework/info/publications/WCMS\\_113134/lang--en/index.htm](http://www.ilo.org/safework/info/publications/WCMS_113134/lang--en/index.htm). April 20, 2017.
- IRIS. 1989. Glyphosate; CASRN 1071-83-6. Chemical assessment summary. Integrated Risk Information System. U.S. Environmental Protection Agency. [https://cfpub.epa.gov/ncea/iris/iris\\_documents/documents/subst/0057\\_summary.pdf](https://cfpub.epa.gov/ncea/iris/iris_documents/documents/subst/0057_summary.pdf). April 27, 2017.
- Jackson SH, Cowan-Ellsberry CE, Thomas G. 2009. Use of quantitative structural analysis to predict fish bioconcentration factors for pesticides. *J Agric Food Chem* 57(3):958-967. 10.1021/jf803064z. <http://www.ncbi.nlm.nih.gov/pubmed/19138085>.
- Jasper R, Locatelli GO, Pilati C, et al. 2012. Evaluation of biochemical, hematological and oxidative parameters in mice exposed to the herbicide glyphosate-Roundup. *Interdiscip Toxicol* 5(3):133-140. I 10.2478/v10102-012-0022-5.
- Jauhainen A, Rasanen K, Sarantila R, et al. 1991. Occupational exposure of forest workers to glyphosate during brush saw spraying work. *Am Ind Hyg Assoc J* 52(2):61-64. 10.1080/15298669191364334.

## 8. REFERENCES

- Jayasumana C, Paranagama P, Agampodi S, et al. 2015. Drinking well water and occupational exposure to herbicides is associated with chronic kidney disease in Padavi-Sripura, Sri Lanka. *Environ Health* 14(1):6. 10.1186/1476-069x-14-6.
- Jensen PK, Wujcik CE, McGuire MK, et al. 2016. Validation of reliable and selective methods for direct determination of glyphosate and aminomethylphosphoric acid in milk and urine using LC-MS/MS. *J Environ Sci Health Part B* 51(4):254-259.
- Jiang X, Zhang N, Yin L, et al. 2018. A commercial Roundup(R) formulation induced male germ cell apoptosis by promoting the expression of XAF1 in adult mice. *Toxicol Lett* 296:163-172. <https://doi.org/10.1016/j.toxlet.2018.06.1067>.
- Johansson HKL, Schwartz CL, Nielsen LN, et al. 2018. Exposure to a glyphosate-based herbicide formulation, but not glyphosate alone, has only minor effects on adult rat testis. *Reprod Toxicol* 82:25-31. <https://doi.org/10.1016/j.reprotox.2018.09.008>.
- Kachuri L, Demers PA, Blair A, et al. 2013. Multiple pesticide exposures and the risk of multiple myeloma in Canadian men. *Int J Cancer* 133:1846-1858.
- Kale PG, Petty BT, Jr., Walker S, et al. 1995. Mutagenicity testing of nine herbicides and pesticides currently used in agriculture. *Environ Mol Mutagen* 25(2):148-153.
- Kamel F, Tanner C, Umbach D, et al. 2007. Pesticide exposure and self-reported Parkinson's disease in the Agricultural Health Study. *Am J Epidemiol* 165(4):364-374. 10.1093/aje/kwk024.
- Karunanayake CP, Spinelli JJ, McLaughlin JR, et al. 2012. Hodgkin lymphoma and pesticides exposure in men: A Canadian case-control study. *J Agromedicine* 17:30-39.
- Kasuba V, Milic M, Rozgaj R, et al. 2017. Effects of low doses of glyphosate on DNA damage, cell proliferation and oxidative stress in the HepG2 cell line. *Environ Sci Pollut Res* 24(23):19267-19281. <https://doi.org/10.1007/s11356-017-9438-y>.
- Kawagashira Y, Koike H, Kawabata K, et al. 2017. Vasculitic neuropathy following exposure to a glyphosate-based herbicide. *Intern Med* 56(11):1431-1434. <https://doi.org/10.2169/internalmedicine.56.8064>.
- Kier LD, Kirkland DJ. 2013. Review of genotoxicity studies of glyphosate and glyphosate-based formulations. *Crit Rev Toxicol* 43(4):283-315. 10.3109/10408444.2013.770820.
- Kilbride KM, Paveglio FL. 2001. Long-term fate of glyphosate associated with repeated rodeo applications to control smooth cordgrass (*Spartina alterniflora*) in Willapa Bay, Washington. *Arch Environ Contam Toxicol* 40(2):179-183.
- Kim YH, Lee JH, Hong CK, et al. 2014. Heart rate-corrected QT interval predicts mortality in glyphosate-surfactant herbicide-poisoned patients. *Am J Emerg Med* 32(3):203-207. 10.1016/j.ajem.2013.09.025.
- Kirrane EF, Hoppin JA, Kamel F, et al. 2005. Retinal degeneration and other eye disorders in wives of farmer pesticide applicators enrolled in the Agricultural Health Study. *Am J Epidemiol* 161(11):1020-1029. 10.1093/aje/kwi140.
- Kishore GM, Jacob GS. 1987. Degradation of glyphosate by *Pseudomonas* sp. PG2982 via a sarcosine intermediate. *J Biol Chem* 262(25):12164-12168.
- Koller VJ, Furrhacker M, Nersesyan A, et al. 2012. Cytotoxic and DNA-damaging properties of glyphosate and Roundup in human-derived buccal epithelial cells. *Arch Toxicol* 86(5):805-813. 10.1007/s00204-012-0804-8.
- Kongtip P, Nankongnab N, Kallayanatham N, et al. 2019. Thyroid hormones in conventional and organic farmers in Thailand. *Int J Environ Res Public Health* 16(15). <https://doi.org/10.3390/ijerph16152704>.
- Koureas M, Tsezou A, Tsakalof A, et al. 2014. Increased levels of oxidative DNA damage in pesticide sprayers in Thessaly Region (Greece). Implications of pesticide exposure. *Sci Total Environ* 496:358-364. <https://doi.org/10.1016/j.scitotenv.2014.07.062>.
- Koutros S, Beane Freeman LE, Lubin JH, et al. 2013. Risk of total and aggressive prostate cancer and pesticide use in the Agricultural Health Study. *Am J Epidemiol* 177(1):59-74. 10.1093/aje/kws225.

## 8. REFERENCES

- Koutros S, Beane Freeman LE, Lubin JH, et al. 2013a. Supplementary data to "Risk of total and aggressive prostate cancer and pesticide use in the Agricultural Health Study (Am J Epidemiol 177(1):59-74. 10.1093/aje/kws225). Am J Epidemiol <https://academic.oup.com/aje/article/177/1/59/129050#supplementary-data>. December 5, 2017.
- Koutros S, Silverman DT, Alavanja MC, et al. 2016. Occupational exposure to pesticides and bladder cancer risk. Int J Epidemiol 45(3):792-805. 10.1093/ije/dyv195.
- Krishnan K, Anderson ME, Clewell HJ, et al. 1994. Physiologically based pharmacokinetic modeling of chemical mixtures. In: Yang RSH, ed. Toxicology of chemical mixtures. Case studies, mechanisms, and novel approaches. San Diego, CA: Academic Press, 399-437.
- Kubo T, Urano K, Utsumi H. 2002. Mutagenicity characteristics of 255 environmental chemicals. J Health Sci 48(6):545-554. I 10.1248/jhs.48.545.
- Kubsad D, Nilsson EE, King SE, et al. 2019. Assessment of glyphosate induced epigenetic transgenerational inheritance of pathologies and sperm epimutations: Generational toxicology. Sci Rep 9(1):6372. <https://doi.org/10.1038/s41598-019-42860-0>
- Kumar S, Khodoun M, Kettleson EM, et al. 2014. Glyphosate-rich air samples induce (L-33, TSLP and generate IL-13 dependent airway inflammation. Toxicology 325:42-51. 10.1016/j.tox.2014.08.008.
- Kwiatkowska M, Reszka E, Wozniak K, et al. 2017. DNA damage and methylation induced by glyphosate in human peripheral blood mononuclear cells (in vitro study). Food Chem Toxicol 105:93-98. <https://doi.org/10.1016/j.fct.2017.03.051>.
- LaDOTD. 1995. Assessment of the exposure of workers applying herbicide mixtures (2, 4-D+Roundup, Garlon-3A+Roundup), toxicity and fate of these mixtures in the environment. Summary report. Louisiana Department of Transportation and Development, U.S. Department of Transportation. PB96179221.
- Landry D, Dousset S, Fournier JC, et al. 2005. Leaching of glyphosate and AMPA under two soil management practices in Burgundy vineyards (Vosne-Romanee, 21-France). Environ Pollut 138(2):191-200. 10.1016/j.envpol.2005.04.007.
- Lee CH, Shih CP, Hsu KH, et al. 2008. The early prognostic factors of glyphosate-surfactant intoxication. Am J Emerg Med 26(3):275-281. 10.1016/j.ajem.2007.05.011.
- Lee EA, Zimmerman LR, Bhullar BS, et al. 2002. Linker-assisted immunoassay and liquid chromatography/mass spectrometry for the analysis of glyphosate. Anal Chem 74(19):4937-4943.
- Lee HL, Chen KW, Chi CH, et al. 2000. Clinical presentations and prognostic factors of a glyphosate-surfactant herbicide intoxication: A review of 131 cases. Acad Emerg Med 7(8):906-910.
- Lee WJ, Cantor KP, Berzofsky JA, et al. 2004a. Non-Hodgkin's lymphoma among asthmatics exposed to pesticides. Int J Cancer 111(2):298-302.
- Lee WJ, Colt JS, Heineman EF, et al. 2005. Agricultural pesticide use and risk of glioma in Nebraska, United States. Occup Environ Med 62:786-792.
- Lee WJ, Lijinsky W, Heineman EF, et al. 2004b. Agricultural pesticide use and adenocarcinomas of the stomach and oesophagus. Occup Environ Med 61(9):743-749. I 10.1136/oem.2003.011858.
- Lee WJ, Sandler DP, Blair A, et al. 2007. Pesticide use and colorectal cancer risk in the Agricultural Health Study. Int J Cancer 121:339-346.
- Leon ME, Schinasi LH, Lebailly P, et al. 2019. Pesticide use and risk of non-Hodgkin lymphoid malignancies in agricultural cohorts from France, Norway and the USA: a pooled analysis from the AGRICOH consortium. Int J Epidemiol. <https://doi.org/10.1093/ije/dyz017>.
- Li AP, Long TJ. 1988. An evaluation of the genotoxic potential of glyphosate. Fundam Appl Toxicol 10(3):537-546.
- Lioi MB, Scarfi MR, Santoro A, et al. 1998a. Cytogenetic damage and induction of pro-oxidant state in human lymphocytes exposed *in vitro* to glyphosate, vinclozolin, atrazine, and DPX-E9636. Environ Mol Mutagen 32(1):39-46.
- Lioi MB, Scarfi MR, Santoro A, et al. 1998b. Genotoxicity and oxidative stress induced by pesticide exposure in bovine lymphocyte cultures *in vitro*. Mutat Res 403(1-2):13-20.



## 8. REFERENCES

- Liu CM, McLean PA, Sookdeo CC, et al. 1991. Degradation of the herbicide glyphosate by members of the family Rhizobiaceae. *Appl Environ Microbiol* 57(6):1799-1804.
- Lozano VL, Defarge N, Rocque L-M, et al. 2018. Sex-dependent impact of Roundup on the rat gut microbiome. *Toxicol Rep* 5:96-107. <https://doi.org/10.1016/j.toxrep.2017.12.005>.
- Lueken A, Juhl-Strauss, Krieger G, et al. 2004. Synergistic DNA damage by oxidative stress (induced by H<sub>2</sub>O<sub>2</sub>) and nongenotoxic environmental chemicals in human fibroblasts. *Toxicol Lett* 147:35-43.
- Lund-Hoie K, Friestad HO. 1986. Photodegradation of the herbicide glyphosate in water. *Bull Environ Contam Toxicol* 36(5):723-729.
- Luo L, Wang F, Zhang Y, et al. 2017. In vitro cytotoxicity assessment of roundup (glyphosate) in L-02 hepatocytes. *J Environ Sci Health B* 52(6):410-417. <https://doi.org/10.1080/03601234.2017.1293449>.
- Luo W, Lu T, Li F, et al. 2019. Surgical treatment of pyloric stenosis caused by glyphosate poisoning: A case report. *Medicine (Baltimore)* 98(30):e16590. <http://dx.doi.org/10.1097/MD.00000000000016590>.
- Maibach HI. 1986. Irritation, sensitization, photoirritation and photosensitization assays with a glyphosate herbicide. *Contact Dermatitis* 15(3):152-156.
- Mañas F, Peralta L, Raviolo J, et al. 2009. Genotoxicity of glyphosate assessed by the comet assay and cytogenetic tests. *Environ Toxicol Pharmacol* 28(1):37-41. [10.1016/j.etap.2009.02.001](https://doi.org/10.1016/j.etap.2009.02.001).
- Manservigi F, Lesseur C, Panzacchi S, et al. 2019. The Ramazzini Institute 13-week pilot study glyphosate-based herbicides administered at human-equivalent dose to Sprague Dawley rats: effects on development and endocrine system. *Environ Health* 18(1):15. <https://doi.org/10.1186/s12940-019-0453-y>.
- Mao Q, Manservigi F, Panzacchi S, et al. 2018. The Ramazzini Institute 13-week pilot study of glyphosate and Roundup administered at human-equivalent dose to Sprague Dawley rats: Effects on the microbiome. *Environ Health* 17(1):50. <http://doi.org/10.1186/s12940-018-0394-x>.
- Martinez MA, Ares I, Rodriguez JL, et al. 2018. Neurotransmitter changes in rat brain regions following glyphosate exposure. *Environ Res* 161:212-219. <https://doi.org/10.1016/j.envres.2017.10.051>.
- Martinez A, Al-Ahmad AJ. 2019. Effects of glyphosate and aminomethylphosphonic acid on an isogenic model of the human blood-brain barrier. *Toxicol Lett* 304:39-49. <https://doi.org/10.1016/j.toxlet.2018.12.013>.
- Martinez DA, Loening UE, Graham MC. 2018. Impacts of glyphosate-based herbicides on disease resistance and health of crops: A review. *Environ Sci Eur* 30:2. <http://doi.org/10.1186/s12302-018-0131-7>.
- McBean. 2011. Glyphosate. In: Tomlin CDS, ed. *The e-pesticide manual*. Version 5.1. Surrey, UK: British Crop Protection Council.
- McClellan RO. 2016. Evaluating the potential carcinogenic hazard of glyphosate. *Crit Rev Toxicol* 46(Suppl 1):1-2. <http://doi.org/10.1080/10408444.2016.1234117>.
- McDuffie HH, Pahwa P, McLaughlin JR, et al. 2001. Non-Hodgkin's lymphoma and specific pesticide exposures in men: Cross-Canada study of pesticides and health. *Cancer Epidemiol Biomarkers Prev* 10(11):1155-1163.
- McGuire MK, McGuire MA, Price WJ, et al. 2016. Glyphosate and aminomethylphosphonic acid are not detectable in human milk. *Am J Clin Nutr* 103:1285-1290.
- McQueen H, Callan AC, Hinwood AL. 2012. Estimating maternal and prenatal exposure to glyphosate in the community setting. *Int J Hyg Environ Health* 215(6):570-576. [10.1016/j.ijheh.2011.12.002](https://doi.org/10.1016/j.ijheh.2011.12.002).
- Menkes DB, Temple WA, Edwards IR. 1991. Intentional self-poisoning with glyphosate-containing herbicides. *Hum Exp Toxicol* 10(2):103-107.
- Mesnager R, Bernay B, Seralini GE. 2013. Ethoxylated adjuvants of glyphosate-based herbicides are active principles of human cell toxicity. *Toxicology* 313:122-128. <https://doi.org/10.1016/j.tox.2012.09.006>

## 8. REFERENCES

- Mesnager R, Antoniou MN, Renney G, et al. 2017. Multiomics reveal non-alcoholic fatty liver disease in rats following chronic exposure to an ultra-low dose of Roundup herbicide. *Sci Rep* 7:39328. <https://doi.org/10.1038/srep39328>.
- Miles CJ, Moye HA. 1988. Extraction of glyphosate herbicide from soil and clay minerals and determination of residues in soils. *J Agric Food Chem* 36(3):486-491.
- Milesi MM, Lorenz V, Pacini G, et al. 2018. Perinatal exposure to a glyphosate-based herbicide impairs female reproductive outcomes and induces second-generation adverse effects in Wistar rats. *Arch Toxicol* 92(8):2629-2643. <https://doi.org/10.1007/s00204-018-2236-6>.
- Milic M, Zunec S, Micek V, et al. 2018. Oxidative stress, cholinesterase activity, and DNA damage in the liver, whole blood, and plasma of Wistar rats following a 28-day exposure to glyphosate. *Arh Hig Rada Toksikol* 69(2):154-168. <https://doi.org/10.2478/aiht-2018-69-3114>.
- Mills KT, Blair A, Freeman LE, et al. 2009. Pesticides and myocardial infarction incidence and mortality among male pesticide applicators in the Agricultural Health Study. *Am J Epidemiol* 170(7):892-900. [10.1093/aje/kwp214](https://doi.org/10.1093/aje/kwp214).
- Mills PJ, Kania-Korwel I, Fagan J, et al. 2017. Excretion of the herbicide glyphosate in older adults between 1993 and 2016. *JAMA* 318(16):1610-1611. <https://doi.org/10.1001/jama.2017.11726>.
- Mills PJ, Caussy C, Loomba R. 2019. Glyphosate excretion is associated with steatohepatitis and advanced liver fibrosis in patients with fatty liver disease. *Clin Gastroenterol Hepatol*. <https://doi.org/10.1016/j.cgh.2019.03.045>.
- Mohamed F, Endre ZH, Pickering JW, et al. 2016. Mechanism-specific injury biomarkers predict nephrotoxicity early following glyphosate surfactant herbicide (GPSH) poisoning. *Toxicol Lett* 258:1-10.
- Monroy CM, Cortes AC, Sicard DM, et al. 2004. *In vitro* evaluation of glyphosate-induced DNA damage in fibrosarcoma cells HT1080 and Chinese hamster ovary (CHO) cells. *Environ Mol Mutagen* 44(3):216.
- Monroy CM, Cortes AC, Sicard DM, et al. 2005. [Cytotoxicity and genotoxicity of human cells exposed *in vitro* to glyphosate]. *Biomedica: Revista del Instituto Nacional de Salud* 25(3):335-345.
- Montgomery MP, Kamel F, Saldana TM, et al. 2008. Incident diabetes and pesticide exposure among licensed pesticide applicators: Agricultural Health Study, 1993-2003. *Am J Epidemiol* 167(10):1235-1246. [10.1093/aje/kwn028](https://doi.org/10.1093/aje/kwn028).
- Moon JM, Chun BJ. 2010. Predicting acute complicated glyphosate intoxication in the emergency department. *Clin Toxicol (Phila)* 48(7):718-724. [10.3109/15563650.2010.488640](https://doi.org/10.3109/15563650.2010.488640).
- Moon JM, Chun BJ, Cho YS, et al. 2018. Cardiovascular effects and fatality may differ according to the formulation of glyphosate salt herbicide. *Cardiovasc Toxicol* 18(1):99-107. <https://doi.org/10.1007/s12012-017-9418-y>.
- Moriya M, Ohta T, Watanabe K, et al. 1983. Further mutagenicity studies on pesticides in bacterial reversion assay systems. *Mutat Res* 116(3-4):185-216.
- Muller F, Applebyke AP. 2010. Weed control, 2. Individual herbicides. In: Ullmann's encyclopedia of industrial chemistry. Wiley VCH, Verlag GmbH & Co. KGaA. [10.1002/14356007.o28\\_o01](https://doi.org/10.1002/14356007.o28_o01).
- NAS/NRC. 1989. Report of the oversight committee. *Biologic markers in reproductive toxicology*. Washington, DC, 15-35.
- NEMI. 2005. Abraxis glyphosate plate assay kit (96T) PN 500086. National Environmental Methods Index. U.S. Environmental Protection Agency. U.S. Geological Survey. [https://www.nemi.gov/methods/method\\_summary/9253/](https://www.nemi.gov/methods/method_summary/9253/). April 10, 2017.
- Nielsen LN, Roager HM, Casas ME, et al. 2018. Glyphosate has limited short-term effects on commensal bacterial community composition in the gut environment due to sufficient aromatic amino acid levels. *Environ Pollut* 233:364-376. <https://doi.org/10.1016/j.envpol.2017.10.016>.
- NIOSH. 2016. NIOSH pocket guide to chemical hazards. Index of Chemical Abstracts Service Registry Numbers (CAS No.). Atlanta, GA: National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention. <https://www.cdc.gov/niosh/npg/npgdcas.html>. February 28, 2017.

## 8. REFERENCES

- NIOSH. 2017. Evaluation of Occupational Glyphosate Exposures among Employees Applying Herbicides at a National Park. HHE Report No. 2016-0157-3286. National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention. <https://www.cdc.gov/niosh/hhe/reports/pdfs/2016-0157-3286.pdf>. July 3, 2020.
- Nordstrom M, Hardell L, Magnuson A, et al. 1998. Occupational exposures, animal exposure and smoking as risk factors for hairy cell leukemia evaluated in a case-control study. *Br J Cancer* 77(11):2048-2052.
- NPIC. 2015. Glyphosate. Technical fact sheet. Pesticide ingredients. Active ingredients. Active ingredient fact sheets. Specific chemical (active ingredient) information. National Pesticide Information Center. <http://npic.orst.edu/ingred/glyphosate.html>. April 10, 2017.
- NPIRS. 2017. Glyphosate. Search Federal Pesticide Products. West Lafayette, IN: National Pesticide Information Retrieval System. <http://npirspublic.ceris.purdue.edu/ppis/>. May 11, 2017.
- NTP. 1992. NTP technical report on the toxicity studies of glyphosate (CAS No. 1071-83-6) administered in dosed feed To F344/N rats and B6C3F1 mice. Toxicity Report Series, No. 16. National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health.
- NTP. 2016. Report on carcinogens, Fourteenth Edition. CASRN Index in MS Excel. Research Triangle Park, NC: U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program. <https://ntp.niehs.nih.gov/pubhealth/roc/index-1.html#P>. February 28, 2017.
- NTP. 2017. Glyphosate and glyphosate formulations: NTP research plan. National Toxicology Program. <https://ntp.niehs.nih.gov/results/areas/glyphosate/index.html>. September 12, 2017.
- NZ EPA. 2016. Review of the evidence relating to glyphosate and carcinogenicity. New Zealand Environmental Protection Agency. [http://www.epa.govt.nz/Publications/EPA\\_glyphosate\\_review.pdf](http://www.epa.govt.nz/Publications/EPA_glyphosate_review.pdf). November 22, 2017.
- OMAFRA. 2008. Economics information. Survey of pesticide use in Ontario, 2008. Estimates of pesticides used on field crops, fruit and vegetable crops, and other agricultural crops. Ontario Ministry of Agriculture, Food and Rural Affairs.
- OMAFRA. 2015. Survey of pesticide use in Ontario, 2013/2014. Estimates of pesticides used on field crops and fruit and vegetable crops. Ontario Ministry of Agriculture, Food and Rural Affairs. <http://www.farmfoodcareon.org/wp-content/uploads/2016/10/ONTARIO-Pesticide-Use-Survey-Final-2013.pdf>. April 26, 2017.
- O'Neil MJ, Heckelman PE, Dobbelaar PH, et al. 2013. Glyphosate. In: *The Merck index*. Cambridge, UK: The Royal Society of Chemistry.
- Orsi L, Delabre L, Monnereau A, et al. 2009. Occupational exposure to pesticides and lymphoid neoplasms among men: Results of a French case-control study. *Occup Environ Med* 66:291-298.
- OSHA. 2016a. Subpart D - Occupational health and environment controls. Section 1926.55 - Gases, vapors, fumes, dusts, and mists. Appendix A to Part 1926.55 - threshold limit values of airborne contaminants for construction. Occupational Safety and Health Standards. Code of Federal Regulations. 29 CFR 1926.55. <https://www.gpo.gov/fdsys/pkg/CFR-2016-title29-vol8/pdf/CFR-2016-title29-vol8-sec1926-55.pdf>. March 6, 2017.
- OSHA. 2016b. Subpart Z - Toxic and hazardous substances. Air contaminants. Occupational Safety and Health Standards. Code of Federal Regulations. 29 CFR 1910.1000. <https://www.gpo.gov/fdsys/pkg/CFR-2016-title29-vol6/pdf/CFR-2016-title29-vol6-sec1910-1000.pdf>. March 6, 2017.
- OSHA. 2016c. Subpart Z - Toxic and hazardous substances. Air contaminants. Table Z - Shipyards. Occupational Safety and Health Standards. Code of Federal Regulations. 29 CFR 1915.1000. <https://www.gpo.gov/fdsys/pkg/CFR-2016-title29-vol7/pdf/CFR-2016-title29-vol7-sec1915-1000.pdf>. March 6, 2017.
- Owagboriaye FO, Dedeké GA, Ademolu KO, et al. 2017. Reproductive toxicity of Roundup herbicide exposure in male albino rat. *Exp Toxicol Pathol* 69(7):461-468. <https://doi.org/10.1016/j.etp.2017.04.007>.

## 8. REFERENCES

- Ozaki T, Sofue T, Kuroda Y. 2017. Severe glyphosate-surfactant intoxication successfully treated with continuous hemodiafiltration and direct hemoperfusion: Case report. *Ther Apher Dial* 21(3):296-297. <https://doi.org/10.1111/1744-9987.12565>.
- Pahwa M, Beane Freeman LE, Spinelli JJ, et al. 2019. Glyphosate use and associations with non-Hodgkin lymphoma major histological sub-types: findings from the North American Pooled Project. *Scand J Work Environ Health*. <https://doi.org/10.5271/sjweh.3830>.
- Pahwa P, Karunanayake CP, Dosman JA, et al. 2011. Soft-tissue sarcoma and pesticides exposure in men. Results of a Canadian case-control study. *J Occup Environ Med* 53(11):1279-1286.
- Pahwa P, Karunanayake CP, Dosman JA, et al. 2012. Multiple myeloma and exposure to pesticides: A Canadian case-control study. *J Agromedicine* 17:40-50.
- PAN. 2009. Glyphosate monograph. Pesticide Action Network Asia & the Pacific.
- PAN. 2016a. PAN pesticides database-California pesticide use. Oakland, CA: Pesticide Action Network, North America. [http://www.pesticideinfo.org/Detail\\_ChemUse.jsp?Rec\\_Id=PC33138](http://www.pesticideinfo.org/Detail_ChemUse.jsp?Rec_Id=PC33138). April 27, 2017.
- PAN. 2016b. PAN pesticides database-Pesticide products. Oakland, CA: Pesticide Action Network, North America. [http://www.pesticideinfo.org/List\\_Products.jsp?Rec\\_Id=PC33138&Chem\\_Name=Glyphosate&PC\\_Code=417300,%20471300](http://www.pesticideinfo.org/List_Products.jsp?Rec_Id=PC33138&Chem_Name=Glyphosate&PC_Code=417300,%20471300). April 27, 2017.
- Pandey A, Dhabade P, Kumarasamy A. 2019. Inflammatory effects of subacute exposure of roundup in rat liver and adipose tissue. *Dose Response* 17(2):1559325819843380. <https://doi.org/10.1177/1559325819843380>.
- Pankey JH. 2000. Influence of weed control programs in glyphosate -resistant cotton on insects and seedling disease. Louisiana State University and Agricultural & Mechanical College. LSU Historical Dissertations and Theses. [http://digitalcommons.lsu.edu/gradschool\\_disstheses/7220/](http://digitalcommons.lsu.edu/gradschool_disstheses/7220/). April 18, 2017.
- Panzacchi S, Mandrioli D, Manservigi F, et al. 2018. The Ramazzini Institute 13-week study on glyphosate-based herbicides at human-equivalent dose in Sprague Dawley rats: Study design and first in-life endpoints evaluation. *Environ Health* 17:52.
- Parks CG, Hoppin JA, De Roos AJ, et al. 2016. Rheumatoid arthritis in Agricultural Health Study spouses: Associations with pesticides and other farm exposures. *Environ Health Perspect* 124:1728-1734.
- Parvez S, Gerona RR, Proctor C, et al. 2018. Glyphosate exposure in pregnancy and shortened gestational length: a prospective Indiana birth cohort study. *Environ Health* 17(1):23. <https://doi.org/10.1186/s12940-018-0367-0>.
- Paz-y-Miño C, Munoz MJ, Maldonado A, et al. 2011. Baseline determination in social, health, and genetic areas in communities affected by glyphosate aerial spraying on the northeastern Ecuadorian border. *Rev Environ Health* 26(1):45-51.
- Paz-y-Miño C, Sanchez ME, Arevalo M, et al. 2007. Evaluation of DNA damage in an Ecuadorian population exposed to glyphosate. *Genet Mol Biol* 30(2):456-460. I 10.1590/s1415-47572007000300026.
- Peluso M, Munnia A, Bolognesi C, et al. 1998. <sup>32</sup>P-postlabeling detection of DNA adducts in mice treated with the herbicide Roundup. *Environ Mol Mutagen* 31(1):55-59.
- Perego MC, Schutz LF, Caloni F, et al. 2017. Evidence for direct effects of glyphosate on ovarian function: Glyphosate influences steroidogenesis and proliferation of bovine granulosa but not theca cells *in vitro*. *J Appl Toxicol* 37:692-698.
- Pham TH, Derian L, Kervarrec C, et al. 2019. Perinatal exposure to glyphosate and a glyphosate-based herbicide affect spermatogenesis in mice. *Toxicol Sci* 169(1):260-271. <https://doi.org/10.1093/toxsci/kfz039>.
- Piccolo A, Celano G, Arienzo M, et al. 1994. Adsorption and desorption of glyphosate in some European soils. *J Environ Sci Health Part B* 29(6):1105-1115.

## 8. REFERENCES

- Picetti E, Generali M, Mensi F, et al. 2018. Glyphosate ingestion causing multiple organ failure: A near-fatal case report. *Acta Biomed* 88(4):533-537. <https://doi.org/10.23750/abm.v88i4.6322>.
- Piešová E. 2004. The influence of different treatment length on the induction of micronuclei in bovine lymphocytes after exposure to glyphosate. *Folia Vet* 48(3):130-134.
- Piešová E. 2005. The effect of glyphosate on the frequency of micronuclei in bovine lymphocytes *in vitro*. *Acta Vet (Beogr)* 55(2-3):101-109.
- Pioneer. 2006. Early food safety evaluation for a glyphosate N-acetyltransferase protein: GAT4601. Pioneer. A DuPont Company. Submitted to FDA under FDA's guidance for industry: Recommendations for the early food safety evaluation of new non-pesticidal proteins produced by new plant varieties intended for food use. <https://www.accessdata.fda.gov/scripts/fdcc/index.cfm?set=npic>. April 10, 2017.
- Pipke R, Amrhein N. 1988. Degradation of the phosphonate herbicide glyphosate by *Arthrobacter atrocyaneus* ATCC 13752. *Appl Environ Microbiol* 54(5):1293-1296.
- Plimmer JR, Bradow JM, Dionigi CP, et al. 2004. Herbicides. In: Kirk-Othmer encyclopedia of chemical technology. John Wiley & Sons, Inc. 10.1002/0471238961.0805180202180104.a01.pub2.
- Pollegioni L, Schonbrunn E, Siehl D. 2011. Molecular basis of glyphosate resistance-different approaches through protein engineering. *FEBS J* 278(16):2753-2766. <http://doi.org/10.1111/j.1742-4658.2011.08214.x>.
- Portier CJ, Armstrong BK, Baguley BC, et al. 2016. Differences in the carcinogenic evaluation of glyphosate between the International Agency for Research on Cancer (IARC) and the European Food Safety Authority (EFSA). *J Epidemiol Community Health* 70(8):741-745.
- Prasad S, Srivastava S, Singh M, et al. 2009. Clastogenic effects of glyphosate in bone marrow cells of Swiss albino mice. *J Toxicol* 308985. 10.1155/2009/308985.
- Primost JE, Marino DJG, Aparicio VC, et al. 2017. Glyphosate and AMPA, "pseudo-persistent" pollutants under real-world agricultural management practices in the Mesopotamic Pampas agroecosystem, Argentina. *Environ Pollut* 229:771-779. <https://doi.org/10.1016/j.envpol.2017.06.006>.
- Quaghebeur D, De Smet B, De Wulf E, et al. 2004. Pesticides in rainwater in Flanders, Belgium: Results from the monitoring program 1997-2001. *J Environ Monit* 6(3):182-190. 10.1039/b312558k.
- Raipulis J, Toma MM, Balode M. 2009. Toxicity and genotoxicity testing of Roundup. *Proceedings of the Latvian Academy of Sciences, Section B: Natural, Exact and Applied Sciences* 63(1/2):29-32. 10.2478/v10046-009-0009-6.
- Rank J, Jensen AG, Skov B, et al. 1993. Genotoxicity testing of the herbicide Roundup and its active ingredient glyphosate isopropylamine using the mouse bone marrow micronucleus test, Salmonella mutagenicity test, and Allium anaphase-telophase test. *Mutat Res* 300(1):29-36.
- Ren X, Dai P, Perveen A, et al. 2019. Effects of chronic glyphosate exposure to pregnant mice on hepatic lipid metabolism in offspring. *Environ Pollut* 254(Part A):112906. <https://doi.org/10.1016/j.envpol.2019.07.074>.
- RePORTER. 2017. Glyphosate. National Institutes of Health, Research Portfolio Online Reporting Tools. <http://projectreporter.nih.gov/reporter.cfm>. April 24, 2017.
- Roberts DM, Buckley NA, Mohamed F, et al. 2010. A prospective observational study of the clinical toxicology of glyphosate-containing herbicides in adults with acute self-poisoning. *Clin Toxicol (Phila)* 48(2):129-136. 10.3109/15563650903476491.
- Romano MA, Romano RM, Santos LD, et al. 2012. Glyphosate impairs male offspring reproductive development by disrupting gonadotropin expression. *Arch Toxicol* 86(4):663-673. 10.1007/s00204-011-0788-9.
- Romano RM, Romano MA, Bernardi MM, et al. 2010. Prepubertal exposure to commercial formulation of the herbicide glyphosate alters testosterone levels and testicular morphology. *Arch Toxicol* 84(4):309-317. 10.1007/s00204-009-0494-z.

## 8. REFERENCES

- Roustan A, Aye M, De Meo M, et al. 2014. Genotoxicity of mixtures of glyphosate and atrazine and their environmental transformation products before and after photoactivation. *Chemosphere* 108:93-100. 10.1016/j.chemosphere.2014.02.079.
- Rueppel ML, Brightwell BB, Schaefer J, et al. 1977. Metabolism and degradation of glyphosate in soil and water. *J Agric Food Chem* 25(3):517-528.
- Rull RP, Ritz B, Shaw GM. 2006. Neural tube defects and maternal residential proximity to agricultural pesticide applications. *Am J Epidemiol* 163(8): 743-753. 10.1093/aje/kwj101
- Saldana TM, Basso O, Hoppin JA, et al. 2007. Pesticide exposure and self-reported gestational diabetes mellitus in the Agricultural Health Study. *Diabetes Care* 30(3):529-534. 10.2337/dc06-1832.
- Samsel A, Seneff S. 2015. Glyphosate, pathways to modern diseases IV: Cancer and related pathologies. *J Biol Phys Chem* 15:121-159.
- Sanin LH, Carrasquilla G, Solomon KR, et al. 2009. Regional differences in time to pregnancy among fertile women from five Colombian regions with different use of glyphosate. *J Toxicol Environ Health A* 72(15-16):949-960. <https://doi.org/10.1080/15287390902929691>.
- Santovito A, Ruberto S, Gendusa C, et al. 2018. In vitro evaluation of genomic damage induced by glyphosate on human lymphocytes. *Environ Sci Pollut Res Int* 25(34):34693-34700. <https://doi.org/10.1007/s11356-018-3417-9>.
- Sathyanarayana S, Basso O, Karr CJ, et al. 2010. Maternal pesticide use and birth weight in the Agricultural Health Study. *J Agromedicine* 15(2):127-136. 10.1080/10599241003622699.
- Sato C, Kamijo Y, Yoshimura K, et al. 2011. Aseptic meningitis in association with glyphosate-surfactant herbicide poisoning. *Clin Toxicol (Phila)* 49(2):118-120. 10.3109/15563650.2011.552065.
- Saunders LE, Pezeshki R. 2015. Glyphosate in runoff waters and in the root-zone: A review. *Toxics* 3:462-480. <http://doi.org/10.3390/toxics3040462>.
- Savitz DA, Arbuckle T, Kaczor D, et al. 1997. Male pesticide exposure and pregnancy outcome. *Am J Epidemiol* 146(12):1025-1036.
- Sawada Y, Nagai Y, Ueyama M, et al. 1988. Probable toxicity of surface-active agent in commercial herbicide containing glyphosate. *Lancet* 1(8580):299.
- Schinasi L, Leon ME. 2014. Non-Hodgkin lymphoma and occupational exposure to agricultural pesticide chemical groups and active ingredients: A systematic review and meta-analysis. *Int J Environ Res Public Health* 11(4):4449-4527. 10.3390/ijerph110404449.
- Schuette J. 1998. Environmental fate of glyphosate. Glyphosate degradation pathway. Sacramento, CA: Environmental Monitoring & Pest Management, Department of Pesticide Regulation. <https://www.cdpr.ca.gov/docs/emon/pubs/fatememo/glyphos.pdf> September 18, 2018.
- Schwartz CL, Christiansen S, Vinggaard AM, et al. 2019. Anogenital distance as a toxicological or clinical marker for fetal androgen action and risk for reproductive disorders. *Arch Toxicol* 93:253-272. <https://doi.org/10.1007/s00204-018-2350-5>.
- Servaites JC, Tucci MA, Geiger DR. 1987. Glyphosate effects on carbon assimilation, ribulose biphosphate carboxylase activity, and metabolite levels in sugar beet leaves. *Plant Physiol* 85(2):370-374.
- Shehata AA, Schrödl W, Aldin AA, et al. 2013. The Effect of Glyphosate on Potential Pathogens and Beneficial Members of Poultry Microbiota In Vitro. *Curr Microbiol* 66:350-358. <https://doi.org/10.1007/s00284-012-0277-2>
- Sheppard L and Shaffer RM. 2019. Re: Glyphosate Use and Cancer Incidence in the Agricultural Health Study. *J Natl Cancer Inst* 111(2):214-215. <https://doi.org/10.1093/jnci/djy200>.
- Shinabarger DL, Braymer HD. 1986. Glyphosate catabolism by *Pseudomonas* sp. strain PG2982. *J Bacteriol* 168(2):702-707.
- Shrestha S, Parks CG, Goldner WS, et al. 2018. Pesticide use and incident hypothyroidism in pesticide applicators in the agricultural health study. *Environ Health Perspect* 126(9):097008. <https://doi.org/10.1289/EHP3194>.

## 8. REFERENCES

- Shushkova T, Ermakova I, Leontievsky A. 2010. Glyphosate availability in soil. *Biodegradation* 21:403-410.
- Silva V, Montanarella L, Jones A, et al. 2018. Distribution of glyphosate and aminomethylphosphonic acid (AMPA) in agricultural topsoils of the European Union. *Sci Total Environ* 621:1352-1359. <https://doi.org/10.1016/j.scitotenv.2017.10.093>.
- Simonsen L, Fomsgaard IS, Svensmark B, et al. 2008. Fate and availability of glyphosate and AMPA in agricultural soil. *J Environ Sci Health B* 43(5):365-375. <https://doi.org/10.1080/03601230802062000>.
- Singh B, Singh K. 2016. Microbial degradation of herbicides. *Crit Rev Microbiol* 42(2):245-261. <https://doi.org/10.3109/1040841X.2014.929564>.
- Šiviková K, Dianovsky J. 2006. Cytogenetic effect of technical glyphosate on cultivated bovine peripheral lymphocytes. *Int J Hyg Environ Health* 209(1):15-20. 10.1016/j.ijheh.2005.07.005.
- Slager RE, Poole JA, LeVan TD, et al. 2009. Rhinitis associated with pesticide exposure among commercial pesticide applicators in the Agricultural Health Study. *Occup Environ Med* 66(11):718-724. 10.1136/oem.2008.041798.
- Slager RE, Simpson SL, Levan TD, et al. 2010. Rhinitis associated with pesticide use among private pesticide applicators in the Agricultural Health Study. *J Toxicol Environ Health A* 73(20):1382-1393. 10.1080/15287394.2010.497443.
- Smith EA, Oehme FW. 1992. The biological activity of glyphosate to plants and animals: A literature review. *Vet Hum Toxicol* 34(6):531-543.
- Solomon KR, Marshall EJP, Carrasquilla G. 2009. Human health and environmental risks from the use of glyphosate formulations to control the production of coca in Colombia: Overview and conclusions. *J Toxicol Environ Health Part A* 72:914-920.
- Sorahan T. 2015. Multiple myeloma and glyphosate use: A re-analysis of US Agricultural Health Study (AHS) data. *Int J Environ Res Public Health* 12(2):1548-1559. 10.3390/ijerph120201548.
- Sorensen FW, Gregersen M. 1999. Rapid lethal intoxication caused by the herbicide glyphosate-trimesium (Touchdown). *Hum Exp Toxicol* 18(12):735-737.
- Soukup ST, Merz B, Bub A, et al. 2020. Glyphosate and AMPA levels in human urine samples and their correlation with food consumption: results of the cross-sectional KarMeN study in Germany. *Archives of Toxicology* 94: 1575-1584. <https://doi.org/10.1007/s00204-020-02704-7>
- Sprankle P, Meggitt WF, Penner D. 1975. Rapid inactivation of glyphosate in the soil. *Weed Sci* 23(3):224-228.
- Sribanditmongkol P, Jutavijittum P, Pongraveevongsa P, et al. 2012. Pathological and toxicological findings in glyphosate-surfactant herbicide fatality: A case report. *Am J Forensic Med Pathol* 33(3):234-237. 10.1097/PAF.0b013e31824b936c.
- Sritana N, Suriyo T, Kanitwithayanun J, et al. 2018. Glyphosate induces growth of estrogen receptor alpha positive cholangiocarcinoma cells via non-genomic estrogen receptor/ERK1/2 signaling pathway. *Food Chem Toxicol* 118:595-607. <https://doi.org/10.1016/j.fct.2018.06.014>.
- Stella J, Ryan M. 2004. Glyphosate herbicide formulation: A potentially lethal ingestion. *Emerg Med Australasia: EMA* 16(3):235-239. 10.1111/j.1742-6723.2004.00593.x.
- Struger J, Thompson D, Staznik B, et al. 2008. Occurrence of glyphosate in surface waters of Southern Ontario. *Bull Environ Contam Toxicol* 80(4):378-384. 10.1007/s00128-008-9373-1.
- Suarez-Larios K, Salazar-Martinez AM, Montero-Montoya R. 2017. Screening of pesticides with the potential of inducing DSB and successive recombinational repair. *J Toxicol* 2017:3574840. <https://doi.org/10.1155/2017/3574840>.
- Subramaniam V, Hoggard PE. 1988. Metal complexes of glyphosate. *J Agric Food Chem* 36(6):1326-1329.
- Szepanowski F, Szepanowski LP, Mausberg AK, et al. 2018. Differential impact of pure glyphosate and glyphosate-based herbicide in a model of peripheral nervous system myelination. *Acta Neuropathol* 136(6):979-982. <https://doi.org/10.1007/s00401-018-1938-4>.

## 8. REFERENCES

- Talbot AR, Shiaw MH, Huang JS, et al. 1991. Acute poisoning with a glyphosate-surfactant herbicide ('Roundup'): A review of 93 cases. *Hum Exp Toxicol* 10(1):1-8.
- Tarazona JV, Court-Marques D, Tiramani M, et al. 2017. Glyphosate toxicity and carcinogenicity: A review of the scientific basis of the European Union assessment and its differences with IARC. *Arch Toxicol* 91:2723-2743.
- Teleken JL, Gomes ECZ, Marmentini C, et al. 2019. Glyphosate-based herbicide exposure during pregnancy and lactation malprograms the male reproductive morphofunction in F1 offspring. *J Dev Orig Health Dis*: 1-8. <https://doi.org/10.1017/S2040174419000382>.
- Thompson DG, Cowell JE, Daniels RJ, et al. 1989. Liquid chromatographic method for quantitation of glyphosate and metabolite residues in organic and mineral soils, stream sediments, and hardwood foliage. *J Assoc Off Anal Chem* 72(2):355-360.
- Tizhe E, Ibrahim N, Fatihu M, et al. 2018. Pancreatic function and histoarchitecture in Wistar rats following chronic exposure to Bushfire(R): the mitigating role of zinc. *J Int Med Res* 46(8):3296-3305. <https://doi.org/10.1177/0300060518778640>.
- Tominack RL, Yang GY, Tsai WJ, et al. 1991. Taiwan National Poison Center survey of glyphosate--surfactant herbicide ingestions. *J Toxicol Clin Toxicol* 29(1):91-109.
- Townsend M, Peck C, Meng W, et al. 2017. Evaluation of various glyphosate concentrations on DNA damage in human Raji cells and its impact on cytotoxicity. *Regul Toxicol Pharmacol* 85:79-85. <https://doi.org/10.1016/j.yrtph.2017.02.002>.
- USGS. 2002. Methods of analysis by the U.S. Geological Survey organic geochemistry research group--determination of glyphosate, aminomethyl phosphonic acid, and glufosinate in water using online solid-phase extraction and high-performance liquid chromatography/mass spectrometry. U.S. Geological Survey. Open-File Report 01-454. <https://ks.water.usgs.gov/pubs/reports/ofr.01-454.pdf>. April 6, 2017.
- USGS. 2007. Concentrations of glyphosate, its degradation product, aminomethylphosphonic acid, and glufosinate in ground- and surface-water, rainfall, and soil samples collected in the United States, 2001-2006. Reston, VA: U.S. Geological Survey, U.S. Department of the Interior.
- USGS. 2010. Pesticides in groundwater in the Anacostia River and Rock Creek watersheds in Washington, DC, 2005 and 2008. Scientific Investigations Report (United States Geological Survey). U.S. Geological Survey, U.S. Department of the Interior.
- USGS. 2013. Estimation of annual agricultural pesticide use for counties of the conterminous United States, 1992-2009. U.S. Geological Survey, U.S. Department of the Interior.
- USGS. 2017. Estimated annual agricultural pesticide use. Pesticide use maps - Glyphosate. U.S. Geological Survey. [https://water.usgs.gov/nawqa/pnsp/usage/maps/show\\_map.php?year=2014&map=GLYPHOSATE&hilo=L](https://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2014&map=GLYPHOSATE&hilo=L). April 6, 2017.
- van Burgsteden JA. 2002. In vitro percutaneous absorption study with [14C]glyphosphate using viable rat skin membranes. TNO Nutrition and Food Research: Submitted to Monsanto Europe SA-NV by TNO Nutrition and Food Research.
- van Genderen-de Kloe G, Bas M, van Spaandonk W, et al. 2018. Analysis of glyphosate, AMPA, and flufosinate in water using UPLC-MS/MS. Waters, The science of what's possible. Milford, MA: Waters Corporation.
- Vanlaeys A, Dubuisson F, Seralini GE, et al. 2018. Formulants of glyphosate-based herbicides have more deleterious impact than glyphosate on TM4 Sertoli cells. *Toxicol in Vitro* 52:14-22. <https://doi.org/10.1016/j.tiv.2018.01.002>.
- Varayoud J, Durando M, Ramos JG, et al. 2017. Effects of a glyphosate-based herbicide on the uterus of adult ovariectomized rats. *Environ Toxicol* 32(4):1191-1201. <https://doi.org/10.1002/tox.22316>.
- Vigfusson NV, Vyse ER. 1980. The effect of the pesticides, Dexon, Captan and Roundup, on sister-chromatid exchanges in human lymphocytes *in vitro*. *Mutat Res* 79(1):53-57.



## 8. REFERENCES

- Wang L, Deng Q, Hu H, et al. 2019. Glyphosate induces benign monoclonal gammopathy and promotes multiple myeloma progression in mice. *J Hematol Oncol* 12(1):70. <https://doi.org/10.1186/s13045-019-0767-9>.
- Wester RC, Melendres J, Sarason R, et al. 1991. Glyphosate skin binding, absorption, residual tissue distribution, and skin decontamination. *Fundam Appl Toxicol* 16(4):725-732.
- Wester RC, Quan D, Maibach HI. 1996. *In vitro* percutaneous absorption of model compounds glyphosate and malathion from cotton fabric into and through human skin. *Food Chem Toxicol* 34(8):731-735.
- WHO. 2005. Glyphosate and AMPA in drinking-water. Background document for development of WHO guidelines for drinking-water quality. World Health Organization. WHO/SDE/WSH/03.04/97. [http://www.who.int/water\\_sanitation\\_health/dwq/chemicals/glyphosateampa290605.pdf](http://www.who.int/water_sanitation_health/dwq/chemicals/glyphosateampa290605.pdf). April 18, 2017.
- WHO. 2010. Guidelines for indoor air quality: Selected pollutants. Geneva, Switzerland: World Health Organization. [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0009/128169/e94535.pdf](http://www.euro.who.int/__data/assets/pdf_file/0009/128169/e94535.pdf). January 08, 2014.
- WHO. 2017. Guidelines for drinking-water quality. Fourth edition incorporating the first addendum. Geneva, Switzerland: World Health Organization. <http://apps.who.int/iris/bitstream/10665/254637/1/9789241549950-eng.pdf?ua=1>. February 28, 2017.
- Wildeman AG, Nazar RN. 1982. Significance of plant metabolism in the mutagenicity and toxicity of pesticides. *Can J Genet Cytol* 24:437-449.
- Williams GM, Aardema M, Acquavella J, et al. 2016. A review of the carcinogenic potential of glyphosate by four independent expert panels and comparison to the IARC assessment. *Crit Rev Toxicol* 46(S1):3-20.
- Williams GM, Kroes R, Munro IC. 2000. Safety evaluation and risk assessment of the herbicide Roundup and its active ingredient, glyphosate, for humans. *Regul Toxicol Pharmacol* 31(2):117-165. 10.1006/rtph.1999.1371.
- Wozniak E, Sicinska P, Michalowicz J, et al. 2018. The mechanism of DNA damage induced by Roundup 360 PLUS, glyphosate and AMPA in human peripheral blood mononuclear cells - genotoxic risk assessment. *Food Chem Toxicol* 120:510-522. <https://doi.org/10.1016/j.fct.2018.07.035>.
- WQP. 2017. Glyphosate. Water Quality Portal. Advisory Committee on Water Information (ACWI); Agricultural Research Service (ARS); Environmental Protection Agency (EPA); National Water Quality Monitoring Council (NWQMC); United States Geological Survey (USGS). <https://www.waterqualitydata.us/portal/>. April 5, 2017.
- Wunnapuk K, Gobe G, Endre Z, et al. 2014. Use of a glyphosate-based herbicide-induced nephrotoxicity model to investigate a panel of kidney injury biomarkers. *Toxicol Lett* 225(1):192-200. 10.1016/j.toxlet.2013.12.009.
- Yates WE, Akesson NB, Bayer DE. 1978. Drift of glyphosate sprays applied with aerial and ground equipment. *Weed Sci* 26(6):597-604.
- Yiin JH, Ruder AM, Stewart PA, et al. 2012. The Upper Midwest Health Study: A case-control study of pesticide applicators and risk of glioma. *Environ Health* 11:39. <http://www.ehjournal.net/content/11/1/39>. November 28, 2017.
- Zhang C, Sun Y, Hu R, et al. 2018. A comparison of the effects of agricultural pesticide uses on peripheral nerve conduction in China. *Sci Rep* 8(1):9621. <https://doi.org/10.1038/s41598-018-27713-6>.
- Zhang L, Rana I, Shaffer RM, et al. 2019a. Exposure to glyphosate-based herbicides and risk for non-Hodgkin lymphoma: A meta-analysis and supporting evidence. *Mutat Res* 781:186-206. <https://doi.org/10.1016/j.mrrev.2019.02.001>.

## 8. REFERENCES

- Zhang J-W, Xu D-Q, Feng X-Z. 2019b. The toxic effects and possible mechanisms of glyphosate on mouse oocytes. *Chemosphere* 237:124435. <https://doi.org/10.1016/j.chemosphere.2019.124435>.
- Zhang F, Xu Y, Liu X, et al. 2020. Concentration Distribution and Analysis of Urinary Glyphosate and Its Metabolites in Occupationally Exposed Workers in Eastern China. *Int. J. Environ. Res. Public Health* 17:2943. <https://doi.org/10.3390/ijerph17082943>.
- Zhao P, Yan M, Zhang C, et al. 2011. Determination of glyphosate in foodstuff by one novel chemiluminescence-molecular imprinting sensor. *Spectrochim Acta A Mol Biomol Spectrosc* 78(5):1482-1486. [10.1016/j.saa.2011.01.037](https://doi.org/10.1016/j.saa.2011.01.037).
- Zoller O, Rhyn P, Zarn JA, et al. 2020. Urine glyphosate level as a quantitative biomarker of oral exposure. *International Journal of Hygiene and Environmental Health* 228:113526. <https://doi.org/10.1016/j.ijheh.2020.113526>
- Zouaoui K, Dulaurent S, Gaulier JM, et al. 2013. Determination of glyphosate and AMPA in blood and urine from humans: About 13 cases of acute intoxication. *Forensic Sci Int* 226(1-3):e20-25. [10.1016/j.forsciint.2012.12.010](https://doi.org/10.1016/j.forsciint.2012.12.010).