

Open reply and call for rewrite/withdrawal of *Science Magazine's* 2014 October article "Pot farmers are poisoning weasel relative"

To the Editor of *Science Magazine*,

Your publication of "Pot farmers are poisoning weasel relative"¹ is a disservice to the public and to your publication and organization, American Association for the Advancement of Science.

First of all, in a scientific publication, the use of slander and derogatory terms is inappropriate. The scientific name for the plant being discussed (*Cannabis sativa*) was never specifically mentioned as would be expected in a scientific publication. For the same reason that Caucasians and whites are not described in scientific literature as "honkies" (see sources in compilation footnote² about the racial components of the term "marijuana" and the "War on Drugs"), your use of the derogatory vernacular ("pot") is inappropriate for a respectable publication by the American Association for the Advancement of Science. It clearly reveals the bias of your author and fault with your editorial process.

Secondly, the statement "shocked to hear that pot farmers are dumping large amounts of rat poison into the forests" is more reminiscent of alarmist tabloid journalism than it is of a professional publication.

Thirdly, while I am sure that all conscientious readers appreciate learning about and are concerned about the "overuse of rodenticide has contributed to the decline of the West Coast fisher...to the point that the U.S. Fish and Wildlife Service has proposed listing them as threatened", your writers and publication would better serve the public interest by focusing on larger issues which your publication has failed to address. One example of such would be the recent 2014 data showing that 75% of air and water samples in Mississippi³ are contaminated with glyphosate, a known human genotoxin according to *Scientific American*⁴ and component of a chemical formulation that causes mitochondrial dysfunction⁵, a pathophysiologic component of many human diseases.⁶ Your journal's only mention of this important topic has been cursory in short and inconclusive (respectively) articles "Popular Herbicide Kills Tadpoles" (*Science Magazine* 2005 Apr⁷) and "Pesticide Study Sparks Backlash" (*Science Magazine* 2014 Feb⁸). This latter example is only one of many topics that your journal could choose to address with scientific precision rather than sloppy reporting.

If your publication desires to discuss *Cannabis* from a scientific standpoint, I invite you to review the data showing that medical cannabis alleviates "various types of pain and muscle spasticity. Reported adverse effects are typically not serious, with the most common being dizziness"⁹, that it alleviates opioid use, dependency, and inefficacy¹⁰, that it helps patients with seizures/epilepsy, severe pain and/or persistent muscle spasms caused by multiple sclerosis, spinal cord diseases, or spinal cord injury, cachexia, anorexia, weight loss and/or severe nausea from cancer or HIV/AIDS infection"¹¹ and that its state-wide legalization is associated with a 25% reduction in prescription opioid iatrogenic deaths.¹²

I declare that I have no personal, professional, nor financial conflict of interest related to this article; I do write books and articles on the topics of pain management and inflammatory diseases (citation 6). I do not personally use Cannabis, but I would be willing to condone (but never have) its prescription for patients with appropriate medical need, particularly intractable pain (as supported by citations 9-12).

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¹ Pot farmers are poisoning weasel relative. October 7, 2014. <http://news.sciencemag.org/sifter/2014/10/pot-farmers-are-poisoning-weasel-relative>

² Compilation footnote:

- 1) Brecher EM. *Licit and Illicit Drugs: The Consumers Union Report on Narcotics, Stimulants, Depressants, Inhalants, Hallucinogens, and Marijuana*. 1972.
 - 2) Fang L. The Real Reason Pot Is Still Illegal. *The Nation* 2014 July 21-28 <http://www.thenation.com/article/180493/anti-pot-lobbys-big-bankroll>.
 - 3) Historical perspective: <http://topdocumentaryfilms.com/america-backyard-colombia/>.
 - 4) Recent events: www.youtube.com/watch?v=9Vz0tiRKvD0.
 - 5) Locked up in America. *PBS Frontline* <http://www.pbs.org/wgbh/pages/frontline/locked-up-in-america/>.
 - 6) Alexander M. A system of racial and social control. *PBS Frontline* www.pbs.org/wgbh/pages/frontline/criminal-justice/locked-up-in-america/michelle-alexander-a-system-of-racial-and-social-control/
 - 7) WW. Marijuana legalization: Leveraging racism. *The Economist* Jun 11, 2013 <http://www.economist.com/blogs/democracyinamerica/2013/06/marijuana-legalisation>
 - 8) Wing N. Marijuana Prohibition Was Racist From The Start. Not Much Has Changed. *Huffington Post*. 2014 January 14. http://www.huffingtonpost.com/2014/01/14/marijuana-prohibition-racist_n_4590190.html.
 - 9) Thompson M. The Mysterious History of 'Marijuana'. 2013 July 22. *National Public Radio*. www.npr.org/blogs/codeswitch/2013/07/14/201981025/the-mysterious-history-of-marijuana.
 - 10) American Civil Liberties Union. The War on Marijuana in Black and White: Report. June 3, 2013 www.aclu.org/criminal-law-reform/war-marijuana-black-and-white-report
- ³ Majewski et al. Pesticides in Mississippi air and rain: A comparison between 1995 and 2007. *Environmental Toxicology and Chemistry* 2014; 33; 1283–1293 <http://onlinelibrary.wiley.com/doi/10.1002/etc.2550/abstract>
- ⁴ Gammon C. Weed-Whacking Herbicide Proves Deadly to Human Cells. June 23, 2009 <http://www.scientificamerican.com/article/weed-whacking-herbicide-p/>
- ⁵ Peixoto F. Comparative effects of the Roundup and glyphosate on mitochondrial oxidative phosphorylation. *Chemosphere*. 2005 Dec;61(8):1115-22 <http://www.ncbi.nlm.nih.gov/pubmed/16263381>
- ⁶ Vasquez A. Mitochondrial medicine arrives to prime time in clinical care: nutritional biochemistry and mitochondrial hyperpermeability ("leaky mitochondria") meet disease pathogenesis and clinical interventions. *Altern Ther Health Med*. 2014 Winter;20 Suppl 1:26-30 <http://www.ncbi.nlm.nih.gov/pubmed/24473983> See also: Vasquez A. *Functional Inflammalogy, Volume 1* (ISBN: 9780990620402). International College of Human Nutrition and Functional Medicine. 2014
- ⁷ Renner R. Popular Herbicide Kills Tadpoles. 5 April 2005 <http://news.sciencemag.org/2005/04/popular-herbicide-kills-tadpoles>
- ⁸ Kai K. Pesticide Study Sparks Backlash. 10 February 2014 <http://news.sciencemag.org/environment/2014/02/pesticide-study-sparks-backlash>
- ⁹ Borgelt et al. The pharmacologic and clinical effects of medical cannabis. *Pharmacotherapy*. 2013 Feb;33(2):195-209
- ¹⁰ Lucas P. Cannabis as an adjunct to or substitute for opiates in the treatment of chronic pain. *J Psychoactive Drugs*. 2012 Apr-Jun;44(2):125-33
- ¹¹ Leung L. Cannabis and its derivatives: review of medical use. *J Am Board Fam Med*. 2011 Jul-Aug;24(4):452-62
- ¹² Bachhuber et al. Medical Cannabis Laws and Opioid Analgesic Overdose Mortality in the United States, 1999-2010. *JAMA Intern Med*. 2014 Aug 25. doi: 10.1001/jamainternmed.2014.4005.