



University of Nevada
Cooperative Extension

Fact Sheet-07-01

Drinking Alcohol and Using Pesticides Don't Mix

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Just as drinking alcohol and driving is dangerous, even life threatening, so is drinking and handling or applying pesticides! Alcohol impairs judgment and physical abilities. The potential for incorrect handling and mixing of a pesticide after consuming alcohol puts the handler, mixer, loader, applicator, and other workers at increased risk, not to mention the treated crop or animal, the environment, and the public. As well, research shows it is imperative in order to avoid being poisoned, not to drink alcohol at least 24 hours before working with pesticides and other toxic agricultural chemicals.

Ethanol, the alcohol in beer, wine, and liquors, compromises the skin's ability to act as a barrier to toxic chemicals. It increases the skin's permeability and thus, chemical absorption through the skin into the body. And, the greater the amount of alcohol consumed, the more a chemical on the skin is absorbed into the body.

Rats were given ethanol in the equivalents of half a drink to more than enough to represent a person who is legally drunk. Patches of skin were taken every two hours through 24 hours after the consumption of the alcohol. The herbicide paraquat and the mosquito repellent DEET were applied to the skin patches and the

amount of each chemical that passed through the skin was measured.

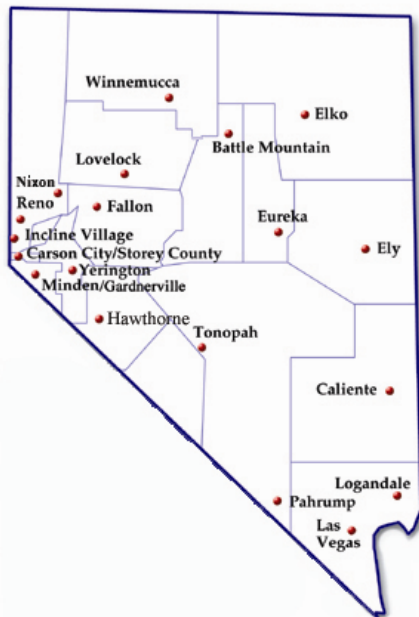
Increasing the doses of alcohol consumed by the rats increased the skin's permeability and the amount of each chemical that passed into the body. Most importantly, the effect usually lasted for at least 24 hours. The skin from the rats that were given the highest levels of alcohol absorbed two to three times the amount of toxic substances compared to the skin of rats that were not given alcohol.

Bottom line: Do not drink alcohol and work with or around pesticides. Even consuming alcohol the day before increases the potential for the skin to absorb pesticides. Use common sense, follow all the directions on the pesticide label, properly wear the recommended personal protective equipment (PPE), observe the restricted entry interval (REI), and do not drink alcohol within 24 hours of using pesticides or working around treated plants or animals.

References

Brand, R.M., A.R. Charron, L. Dutton, T.L. Gavlik, C. Mueller, F.G. Hamel, D. Chakkalakal, and T.M. Donohue, Jr., 2004. *Effects of chronic alcohol consumption on dermal penetration of pesticides in rats*. Journal of Toxicology and Environmental Health. Part A. Jan 23; 67(2): 153-61.

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