

Risk is All Around Us

AGRI-VIEWS

by Chuck Otte, Geary County Extension Agent

Recent popular press (and internet sensationalized) stories were circulating about the weed killer glyphosate being detected in beer and wine. The stories made it sound like this was the next worst thing that could possibly happen. As I looked into this situation, and spent an evening doing some calculations, it occurred to me that much of our population doesn't have a good grasp of risk evaluation.

So as not to leave anyone hanging before I go wandering off into the statistical weeds, let me follow up on that glyphosate in beer and wine story. Yes, very low levels of glyphosate were found in some, not all, sampled beverages. Using the very conservative California standards for glyphosate presence in food (1.1 milligrams estimated daily consumption to increase cancer risk by 1 in 100,000 - no discussion of how long it needs to be consumed though) you would need to drink 100 cans of the highest testing beer per day to reach that level of glyphosate. Not to mention the known health effects of alcohol (a known carcinogen as compared to a questionable carcinogen) and alcohol is present at a much higher level than the glyphosate. Granted, if you are drinking an alcoholic beverage you know that alcohol is supposed to be in it. But that's the point I want to make: risk is all around us and you make choices every day at a much greater risk level.

Let's start with the basic known fact, we will all die someday. For most of us, our goal is to postpone this as long as possible. Certain things we choose to do will increase the risk of our dying. Most of us drove to work this morning in a vehicle. You have about a 1 in 8,000 lifetime risk of dying in a vehicle accident. Wearing a seat belt and abiding by vehicle laws will decrease your risk of dying, yet we have people everyday driving without wearing a seat belt. Using tobacco regularly gives you about a 1 in 10 risk of developing some form of cancer. One of the most powerful carcinogens we know is sunlight. Some risks we choose, some risks simply are going to happen.

Our ability to detect substances, contaminants if you will, have exceeded our ability to comprehend what it means. In my lifetime I have seen detection limits first reach 1 part per million (ppm), then 1 part per billion (ppb) and now, for some compounds, 1 part per trillion (ppt). What does that mean? Putting it into a time comparison, 1 ppm is one second in 11.5 days. One second in one and a half weeks. One ppb is one second in over 31 years, for one ppt just multiply that 31 years by one thousand.

It is very likely that with our advances in technology we can now nearly find any compound in anything else. You will not be able to find a food that is devoid of any "contaminant". Do we know the source of the contaminant. Do we know if those detectable levels are a concern. As much as we have learned about cancer there is so much more that we don't know.

I'm not diminishing the need to know what's in our food, water, and air. There are horror stories of real life threatening contamination of all of these life giving substances. But we need to better understand what risk is, what risks we are exposed to, and what are appropriate risk reducing actions that we can take. Some of the biggest positive impacts we can make on our longevity can be very simple things like seat belts, sun screen, and moderation. Then we follow that up with a better understanding of risk analysis and avoiding fanatical reactions to the next popular press article about the presence of something in our food!