**Deadly Algae are Everywhere, Thanks to Agriculture**

By David Biello, August 8, 2014

<http://ogoapes.weebly.com/uploads/3/2/3/9/3239894/harmful_algal_blooms_increase_as_lake_water_warms_scientific_american.pdf>

**My Reflection**

Agriculture is the biggest contributor to the algae bloom in many areas around the world. When rain comes, it washes off fertilizers from farm fields washing off phosphorus, main fertilizers into the creeks, rivers and streams. These streams will go to watershed, in this case, great lakes. Lake Erie had the largest algae bloom in the year 2011. Phosphorus not only helps plants grow, but when it is washed off to the lake, it fuels the growth of green algae changing the color of the lake to dirty green. Algae bloom also leads to toxic bacteria to multiply such Microcystis cyanobacteria. Lakes provide water supply for many but if algae bloom is on the rise, many cities like Toledo will be left without water. Dead zones from coastal areas because of algal bloom are also on the rise leaving microbes consumed all oxygen for marine organisms. And also, climate change leads water more hospitable for bacteria such as cyanobacteria. Microsytis species, a very toxic bacteria. When there is continuous algal bloom, water supplies will be very dangerous from poisonous microsytis. This toxic species can harm human liver, gives diarrhea, abdominal pain and poison central nervous system (from anatoxin). More powerful than DDT, microsystis is a dangerous organism that can get to our water supplies.

I learned that excess of fertilizers into the watersheds are dangerous because it causes a harmful algal bloom. This algal bloom can cause dead zone where bacteria in the water deplete all oxygen to break down dead algae affecting clean water supplies for many people. Such poisonous bacteria like those microsystis from algal bloom make water dangerous to use. I also learned that the problem to algal bloom is caused by the change in agricultural practices.

Harmful algal bloom can be solved if we change our agricultural practice from high usage of fertilizers to low. One way to solve this problem is to reduce phosphorus from farms. Using exact not too much amount of fertilizers to farm fields can help prevent runoff to the lakes or coastal areas as what Bejankiwar says “The most important thing that can be done is to reduce agricultural runoff”.