

## How well do you know Agricultural Best Management Practices?

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As a Soil & Water Conservation District, we want to provide those we serve with the tools and information they need to be good stewards of our precious natural resources. Many of you may be aware that the Ohio Environmental Protection Agency (EPA) designated the Western Lake Erie Basin as an impaired waterway. According to the Ohio Sea Grant, this helps to clear the way for additional action to combat pollution that causes harmful algal blooms (HABs) to occur on Lake Erie. There are many best management practices (BMPs) that can be implemented which help to combat problems associated with runoff and soil loss. What are these practices? Where can you find information on them? Read on to find out more!

Let's start out on where to find out information that I will discuss in the following article. The Ohio Soybean Council awarded a grant to the Ohio Federation of Soil & Water Conservation Districts (OFSWCD) and SWCDs in the Western Lake Erie Basin including Paulding SWCD, to promote the adoption of Agricultural Best Management Practices. Ohio State University developed a website [www.agbmps.osu.edu](http://www.agbmps.osu.edu) to provide landowners will an additional tool to have the knowledge they need to identify "high risk situations" existing in their fields and have the knowledge they need to know where to go for assistance to implement effective conservation practices. On this website, landowners can find information on BMPs along with agencies to contact for help.

On the Ag BMPs website, one page to take note of is the "Critical Concerns" page. On this page, visitors will find pictures and descriptions of critical resource concerns to use in identification along with links to best management practices that can be utilized to address the concerns. So, what are these concerns exactly? Natural resource concerns arise when considering issues with soil erosion, nitrogen, and phosphorus; all of which have an impact on the water quality.

Let's talk soil erosion. Soil erosion can take place by means of wind or water and can undo thousands of years of hard work that built up that soil. When erosion occurs, this sediment finds itself in the nearest water source whether it be a ditch, stream or river and often requires removal. As this sediment builds up, boats and shipping vessels in the larger rivers are unable to pass through because their navigation channels have become shallow requiring dredging to take place to remove the sediment. In addition, OSU Extension writes that the increased sediment in the water also affects aquatic animals by clogging their gills, smothering nests and eggs, while also altering the water temperature.

What are some solutions? Reducing the amount of tillage performed is one easy practice that can be employed to leave more crop residue on the ground thus leaving cover on the ground that helps to slow down the force of rain drops hitting the surface. Conservation tillage leaves at least 30% of crop residue on the ground and lightly works the ground prior to or during planting. No-till which leaves the soil undisturbed between planting

seasons with weed control being achieved by crop rotations. Strip tilling leaves the soil undisturbed with the exception of strips of 1/3 of the row width, often used for weed control during the planting season or preparing rows for planting. Pictures are provided on the Ag BMP's website highlighting each of the tillage practices.

Concerns arise with phosphorus and nitrogen runoff, especially when considering issues with harmful algal blooms (HABs) that we hear a lot about in Lake Erie and Grand Lake St. Marys. One thing that algae feeds from is the excess nutrients that are found in the waterways feeding our lakes. These HABs deprive the water of oxygen, which hurts aquatic life and brings about concerns with drinking water. Among practices that can help with this issue are: cover crops, grassed waterways, controlled drainage structures, or having a nutrient management plan developed.

Grassed waterways is a practice that can be used to help with concerns relating to both soil erosion and nutrient runoff. These are constructed channels that are planted with grass or similar vegetation that is designed to slow the force of water running off the field while also providing a chance for filtration of the runoff from the roots of the vegetation. According to OSU Extension, grassed waterways in Ohio act as "shallow field ditches" which help to collect field runoff from areas in a field that slope towards a water source.

While only a few BMPs were mentioned in this article, there are many more that can be utilized to ensure that we are doing the best we can to preserve and protect our valuable soil and water resources! Contact the Paulding Soil & Water Conservation District for assistance on any of the practices mentioned and check out [agbmps.osu.edu](http://agbmps.osu.edu) for information!