

Extension

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This is the third edition of a newsletter that will be published quarterly. My intention is to keep it brief and to the point. If a topic interests you and you would like additional information, please let me know by email at charles6@purdue.edu. If you receive this newsletter in the mail and would prefer to receive future newsletters via email, let me know at the above email address. If you would like to be removed from the mailing list completely, let me know that also at the email address above.



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CARBON CAPTURE & STORAGE

I have attended several presentations led by representatives of the companies that intend to do CO₂ sequestration in our area (BP and Hickory CCS). They always emphasize that their industry has five decades of experience with CO₂ sequestration as part of their claim that the process has a proven safety track record. The US Environmental Protection Agency (EPA) is the permitting agency for six distinct classes of underground injection. Class VI permits cover injection wells used for geologic sequestration of CO₂. The first class VI permit ever to be issued by the EPA became effective in February of 2015. This permit was issued to Archer Daniels Midland for CO₂ injection near Decatur, IL. I have not been able to pinpoint exactly when they began actually injecting the CO₂, but it was sometime after February 12, 2015 which was certainly **not** five decades ago. What the industry does have five decades of experience with is injecting various substances (including CO₂) into depleting oil wells to enhance the amount of oil that can be recovered. This process is called Enhanced Oil Recovery and permits for this process are covered by EPA class II permits. Enhanced oil recovery is the practice of pushing fluids consisting of brine, freshwater, steam, polymers or CO₂ down into oil-bearing formations to recover residual oil. One substance goes down, another substance comes up. Geologic CO₂ sequestration is, we hope and pray, one-way. The CO₂ is injected with the expectation that it stays put until the end of time. Enhanced Oil Recovery and Geologic CO₂ Sequestration are **not** the same thing. Lumping these two practices together and trying to pass them off as being the same thing is, at best, disingenuous. But let's face it, if you want to talk people into going along with something that seems experimental and risky, it sounds better if you can claim a safety track record of five decades rather than five years.

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FIELD CROPS

I'm sure you have noticed that over the past few years the number of biologicals being marketed to corn and soybean growers has skyrocketed. These are products that may promise to enhance soil nutrient supply, improve fertilizer efficiency, mitigate plant stress, or suppress pests. Do these products work? The jury is still out. University field trial results have been very inconsistent and when a product does seem to increase crop yield, that increase is usually small. There are a lot of these products already on the market and many more soon to be released. Some will prove to be winners. Others will be found to be little more than snake oil. For now, recognize that while many of these products are promising, they are largely unproven and you need to wade into this ocean cautiously. A good practice is to make these products prove themselves on your ground. For example, in an 80 acre field, plant most of it using your standard tried and true inputs and randomly intersperse 3 or 4 test strips, each 2-4 planter widths that have the new experimental biological product added. See if you can pick up any yield difference on your yield monitor during harvest.

LAWN & GARDEN

There is increasing interest from homeowners in doing some sort of naturalizing of their lawn. For some, this means adding a few native landscape plants or dedicating a small area to pollinator friendly wildflowers. Then there are folks who dream of taking this to an entirely new level and completely ditching the lawnmower in favor of lower maintenance native species. The current default lawn in our area is cool season turf grass-often bluegrass or creeping fescue-that requires fertilizer, pesticides and weekly mowing. There is however a growing number of people looking for alternatives for at least a portion of their lawn. We are planning a 3-stop field day starting in Williamsport and ending in Oxford. This road trip is planned for the morning of June 28th when we will tour three residential lawns and discuss a number of alternatives to the usual run of the mill turf grass. See the enclosed flyer for more information regarding this field day.

NATURAL RESOURCES

A proposal to pipeline water pulled from an area near the Granville bridge which is located north of the town of West Point in Tippecanoe County has met considerable opposition. This water withdrawal is part of a plan to supply water to a large high-tech industrial park near Lebanon, IN and is often referred to as the LEAP (Limitless Exploration Advanced Pace) project. The water withdrawal site near West Point is attractive because it is where the Wabash River flows over the top of a large underground water aquifer known as the Teays (rhymes with days) River.

My intention in writing this is not to try to sway opinion in any direction, rather I thought I would attempt to give readers a better understanding of what the Teays River is, and what it is not. What the Teays is not, is an underground river flowing through caverns. Sorry to disappoint you, I was disappointed too. The Teays River was, in the distant past, a river comparable in size to the Ohio with headwaters in North Carolina then flowing through Virginia, West Virginia, Ohio, Indiana and Illinois. The Teays ceased to exist as a river more than 500,000 years ago when it was obliterated and filled in with boulders, rocks, gravel and sand deposited by glaciation events. The pore space in this deposited material can store massive amounts of water but it's flow, if that is what you want to call it, is measured in feet per day. It isn't stagnant but it is certainly not a raging river.

Why is any of this important to us in Benton and Warren Counties? This aquifer extends from east to west along the entire border between our two counties. If the LEAP project water withdrawal proposal meets too much opposition in Tippecanoe County, it is not unreasonable to think that the project organizers might set their sights a few miles westward and attempt to negotiate with us 'down home country folk' along the Benton-Warren border.