

Meeting Agenda/Brief Recap and Updates
8pm Monday Jan 05, 2015



Marion Township Library -Chickasaw, OH

1. **Jim Keller – Welcome, meeting purpose.**
2. **Gypsum** - Dr. Warren Dick from the Ohio State University in Wooster informed the group of the attributes of gypsum and the benefits of its use:
 - Gypsum is a very common mineral. It is calcium sulfate with two waters.
 - Universities have been working on macro nutrients for years. Most discussed are NPK but there are two other macro nutrients of equal importance – calcium and sulfur. More and more people are looking at these two. Gypsum is a great provider of calcium and sulfur.
 - Gypsum can be obtained from a mine or as a byproduct of coal fired power plant scrubbers.
 - Gypsum has been used in agriculture for a long time. Warren has a paper written in 1922 detailing the history of gypsum use. It is currently being rediscovered. Several of our founding fathers; Franklin, Washington and Jefferson promoted its use as a soil additive during the colonial period.
 - Warren used a gypsum based material to help in strip mine reclamation in north east Ohio. The coal byproduct worked best since it was very soluble and provided benefits deeper in the soil.
 - Gypsum is a great source of sulfur.
 - Gypsum improves infiltration.
 - Improves sub soil acidity. Deeper soils have pH levels of less than 5 and are not conducive to root growth; toxic even due to aluminum ions. Gypsum does not change pH like lime but the sulfate in the gypsum binds with the aluminum and the calcium displaces it. Roots can then effectively grow deeper.
 - Calcium in gypsum reacts with soluble phosphorous to form calcium phosphate which is insoluble. This insoluble P tends to stay on the field but due to acid release from plant roots the P becomes available for plant growth. Net result is that it reduces the P running off the fields but it doesn't change the soil test values for P. It has both agronomic and environmental benefits.
 - Warren has been working in NW Ohio with farm consultants and producers. Field trails there have been very positive. 40 – 60 % reductions in P leaving the field have been realized. The benefit of a gypsum application has been found to last about two years meaning that gypsum will need to be reapplied every 2 - 3 years.

Questions from the floor

- ? Will Gypsum be available since many coal plants are being shut down? Short answer is that will be plenty of gypsum available for a variety of reasons. Supply will be greater than

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demand for a long time. Currently about 35 million tons being produced annually with only 1 million tons being used in Ag.

- ? Gypsum is being delivered to the area from Michigan and Ohio River power plants. Is one better than the other? Ron Chamberlain with Gypsoil responded: Any gypsum coming from a scrubber will be similar. Mined gypsum will be different. It is all fairly pure calcium sulfate although the Michigan product may come from an older scrubber and may be a bit wetter than the typical 8 – 10% moisture from newer scrubbers.

Gypsum continued – Dan Peerless with Greenleaf Advisors Greenleaf supports Dr. Dick and has been working with him in NW Ohio. Twelve fields in the Maumee watershed are being monitored. Additionally, Dan has made a couple of trips to the area and has met with Brother Nick and Terry Mescher to acquire trial sites. Ideally trial fields would have two tile outlets. All variables need to be constant across the site with the exception that the control portion will be treated with one ton of gypsum per acre. Greenleaf pays for the gypsum and all testing. They need access to the tiles for sampling. The field should test for 50 lbs per acre of P or higher. The trial can be performed on corn, beans or alfalfa fields. Dan is seeking farmers with field(s) meeting the criteria to allow Greenleaf to perform gypsum application trials on them. Ag Solutions strongly encourages farmers to coordinate a trial on their farm since the results of all trials to date are very promising. Gypsum has a positive impact regarding P retention in the soil and making it more readily available for plant nutrition. Please contact Dan Peerless direct at (203) 823-5462, email - DPeerless@greenleafadvisors.net for further information. You can also visit their website <http://greenleafadvisors.net/servicesectors/land/gypsoil-watershed/>

3. **Bill Knapke Report** – Bill hosted a meeting at Cooper farms in Fort Recovery on December 17th. The meeting focused on how farmers can operate in a more sustainable fashion and convey to end consumers the fact that they are indeed doing that. “Sustainable Farming” has become a buzz word for many consumers and food distributors like Wal-Mart. One way discussed to make farming more sustainable and for sure more productive is to include wheat in the crop rotation. Wheat is a great fall cover crop, puts more carbon back into the soil, allows for effective manure application and double cropping. Tom Menke a crop consultant and Phil Brown a wheat consultant addressed the group concerning the broad benefits of planting wheat. I will attach a handout from the meeting to the cover email. Anyone desiring more information is encouraged to contact Tom Menke: (937) 447-4225, email - tom@menkeconsulting.net. You can also contact Phil Brown who is super knowledgeable and enthusiastic about what he is doing: (765) 438-2491, email phil@midwestwheat.com.

Mark Minnix Ozone project - Some Cooper Farms people visited a Minnix Ozone installation. Mark has collected data reflecting better swine livability and growth rates in Ozone treated facilities. Bill noted that what Ozone does in the pit is beneficial but whatever it might do for the health and prosperity of the animals will add to the bottom line much quicker. He has reduced his price somewhat and will allow farmers to install the units themselves. Studies continue on the improved air quality and while Bill is still concerned about the cost effectiveness of the approach, it holds enough promise to keep his interest. He will keep our group informed as to the progress of this interesting approach.

State House Meeting – Bill attended a meeting today and spoke with state representatives about bill 490 which restricts land application of fertilizer. This bill does not affect the GLSM watershed since it is already covered by Certified Nutrient Management Plans (CNMPs). The bill has not yet passed but will be brought back up in the next legislative sessions.

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Ag Breakfast – This Thursday morning at 7:30, Dennis Riethman County Extension Agent will be addressing the monthly breakfast group concerning the certification requirements needed for applying fertilizer and pesticides. This recap is too late for the January meeting but all are invited to these monthly sessions.

4. **Brother Nick Report** – March 3rd and 4th is the Conservation Tillage and Technology Conference (CTTC) program at Ohio Northern, Ada, Ohio. About 900 people attend but no one from our area other than Brother Nick is ever in attendance. Nick noted that it is a very educational couple of days and strongly encourages the meeting attendees and anyone reading this to join him. Learn more at <http://www.allenswcd.com/ctc-2015.html>
Jim Hoorman Research – Jim would like to share some research he has been conducting on St. Charles farms. Jim has taken many soil samples across a wide variety of situations; soils from woods grounds, soils from ground which has never been fertilized and soils that have been farmed for decades. He is trying to determine how farming practices have impacted phosphorous in our soil. We will schedule Jim to share his findings with us and Nick noted that it would be well to come and learn what Jim has uncovered. He is hoping for a big crowd. For additional information on the CTTC event or Jim Hoorman's research you can contact Brother Nick (419) 852-2917, email nrenner@celina-ic.org
5. **Don Pickett – Results of Pickett Enterprises field trial.** Don has a swine pit additive which stratifies manure into three layers with the P highly concentrated in the bottom layer. He first tested his formula in a jar of swine pit manure and then was able to apply it locally in an actual pit environment. Jerry Will, local swine farmer, assisted Don with the trial which was conducted on Tim Schwieterman's farm. Don shared his results with the group via a handout which will be attached to the email. Anyone wishing to know more can contact Don (937) 266-7726 email pickettenterprisesinc@yahoo.com
6. **Jim Keller – P issues and acid rain – Joe Nester theory.** Joe questioned why P has apparently become more soluble the last 10 -15 years. His thinking led him to the conclusion that the reduction/elimination of acid rain has changed the pH levels in the upper portion of our soil rendering phosphorous more soluble. While still a theory, it shows enough credibility that OSU research professor Jon Witter has received a grant to further study the phenomenon. Early results appear to confirm Joe's theory. OSU has applied for additional grants to provide insight into all the variables contributing to P solubility. If science can provide an approach that will hold P in the soil and available for plants much of our watershed issues will disappear. We will try to keep everyone apprised of this potentially very positive development.
7. **Updates from Floor** - Lou Brown shared results from some soil tests he conducted. By not applying fertilizer on four hay fields, Lou was able to drop the P by 10 lbs per acre over a 2 year period. On 150 acres of corn silage ground with only lagoon water applied (not the thick solids) P dropped by 6 lbs over a 2 year period. Lou noted that because of timely rains the yield from these fields was excellent highlighting that rain has more to do with the yield than fertilizer.

Adjournment – next meeting date and time will be announced. Watch your email