



Management Solutions

Agronomic Solutions, LLC

Fall 2010 Issue



EQIP...



It is not too early to begin thinking about getting an Environmental Quality Incentives Program (EQIP) plan for 2011. We don't have the 2011 rates yet, but it is a good idea to be ready when the rules and rates become available.

Are you thinking of having a CNMP written for your farm, looking into having increased manure storage built, wanting to utilize nutrient management, take advantage of waste utilization, use cover crops...or wanting to use any new environmentally friendly practices? Here is your chance to get financial assistance to make that possible.

For those not familiar with EQIP, it is money allocated to help farmers initiate conservation practices. It is primarily used to provide financial and technical assistance to implement practices that address soil, water, air, plant, animal, and energy resources. A new organic provision targets organic producers and those transitioning to organic production.

A set amount of money is allocated each year by the NRCS. The farmer must use the services of a TSP to have a plan drawn up of how they will implement a practice. If the plan is approved, a contract between NRCS and the farmer is established and he receives a set amount of money in each of 3 years in order to accomplish his plan. *Practices do have to be completed once you sign up for them.* Be aware that the money "in the pot" is being reduced each year, but the payment for the individual plans is going up. What that means is, fewer farmers will benefit each year.

Another Cost Share: AWEF

If your operation is located in the St. Joe Watershed District which includes the **Indiana counties** of (St. Joseph, Elkhart, LaGrange, Steuben, Kosciusko, Noble and DeKalb) and **Southern Michigan** (Hillsdale, St. Joseph, Cass, Berrien, Van Buren, Kalamazoo, Calhoun and Allegan), you are eligible to receive AWEF funding.

The funding is available, don't miss out! Everyone who applies and meets the same qualifications as for EQIP will be accepted until the money runs out.

Traditionally the information concerning the next year has come sometime around November. **I strongly urge you** to plan now if you would like to get in this program in 2011. While in your combine this fall, look at all of your fields and think about any resource concerns they have. Make an appointment with your local District Conservationist right after harvest to talk about conservation planning and program opportunities. I have a list of DCs. Call me.

[other NRCS programs pg. 4]

This is a seasonal publication produced by Agronomic Solutions, LLC for the confined feeding operators. Issues and information addressed in the newsletter will be geared towards animal feeding operation owners and managers. Hopefully you will find its contents useful in your operations. (574) 202-2608

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The Updated Value of Manure...

The charts below show what the average manure value is per acre.

Current Fertilizer Prices

0-0-60 Semi	1200# K ₂ O/ton	\$465.00 / ton	\$0.388/ # K ₂ O
28% Semi- prepay	560# N/ton	\$220.00 / ton	\$0.393/ # N
11-52-0	1040# P ₂ O ₅ /ton	\$ 548.00 / ton	\$ 0.527/ # P ₂ O ₅

Swine Grower Pit			Dairy Lagoon		
N	33	\$12.97	N	2.1	\$0.83
P	33	\$17.39	P	9	\$4.74
K	27	\$10.48	K	9.3	\$3.61
	Per 1000 gal	\$40.84		Per 1000 gal	\$9.18

4000 gal/A = \$163.36/acre

12,000 gal/ A = \$110.16/acre

Beef – Manure Pack			Litter - Broilers		
N	5.3	\$2.08	N	23.4	\$9.20
P	5.0	\$2.74	P	30.9	\$16.28
K	7.6	\$2.95	K	24.3	\$9.43
	Per ton	\$7.77		Per ton	\$34.91

25 ton/A = \$194.25/acre

5.0 ton/A = \$174.55/acre

Manure is a significant benefit to your farm - if managed properly.

This chart shows nutrient value, but manure is so much more than that. It also has biological and organic benefits. You should want to spread manure on as many of your row cropping acres as possible.

It's important to know what rates you are actually spreading so make sure you calibrate your spreading equipment for the proper rate. Taking credit for nutrients that you apply adds up to big savings on your fertilizer bill.

To help you know what is in your manure we are working at making a new sheet for everyone's Operation Record Books. It will give an analysis for each of your manure storages.

If you have been consistent in pulling your manure sample, you may already have this sheet. This is valuable information. Over-time we should be able to develop a good working number to best represent that storage for you to use in your planning for your fields.

NOTE: if the current new rule passes all CFO's and CAFO's will require annual manure sampling (see page 4).

Cover Crops...

It's time to plan for cover crops to be planted in late summer or early fall. Cover crops should be considered a part of any farming system that wants to efficiently utilize nutrients, improve soil quality, and increase profitability. Targeting cover crops on fields you spread manure on during the summer, fall and winter will help "capture" some of the nitrogen and keep it around for the upcoming corn crop. They should also be used on fields with wind erosion concerns.

Each cover crop has a special purpose. **Legume cover crops** produce homegrown nitrogen. **Ryegrass cover crops (cereal rye or winter rye)** increase soil organic matter, recycle excess nutrients, and reduce soil compaction. **Brassica cover crops (oilseed radish)** loosen the soil, recycle nutrients, and suppress weeds.

Cover Crops should be planted as early as possible in most cases—end of August or first of September. **Oats** is good if you seed it early and don't want to worry about killing it in the spring. **Cereal rye** is good if planted late in the season, mid to late October and can easily be applied with a dry spreader. **Ryegrass** is also great to pasture.

Select winter hardy varieties of grass for our area. Bounty is outstanding in winter hardiness, rust resistance and strong forage yields. It has the ability to root down to 5 ft. after 3 years of use. The extensive rooting increases soil organic matter, water infiltration, erosion control and captures any available N and P left in the soil to hold for future crops. Benefits multiply with multiple years of application.

Deeper roots = deeper nodules = more soybean bushels

Crops Update...

Hot weather...

heat units... opposite of last year...

It's time to chop silage - a month earlier than last year. Are we getting too much of a good thing? The continuance of high temperatures, both daytime and evening, has stressed the crops during grain-fill, which normally means yield reductions.

Corn: Stress During Grain Fill

Foreshadows Stalk Health Problems

The primary effect of severe stress on a corn plant is a reduction in photosynthetic rates. As photosynthetic capacity decreases during grain fill, plants respond by remobilizing stored carbohydrates from stalk and leaf tissues to supply the demands of the developing grain on the ears. In addition to physically weakening the stalk, the susceptibility to root and stalk rot is increased.

Soybeans:

Temperatures >90° days, > 75° nights typically shortens the seed fill period. Another stress showing up across Northwest and Central Indiana Sudden Death Syndrome. Symptoms of SDS have progressed over the past couple of weeks. Brown Stem Rot as also been detected in a number of fields. So be scouting your fields to make good management decisions.

*crop/scouting info:
agronomicsolutionsllc.com*

Buffer Zone for Good Neighbor Relations...

If you're a poultry farmer you know it isn't easy to *always* please your neighbors. The good news is that there is an easy and inexpensive way to mitigate odor, dust, noise and more all at the same time. The method? **Planting trees.**

Tree buffer strips accomplish many goals at once:

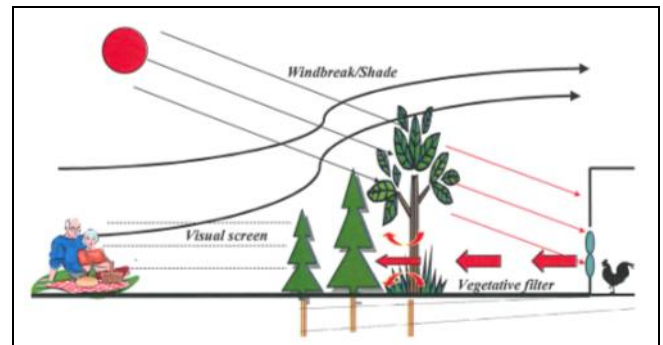
- ◆ They reduce odor by diluting and dispersing gas concentrations. Odorous dust can land on trees rather than dispersing through the air.
- ◆ They dramatically improve the look of a farm. Planting trees makes an “environmental statement” to neighbors that you are making every effort to resolve odor, noise and dust problems.
- ◆ Trees and shrubs can help reduce energy costs. Strategically placed, they can act as snow fences, shade for the building, and help cool the air entering inlets and curtains.

Research done in Iowa showed an odor and other emissions reduction by 67 % downwind from a five-row vegetative buffer around a hen farm in comparison to with no buffer. They found that willow captured more of the fine particle matter (PM) and juniper captured more of the intermediate-sized PM. Research has also shown that a vegetative buffer can interrupt downwind transmission of Infectious Bronchitis significantly between birds on the same or different farms.

BEST PRACTICE

When planning your buffer strips there are a few basics:

- ◆ Plant tree rows both upwind and downwind of the building. Upwind buffers reduce the amount of dust and odor picked up by wind. Buffers located downwind reduce wind speeds to allow settling of odorous dust that has become airborne.
- ◆ Avoid trees that attract wild birds which increase the risk of disease transmission such as ornamental crab apples, black cherry, etc.
- ◆ Selecting several species of trees and shrubs is wise as it offers a better chance for tree survival during alternating seasons of drought and wet soil conditions.



GENERAL PLANTING GUIDELINES

This is a suggested planting guideline to best mitigate odor, noise, dust and provide aesthetics. All situations are different and plans should be made for what fits your needs best.

With a 15,000-bird broiler house of 35 by 320 feet you might need three rows of plants on two sides to block wind, snow and the obscure the building itself. You could do a row of willows 30 feet from the building with plants every 3 feet. Then 15 feet back from the willows you could put in a row of poplar at 10-foot spacing. And a final row of evergreens could be planted about another 15 feet back at 15-foot spacing.

You may want to plant a mix of conifers (Colorado blue spruce, Austrian pine...) as they provide foliage in all seasons.

Another decision to be made is whether to plant seedlings or larger trees. Transplanting eight to ten foot conifers creates an instant visual barrier and a quick odor management advantage. Some producers will do this and then plant smaller bulk-ordered trees to build up the buffer over the following five to ten years.

Manure and Hay...

Making manure applications to production hay fields is an option for many growers if they have the ability to deliver “light and uniform” rates. This practice not only supplies needed nutrients, but may help alleviate some manure storage issues during the growing season.

For solid manure, try to limit rates to 10-12 tons per acre. A 10-ton-per-acre dairy manure application will supply 30 pounds of nitrogen, 30 pounds of phosphorus, and 70 pounds

of potassium. Liquid applications should be in the 3,000- to 4,000-gallon-per-acre range. A 4,000-gallon-per-acre dairy manure application will supply 28 pounds of nitrogen, 20 pounds of phosphorus, and 64 pounds of potassium. Not all manure is created equal so you will need to find the numbers that correspond with your type manure.

Apply the manure as soon as possible after cutting to avoid burning the emerging growth. Target your older fields. Not only does this limit damage to your new hay fields but the grasses present in older stands will benefit from the nitrogen.

CAFO Changes

Indiana...

IDEM is proposing to eliminate the currently existing CAFO NPDES permit rule as we know it. As your permit runs out, you will have an option to get an Individual NPDES Permit or to go with the new upgraded CFO program..

Key aspects of the draft rule for the new CFO program that are changes to the current CFO rule include:

- ◆ requiring all facilities to prepare and implement Stormwater Pollution Prevention Plans (SWP3)
- ◆ requiring phosphorus based land application
- ◆ requiring annual manure testing.

IDEM has opened a new comment period going on right now, August 25th—September 25th. They are specifically requesting comments on the proposed fiscal impact of the draft rules. To read the entire document go to our website: <http://agronomicsolutionsllc.com>

If you would like to comment you can contact me and I can advise you on how to proceed. Or, you can contact IDEM directly by mail, in person or by fax.

#09-615(WPCB) [CFO Rulemaking]
Janet Pittman
Rules Development Branch
Office of Legal Counsel
Indiana Department of Environmental Management
100 North Senate Avenue MC 65-46
Indianapolis, Indiana 46204-2251

Hand delivered comments will be accepted at IDEM by the receptionist on duty at the 13th Floor reception desk, Office of Legal Counsel, 100 North Senate Avenue, Indianapolis, Indiana.

Comments may be submitted by facsimile at the IDEM fax number: (317) 233-5970, Monday through Friday, between 8:15 a.m. and 4:45 p.m. Please confirm the timely receipt of faxed comments by calling the Rules Development Branch at (317) 232-8922.

Once all rules are final we will get the message out to you. One thing is for sure, more of your practices will become public record.

Middle Eel River Initiative (NRCS)

\$146,938 has been made available to landowners through EQIP to install conservation practices for erosion control and nutrient management in the watershed in Kosciusko, Miami, and Wabash counties. Manchester College led this effort and will do water quality monitoring and local promotion and will provide some technical assistance support.

Michigan...

Those of you who are affected by the new Michigan CAFO rules have already resubmitted your new applications and we have redone your CNMPs. This was due July 30th.

Record keeping requirements are changing quite a bit. But for RIGHT NOW, the farms are still functioning under their old Certificate of Coverage (COC). The new rules will not take effect until you receive your new COC in the mail. The new COC will be good for five (5) years.

The new COC will require:

- ◆ a 2 week public notice of field information before spreading manure
- ◆ more daily and weekly inspections which will need to be turned in with your annual report
- ◆ maximum manure rates which cannot be exceeded so manure rates MUST be calculated.

It could take a while before new COCs are issued. They must go through everyone's CNMPs and make sure all information is correct, visit the farm, and then process that information before they can get those out.

Also, most farmers filed for an extension on their existing components, inspection and certification. That extension will be written into the new COC. Every farmer should be hooked up with an engineer and be working hard to get those done. The extension is great, but even better would be not having to use the extension.

So keep working with your engineer on the existing components and keep working on the records in general. Both Indiana and Michigan are getting more and more particular about records.

NRCS Program: CSP

The Conservation Stewardship Program (CSP) is a voluntary program which provides financial and technical assistance to eligible producers to conserve and enhance soil, water, air, etc. on their land. CSP pays participants for conservation performance—the higher the performance, the higher the payment. Producers get credit for conservation measures they have already implemented and for new measures they agree to add. CSP is available to all producers regardless of operation size or crops produced. They are now taking apps for 2011.

If you're interested, there is a self-screening checklist to determine whether CSP is suitable for your operation. This can be downloaded at

www.nrcs.usda.gov/programs/new_csp/csp.html

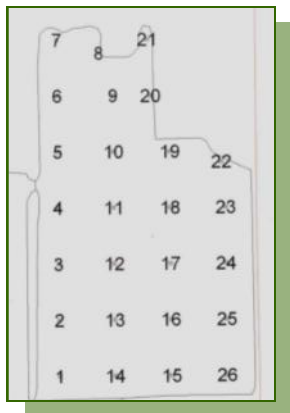
Contact me for further information.

Soil Testing: Double Testing's Time May Have Come...

It is time to start making plans for your fall soil testing. With all the new rules and regulations it may be wise to seriously consider pulling two (2) types of Soil Samples, one for you the farmer to use for making fertilizer recommendations, the other to satisfy government regulations.

Grid

Sample every 2.5A



The best sampling method for *you* to help improve the overall production of your fields is Grid Sampling. To make decisions agronomically, Grid Sampling is an efficient method to use and would be best suited for your farming operation. With Grid Sampling we can offer you more complete recommendations and site specific fertilizer rates.

With there being more and more government regulations, we want you to be able to stay in compliance as well as have the most efficient and productive fields. In order to do this, you may need to start double sampling. The Grid Sampling would give you the information for the best placement of nutrients for your fields and Field Sampling would satisfy the government regulations without exposing your spotty high phosphorus levels.

Indiana is moving to a 590 standard Phosphorus base and Michigan is already on that. As soon as you turn in the soil test data to the state, if you have one area too high in Phosphorus, you can no longer spread manure in that area. By using the Field Sampling method you will have pages to turn in with more averaged data. This helps to keep your manure spreading options as wide open as possible.

Make sure that your samples are pulled according to University recommendations. Field Sampling should be done with no field area being over 20 acres. By following state recommendations and keeping the samples under 20 acres, you can pull the samples deeper. This will also help with your phosphorus levels, just be consistent throughout your fields. But remember that this will dilute or lower your potassium and pH levels too, so it's not good agronomic data.

You will need to decide what is best for you and your operation as you plan your Soil Testing for this coming season. Call me to get on the schedule if you want us to come out and pull your samples or if you need further advise.

Manure Sampling...

Are you staying on top of the manure sampling that is required for the various plans? I find that this is an area where the majority of the producers I work with are lacking.

Since they have updated the EQIP 59 633 sheets, *if you are getting funding for a 633 you are required to have an annual manure sample.*

According to the new Indiana CFO regulations you will be required to have annual sampling in ALL storages. This has already been in existence for all CAFOs—to pull a sample from each storage EVERY year. This is definitely an area where we need to be more consistent.

STEPS TO TAKE WHEN PULLING MANURE SAMPLES

1. Pull the manure samples
2. Freeze the samples & keep frozen
3. Call me to get my lab ID so you can turn it in —or call me and I will stop by and pick them up when I'm going through your area.

However you choose to get the samples to the lab is OK — **JUST DO IT!** And ... make sure I get the results.

PULLING MANURE SAMPLES

Liquid manure: Sampling from the application equipment is the easiest and most effective way to get a good sample. Take subsamples from the filling hose or from a bottom unloading port, mix together in a bucket (plastic, not galvanized) and take a sample for analysis. *Sampling from liquid storage structures is not recommended for safety reasons.*

Solid manure: Samples can be taken in the field or from the spreader. In the field, spread tarps to catch manure as it is applied. For each sample, take several small subsamples from the tarps and place in a bucket or pile. Avoid larger pieces or chunks of bedding. Collect other subsamples throughout application and keep cool. Subsamples can be mixed by placing in a pile and repeatedly shoveling the outside of the pile to the inside. Use a trowel or plastic gloves to take a smaller sample for analysis. Samples can also be taken with a pitchfork or shovel from the spreader box after it is loaded. Collect subsamples throughout application, keep cool, mix and take a smaller sample for analysis. Again, sampling from the field or spreader is much easier and safer than trying to sample from a pack or pile.

Place
Stamp
Here

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Manure In The News...

PIG PAVEMENT

In the spring of 2010, the first piece of asphalt road using bio-oil (pig manure) was laid on a 200-foot piece of roadway outside Six Flags, St. Louis, MO.

Innoventor, an Illinois company, has developed the technology to turn hog waste into Asphalt binder. The manure is pumped from the pits under the barns. Next, the slurry is fed to the system where a boost pump elevates the pressure of the water slurry and heats it up. The slurry is then fed into a reactor where the waste is heated and pressurized to become bio-oil. As the bio-oil leaves the reactor, the water (black water) is separated. Then an oil dryer finishes drying the bio-oil.

The final product has the consistency of molasses. When hot, it's sticky and stringy like asphalt binder. The entire process takes about an hour. On a 10,000 hog farm, you would get 10 -15 barrels a day.

According to Innoventor the bio-oil has proved to be compatible with refinery-based asphalt binder at a significantly lower

cost. The company estimates that it will be another year before the reactor, which fits on a semi, will be ready for market.

Advantages that they see are:

- Lagoons would no longer be needed and the risks associated with them eliminated
- Odor would be greatly reduced
- Possible energy tax credits
- Transportation of waste would no longer be shouldered by the pork producer
- It would provide a revenue stream for the farmer
- The black water, a nutrient source, could be processed for flush water on the farm and the remaining concentrate used as a fertilizer.

In 5—10 years Inno-

ventor hopes to have 600 - 1000 units throughout the Midwest. Their plan is to make an agreement with the farmer to let Innoventor put the system on the farm. In exchange for the manure the farmer would get a percentage of the revenue. Innoventor would also service it and have tanker trucks pick up the bio-oil.

They are hoping this becomes a “win-win” for everyone involved.

Dates to Remember

Aug. 31—Sept. 2: **Farm Progress Show**
Boone, IA
www.farmprogressshow.com

Sept. 9—11: **Farm World Expo '10**
Lebanon, IN
www.farmworldexpo.com

Dec. 14—16: **Indiana-Illinois Farm and Outdoor Power Equipment Show**
Indiana State Fair Grounds
Indianapolis, IN

Jan. 18—20, 2011: **Fort Wayne Farm Show**
Ft. Wayne, IN