MANURE IS A VALUABLE COMMODITY

By Phyllis Steinke, Manure Nutrient Management Specialist

Manure has long been known for its value as a nutrient source for crop production. Manure contains valuable plant nutrients, like nitrogen (N), phosphorus (P), potassium (K), and sulfur (S). Manure nutrients come from whatever the animals have eaten. Manure is not a balanced fertilizer and it cannot totally replace commercial fertilizer but, manure can be used effectively in an overall crop nutrient plan to reduce costs associated with supplying crop nutrients. A standard dollar value for manure may be difficult to calculate due to variances in nutrient content. The nutrient value depends on the type of animal, animal weight, ration, housing system, storage system, application technique; time of year manure is spread and commercial-fertilizer prices. Basically, by testing manure to determine nutrient content and using commercial-fertilizer prices, operators can determine the value of manure as a nutrient source.

Not all crop fields need the same amount of manure. Often, well-manured fields don't need a full compliment of manure. These fields are often high enough in levels of phosphorus and potassium. An application of nitrogen (whether through manure or commercial) may be the only fertilizer needed. Carefully testing soil types for their nutrient content and basing application on crop nutrient needs will not only supply the best amount of nutrients that can be utilized, but will also decrease the possibility of a pollution event and/or high soil fertility levels. Manure must be adequately managed to minimize environmental impacts.

Manure over application can lead to it leaching into tile lines which eventually will find its way to ditches, creeks, streams or lakes, basically waters of the state. This would be considered a water quality pollution event which is not only a violation of The Ohio Administrative Code, Section 1501, but also a 'loss of valuable fertilizer' event. Manure has become so valuable that bankers are asking potential borrowers how much it will reduce the fertilizer bill. Producers are actually building it into their cash flow. Thus, a good recordkeeping system of manure analysis, production volumes, and applications is as important today as balancing the checkbook!

Fertilizer value is an important component of manure, but manures ability to help build healthy soil can be just as important. Soils are living organisms and as you enhance soil bacteria and fungi, the soil actually becomes more fertile. Tiny organisms in the soil break down the organic matter in the manure. This organic matter makes soil easier to manage, less likely to erode, and more likely to absorb water. These

are important benefits that commercial fertilizer does not provide, but is harder to put a dollar value on them.

Lastly, with this ever increasing (by leaps and bounds) cost of commercial fertilizer, it is more important than ever for a livestock producer to take into account the value of the important commodity that is being stored out behind the barn, in the barn, or is being applied to the cropland as the animal grazes. However the manure is handled, it is a 'valuable commodity' and should be treated as such.

If you are interested in learning more about getting the most value from manure, are looking for ideas to ensure that your manure handling and application practices meet Ohio's regulations, then plan to attend the upcoming 2009 Manure Science Review. Nutrient Management Workshops and Inventory & Evaluation Workshops will be offered at two Ohio locations: Tuesday, July 21, 2009 at the Manor Restaurant and Rowe Dairy, Strasburg, Ohio and Thursday, July 23, 2009 at the St. Marys Hall, St. Marys and the Brown Dairy, New Bremen, Ohio. Additional details and printable registration form available at: http://www.oardc.ohio-state.edu/ocamm/

For more information call Phyllis at the Soil and Water Conservation District at 937-492-6520.

Working with landowner group drainage projects

By Dave Heilers, Technician

The District is currently working with landowners on several group drainage improvement projects, both open ditches and tile mains. Group projects are projects that are funded by more than one landowner, each benefitting in some way by the improvement. These landowners all live in the watershed drained by the improvement project. This area can include a few acres or thousands of acres.

Just as houses, roads, fences and cars need regular maintenance, open ditches and tile mains need maintenance. Open ditches left unattended will grow up in trees and brush. Sediment builds up in the bottom. Eventually the ditch can become restricted and capacity reduced to the point where tile outlets become plugged and adjacent land floods. Cleaning an open ditch involves removing the trees (either some or all) and dipping the silt from the bottom to give drainage tiles an outlet.

A tile main is the conduit that carries runoff from the land to the open ditch. Many of the existing tile mains were installed 75 to 100 years ago, some even longer. As they break down, costly repairs become necessary. Eventually they have to be entirely replaced.

Cleaning an open ditch or replacing a tile main can be very expensive, almost prohibitive for an individual landowner to pay alone. Ignoring the problem however, can result in costly damage for everyone in the watershed. The owner of a parcel of land, whether it lies next to the site or a mile or more away has the responsibility to share the cost.

Drainage is important to everyone living in Shelby County. Drainage affects crop yields, septic systems, basement drains, backyards, road safety; the list could go on and on. Drainage is an important factor used to establish the value of land itself. If you are asked to help pay for an improvement project, consider the effect it could have if the improvements are not made.

Soil - It's Not Just Dirt! THINK ABOUT IT

The Good Earth. It's the Stuff of Life, It's in Your Hands!

In fact, recent statistics indicate the U.S. is losing 6.4 billion tons of soil each year due to erosion. This amount of soil would fill 320 million dump trucks, which if parked end-to-end would extend to the moon and three-quarters of the way back. The eroding soil is washed into lakes and rivers and blown into our air where it pollutes our environment. If we all knew a little bit more about soil, we could each do our part to help conserve this precious resource. Your soil and water conservation district is helping to conserve your soilRead on for some fascinating facts and conservation tips about soil.

•Soil makes up the outermost layer of our planet.

•Topsoil is the most productive soil layer. It has varying amounts of organic matter (living and dead organisms), minerals, and nutrients.

•Five tons of topsoil spread over an acre is as thick as a dime.

•Natural processes can take 500 years to form one inch of top soil

.•Soil scientist have identified over 70,000 kinds of soil in the U.S

•Soil is formed from rocks and decaying plants and animals.

•An average soil sample is 45% minerals, 25% water, 25% air, and 5% organic matter.

•Different sized mineral particles, such as sand, silt, and clay, give soil texture.Lichens help to break apart rocks to form soil.

•Fungi and bacteria help break down organic matter in the soil.

•Plant roots break up rocks, which become part of new soil.

•Roots loosen the soil and allow oxygen to penetrate. This is beneficial to the animals living in the soil.

•Roots hold soil together and help prevent erosion.

•Five to ten tons of animal life can live in an acre of soil. Earthworms digest organic matter, recycle nutrients, and make the surface soil richer.

•One earthworm can digest 36 tons of soil in one year.

•Mice take seeds and other plant materials into their underground burrows, where this material eventually decays and becomes part of the soil.

Tips on Protecting YOUR Soil It is not hard to conserve soil in your own backyard. The first step is recognizing areas that are prone to erosion. You should look for:

•areas where no plants are growing along property lines, walkways, and drives.

•sloped areas where gullies are forming from water runoff.

•exposed soil around houses and downspouts.Other signs of soil erosion are dust in the air on windy days, and mud in gutters and on sidewalks. These factors indicate that soil is eroding from surrounding areas.

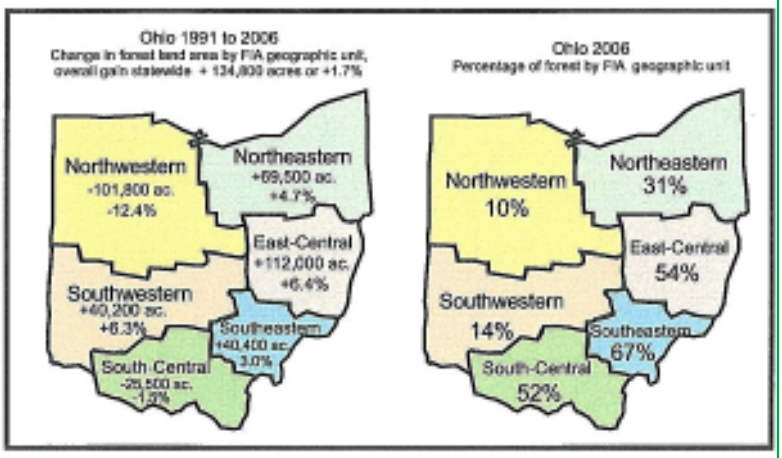
Once you have identified the problem areas, consider these ways in which you can help curb erosion:

•Seed exposed areas with grass, or plant some other groundcover. After seeding, spread a mulch (such as straw or compost) over the area to help keep the seeds moist and in place until they germinate. On steeper slopes you should cover the mulch with burlap netting for extra protection.

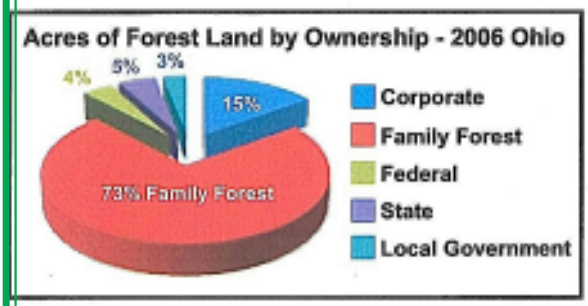
What Do We Know About Ohio's Forests?

Kathy Smith, Extension Program Director Forestry
School of Environment & Natural Resources

What do we know about Ohio's forests? Well, thanks to the US Forest Service and their Forest Inventory Analysis (FIA) program and the National Woodland Owner Survey we are getting a new snapshot of what Ohio's forests look like. This latest survey indicates that we have gained about 100,000 acres of forestland since the 1991 survey. The resulting 7.8 million acres of forestland encompasses about 30% of the state. This means Ohio's forests have doubled in area since the 1942 inventory but the rate of growth has slowed considerably in the last decade or so.



Where are Ohio's forests? The lowest percentage for forest land cover sits in northwest Ohio while the largest percentages sit in east central, south east and south central Ohio (see maps). What does the future of Ohio's forests look like? The FIA survey found trees have increased in both size and number in our woodlands. As our woodlands become denser there is more competition for light, moisture, nutrients and growing space. Those tree species better adapted to growing in these more shaded conditions (such as maple) will do better than those species that require more light and space (such as oak). Another indicator of what the future holds is what the data tells us about tree species and size. Sugar and red maple are the most numerous tree species in the smaller sized trees (< 11 inches in diameter) while the oaks are most numerous in trees that measure 11 inches and greater. This means that as we lose the large oaks to timber harvests or natural mortality, they will most often be replaced by maples.



How Ohio's forest land is managed is primarily the landowners' decision and those decisions reflect the wide variety of goals and objectives that our landowners adhere to. To better understand the impacts of those decisions it helps to understand who those owners are. The largest segment of ownership is private individuals and enterprises who together own 88% of Ohio's forests. That breaks down into 15% owned by corporations, nonfamily partnerships, tribal lands, non-governmental organizations, clubs and other non-family groups and 73% is family forest owners (5.8 million acres). The rest of the acreage is divided up between Federal (which includes the Wayne National Forest), State and Local Governments totaling 12% of Ohio's forest land.

The National Woodland Owners survey determined Ohio has approximately 336,000 family forest owners and that 93% of those owners hold fewer than 50 acres. This category of ownership size accounts for 3.2 million acres or 55% of our forest land. So what does all this mean to Ohio's forests? We know that the current trend is for smaller parcel size which can result in more landowners, further fragmenting the forest. Family forest owners and the practices they implement on their woodlands will shape the future forests of Ohio. Are you one of those?

"Stewardship Materials Available"

Kids! Have your parents order these fun pamphlets!
"Dig It, the Secrets of Soils"

Available for you to purchase for a small fee are childrens' booklets and activities, church or organization program blanks, program inserts, posters, placemats, bookmarks and clip art; for your school, home, organization and personal use.

Is soil an important ingredient in your every day life? The answer is yes, and here are a few reasons why.

1. Last night you slept in a building built on soil
2. You drink water that flows through soil and is cleand by the soil
3. You breathe air that comes partly from plants growing in the soil
4. You even wear clothes made from plants that grow in the soil

Soils make our lives possible. We build on them, play on them, drive on them, eat food on them and from them, take medicine from them.

The entire earth--every ecosystem, every living organism--is dependent upon soil.

So why not order some Stewardship materials for yourself today? Go to http://www.nacdnet.org and click on Online Store and then Stewardship Marketplace. There is also a place to download some of the materials for free. They will accept major credit cards as payment. You can call 888-695-2433 to order by phone or email@stewardship@nacdnet.org to place an order. We have samples of the materials at the Shelby SWCD office at 822 Fair Road if you would like to stop and take a look.

LEAP 1 ON LINE

By Phyllis Steinke, Manure Nutrient Management Specialist

Environmental knowledge is power for today's livestock and poultry producers. The Ohio Livestock Coalition (OLC) would like to help provide some of this power by offering the Ohio Livestock Environmental Assurance Program (LEAP 1) training online. LEAP 1 offers livestock producers an opportunity to take a pro-active approach in blending sound production economics with concern about environmental quality. LEAP is a voluntary and confidential education program offered in Ohio that provides practical information to help livestock producers identify and economically address key management issues affecting the environmental quality of their operations and communities. The goal of the program is to minimize government regulations by providing producers with an educational program that addresses relevant environmental issues.

The program's curriculum and educational materials are designed for beef and dairy cattle, sheep, swine and poultry producers. It is coordinated by the OLC, in cooperation with the Ohio State University Extension (OSUE), Menke Consulting, the Ohio Department of Natural Resources, (ODNR) Division of Soil & Water Conservation, Natural Resources Conservation Service (NRCS), Ohio Environmental Protection Agency (Ohio EPA) and various commodity and farm organizations.

Some of the main topics LEAP 1 covers include:

- Introduction to the environment – shows to the livestock industry the importance of a sound environment and how improved environmental practices can help consumers view the industry more positively.
- On-farm inventory – provides a quick checklist to rate environmental priority areas on individual farms.
- Key environmental management information – discusses management of nutrients, facilities, air quality, odor and community relations.
- An environmental plan – uses the on-farm inventory and local expertise, such OSUE, NRCS, and SWCD professionals, and private consultants to develop an environmental management plan.
- State and local regulations – discusses what is required for environmental compliance and how to reduce liability.
- Cost-share programs – covers programs, such as Environmental Quality Incentives Programs (EQIP) that can help pay for environmental improvements on farms.

Past participants have said that the LEAP 1 program helped reinforce the things they were already doing on the farm were the right things to be doing, such as having a manure management plan and keeping good records. Others have said that getting certified shows that the people involved in the livestock industry are trying to head off problems before they occur, which is good for public relations and depending on where the farm is geographically located, that could be very important.
So, livestock producers—Leap in the right direction with LEAP 1!!!

To register for the LEAP 1 online program:
1) Send a check for $25 made out to THE OHIO STATE UNIVERSITY,
2) Along with the check, include a note with your name, address, e-mail address, and phone number 3) Mail to the following address:
Stephen Boyles

(continued)

(Leap On-Line continued)

The Ohio State University
2027 Coffey Rd.
Columbus, OH 43210-1094

Upon successful completion of the program, OLC will be notified and the participant will receive their certificate of completion. Any questions, contact:

Sandy Kuhn, 614-246-8288, skuhn@ofbf.org
Dr. Stephen Boyles, 614-292-7669, boyles.4@osu.edu
Jon Rausch, 614-292-4504, rausch.7@osu.edu

MNM: Manure Nutrient Management

There are two strategies for manure use: (1) management for maximum nutrient efficiency and (2) management for maximum application rate of manure.

If maximum nutrient efficiency is the goal, rates of application need to be based on the nutrient present at the highest level in terms of crop needs. In most cases this is phosphorus (P). Manure should be applied at a rate which will meet the crop's requirement for P. Additional nitrogen and potassium (K) can be supplied with commercial fertilizers. This strategy is least likely to cause undesirable environmental effects, and makes the most efficient use of all nutrients in manure.

If management for maximum rate is the goal, determine a rate of application which will satisfy the crop's requirement for nitrogen (N) without causing environmental problems. This strategy maximizes the rate of applications, making less efficient use of P and K than the other strategy.

A manure application strategy based on crop N requirements will lead to an accumulation of P in the long term, especially with repeated applications. Excessive soil test levels of P can result in surface water quality problems. Therefore, strategy (1) is the most economic and environmental use of animal manures.

There are many educational resources about manure management available via the internet. Following are some of the most used links to help a manure user:

Winter Manure Application (PDF)
http://www.ohleap.org/FactSheets/1104/OLCFS1.pdf
Preventing Manure from Reaching Surface Water; Issues Related to Preferential Flow.(PDF)
http://www.ohleap.org/FactSheets/1104/OLCFS3.pdf
Standard 633 Manure Utilization (PDF)
http://www.ohleap.org/FactSheets/1004/OH633_Waste_Util_June2003.pdf
USDA NRCS Practice Standard 590 Nutrient Management (PDF)
http://www.ohleap.org/FactSheets/1004/OH590_Nutrient_Mgt_June2003.pdf

Ohio Livestock Manure Guide, Bulletin 604 **http://ohioline.osu.edu/b604/**

CNMP Watch **http://www.cnmpwatch.com/**

Manure Management issues, challenges & solutions, (PDF)
http://www.ohleap.org/FactSheets/1104/04-OLC.pdf