

In This Issue:

**Farm Management
Notes**

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Livestock Notes

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Horticulture Notes

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Ag Beat

North Central Missouri
Agriculture Newsletter
Putnam, Sullivan, Linn,
and Schuyler Counties

2007 MASTER GARDENER TRAINING

New classes start Monday, July 9th.

All classes held on Monday nights through October 1st.

Brookfield Area Career Center
Brookfield MO

For more information call:
Dr. Leon McIntyre at 660-895-5123

SULLIVAN COUNTY 4-H & FFA FAIR

July 11th thru 14th, 2007

American Legion Field
Milan MO

LINN COUNTY 4-H & FFA FAIR

July 14th thru 22nd, 2007

Linn County Fairgrounds
Brookfield MO

Farm Management Notes

Joseph Koenen
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THIS YEAR'S FARM BILL ~ WHY IT'S IMPORTANT FOR YOU

I hope that most or all of you are aware that there is a discussion going on in Washington (and other places) about the upcoming Farm Bill. It will have a big impact on you no matter your operation so I want to discuss it some in this article.

The 1st thing I'll discuss is some of the major issues this go around. They are:

1) *Commodity Crops* – you are all aware of the large impact that ethanol and bio-diesel have had on grain prices. One of those impacts has been that much less money is being spent on support payments than has been in the past. Problems and concerns still remain though.

~ producers who due to weather conditions (drought, etc.) raise no crop and yet get no payments because of high prices. These payments were designed to be a safety net and yet have not worked that way.

~ other countries are complaining that our current system is distorting trade and the U. S. has lost on a couple of these payments (found being trade distorting) in International courts already.

~ who is receiving the payments continues to be discussed. Non-farmers and very large farms still get the majority of payments and many question whether that's right.

~ propose setting a \$200,000 adjusted gross income (AGI) limit in order to receive commodity payments. This would be based on a 3-year average before limiting payments.

2) *Specialty Crops* – this continues to be an area of major growth due to more healthy eating and living and more emphasis on where our food comes from. Specific issues include:

~ propose to increase USDA purchases of fruits and vegetables for the school lunch program in particular.

~ assist specialty crop growers with market promotion, sanitation and nutrition issues rather than providing any direct payments to them.

~ propose eliminating the acreage limit on specialty crops on base program acres.

3) *Beginning farmers* – higher land values and the capital requirements of farming has made this another issue of concern. USDA and the Administration have proposed changing several things to assist beginning farmers, in part because our average age of farmers continues to increase. Some specifics:

~ cut interest rates on beginning farm loans through the government and cut in half the required down payment amount.

~ pay beginning farmers a slightly higher commodity payment for the first 5 years they are in business.

~ provide other financial incentives for beginning farmers.

4) *Conservation provisions* – soil and water conservation continues to be a top priority. Most of these proposals relate to combining and streamlining programs as well as setting aside monies for beginning farmers.

There are other provisions on energy (biomass research and incentives, etc.) and rural development as well. These are proposals from USDA at this point and Congress and others will make their own and adjust these too. I do think it's extremely important for you to keep up with the discussions and provide your input to your legislators and farm group folks.

Since this area is a livestock producing area it's easy sometimes to believe the farm bill discussion doesn't impact us. However, our counties are more tied to farm bill money and assistance than many of you realize so that's why it's so critical to keep up and provide your input. USDA's web site (www.usda.gov) has a link at the bottom of their page to the farm bill and the discussions surrounding it. I hope that many of you will keep up on it this summer as much as you can.

CUSTOM RATE GUIDE REMINDER

We get many requests every year for information that is contained on the Missouri Custom Rate Guide. It was updated in 2006 and is still current in most areas. It is a useful guide but should be used as a guide and not to go by completely.

You can get the guide online at <http://extension.missouri.edu/explore/agguides/agecon/g00302.htm>. You will want to use the pdf file if you want to print it out for later use. You can also stop by your county Extension Office for a copy also, there is a

small fee to cover our costs if you do that.

CENTURY FARMS REMINDER

Don't forget that June 1st is the deadline if you want to enroll your farm as a Missouri Century Farm. If you own or operate a farm that's been in your immediate family for 100 years or more consecutively, then you can qualify it as a Century Farm. This is a program of the University of Missouri and your local Extension Council.

This must be direct decedents such as children, grandchildren, adopted children and grandchildren, nephews or nieces. You must fill out an application and return it (postmarked) by June 1st of this year (take note that this is a slightly earlier deadline than in the past). You need to have 40 acres or more to qualify and it must still make a financial contribution to the farm's income today. The farm needs to have reached the 100 years mark by December 31st of 2007. There is a \$40 fee and you will receive a certificate and sign to hang up at your farm. This is a very nice program so if you're eligible, I hope you'll take the time to apply. It doesn't take that long to fill out the application and now you can even do it online. You can pick up an application form and more information at your county extension office or go online at <http://outreach.missouri.edu/centuryfarm>.

The web site contains a history of the program as well as some information about some of the farms that have been recognized in past years. If you have any unusual facts or information about the acreage, they'd like that too.

LIVESTOCK NOTES

Chris Zumbrunnen

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HAY & FEED PRICES FOR NEXT WINTER

Last winter's short hay supplies and high prices coupled with higher feed prices than normal have several producers looking at alternatives for feeding brood cows next winter. Here are a few things that always seem to come up in the conversations.

▶ YOU MUST KNOW THE COST OF FEEDING A COW IN YOUR OPERATION!

In working through winter feeding options with producers on a variety of different types of operations the one cost that seems to influence profit or loss the greatest is winter feed costs. As margins get tighter you need to have a handle on all costs as you can't manage what you can't measure

▶ DO YOU HAVE THE RIGHT NUMBER OF COWS?

I come across very few cow-calf producers who like to sell cows or whose long term goal is to own fewer cows in the future than they do now. Think about your cow herd: those cows that fall into the bottom 10% of your herd that always wean the lightest calf or is the last to calve each year require as much winter feed as do those cows that calve early in the season and wean a big calf. I have seen several instances where culling that lower end 5 to 10% of your herd greatly increases the profitability of the herd.

▶ DO YOU DO ANY GRAZING MANAGEMENT?

No matter what season, managing your grazing will make most all producers money compared to the time and input it requires to implement. It goes hand in hand with culling lower end cows and providing some cushion in your pasture management plan to enable you to get more from your pastures. Reducing the amount of hay you



need for the winter by stockpiling and grazing further into the winter can greatly reduce winter feed costs at a very economical cost to implement.

▶ IF YOU ARE USING BY-PRODUCT FEEDS, WHEN ARE YOU BUYING THEM?

We all know what happened to by-product feed prices when corn got high this past winter. Just like grain, by-product feeds have a price pattern that they normally follow. Prices are lower in summer and early fall when demand is lower and start to rise, sometimes fairly sharply, in late fall and winter as demand increases. If you are planning to use by-products, buy or book them in late summer or early fall to take advantage of this seasonal adjustment in price. Some years there may be as much as a \$50 to \$60 per ton price increase as demand increases

▶ PLAN, PLAN, PLAN

It may seem a little strange to be talking about winter feeding in late May but if you want to implement a winter grazing plan into your herd or take advantage of reducing the cost of your supplement by buying a by-product feed in early fall you need to plan and get ready now. Making last minute or desperation type decisions can be costly.

LENGTH OF BREEDING SEASON DOES MATTER

I ran across a summary of a research analysis of 394 ranch observations from the Texas, Oklahoma, New Mexico SPA data set that provided insight into the age old argument about "leaving the bull out" or having a defined breeding season. Oklahoma State University and Texas A&M

Agricultural Economists found a positive relationship between number of days of the breeding season and the production cost per hundredweight of calf weaned. Also they reported a negative relationship between number of days of the breeding season and pounds of calf weaned per cow per year.

The data suggested that for each day the breeding season was lengthened, the annual cost of producing a hundred pounds of weaned calf increased by 4.7 cents and pounds of calf weaned per cow per year decreased by 0.158 pounds. The range of breeding seasons in the data set was from extremely short (less than one month) to 365 days or continuous presence of the bull.

The producer that leaves the bull out year-round (365 days) would sell 45.82 fewer pounds of calf per cow per year on the average than producers with a 75 day breeding season. That same producer would have \$13.63 greater costs per hundredweight of weaned calf than the producer that used a 75 day breeding season

DO THE MATH BEFORE CREEP FEEDING

As summer approaches producers soon will be making decisions that could affect their profit margin when they sell those calves months from now. One of those decisions is whether to supply the calves with creep feed. That's essentially any food a producer provides calves while they're still nursing.

The amount of creep feed required to produce the desired result in the calves is a major factor producers must consider when deciding whether creep feed is cost-effective.

Keep in mind that it will require more creep feed to put on a pound of calf gain if you are using it as a replacement for pasture grasses rather than as a supplement. For example calves could require 5 to 7 pounds of creep feed for 1 pound of weight gain if creep feed is a supplement to grass. However, if it's replacing pasture grass, calves might need 8 to 9 pounds of creep feed for 1 pound of weight gain. If the pasture condition is good to exceptional, then be sure to use a creep feed formulated to supplement grass, rather than replace grass.

The type of creep feed used can be an issue. One suggestion is to use creep feeds containing higher amounts of protein and fiber and lower

amounts of starch as a supplement to grass. These creep feeds improve the digestibility of grass. Calves eating creep feeds that are starch-based, or mostly grain, will substitute creep feed for grass. Also always consider the source of the creep feed. Commercially produced creep feed is more expensive than the home-grown varieties. The commercial product might be less costly in the long run, though, because it will normally result in fewer digestive upsets and it contains correctly formulated rations.

Favorable and profitable conversions of 5 to 7 pounds of creep feed to 1 pound of gain are typical where pasture forage is limited and feed is balanced with nutritional requirements, such conversions also are likely for calves of first-calf heifers and very old cows where milk and grass don't meet calves' growth potential.

Creep feeding is not likely to pay when conversions are high, in situations where pastures provide good nutrition and cows are milking well, he adds. It also is of questionable value for heifers that will be retained and developed for replacements, and calves that will be backgrounded for an extended time post weaning.

If you sell calves at weaning make sure the extra weight they've gained on creep feed is enough to offset the extra cost of the feed. Calculating profit margins from creep and alternative feeds is very important with today's high feed costs. To calculate the feed cost per pound of additional weight from supplemental feeding, multiply the cost per pound of feed by the projected rate of conversion (pounds of creep feed consumed per pound of added weight gain).

Since heavy calves usually sell for less per pound than lighter calves, the value of added pounds from creep feeding often is less than market price. If there are small or no price slides which is sometimes the case when cattle feeders are aggressive bidders for early heavy calves capable of finishing for the April or earlier seasonally high markets. Then the added weight can be valued near market price.

AGRONOMY NOTES

Leon McIntyre

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ALFALFA PEST PROBLEM IN 2007?

Alfalfa Weevil is usually a pest of the growth of the first cutting, or harvest, of alfalfa. However, the freeze damage on April 4-9, 2007 has stopped the first cutting. You need to watch the new growth alfalfa stems for alfalfa weevil damage. If weevil numbers are high they will do a lot of damage to new growth. Start scouting alfalfa and alfalfa-grass mixtures now. First signs of larval feeding will be pin-sized holes in plant tip leaves (new opened leaves). This damage is not economic, but can become significant as the larvae grow. Alfalfa weevil larvae have a black head, slate-colored when small, and darken to a deep green at maturity (3/8 inch in length).

Due to the freeze damage of alfalfa in early April the re-growth will be slower than normal. The damaged stems stop growing but they influence the new growth stems from crown buds.

Variegated cutworms are in high number in alfalfa fields in many locations. Be on the lookout for these pests. They can do heavy damage to new growth from alfalfa crown buds. They feed mainly on new tillers from the alfalfa crowns. The larvae is a small worm with seven spots down their back that progress to seven diamond shaped spots.

Potato leafhoppers are also showing up early in alfalfa fields. They are about 3 weeks ahead of normal. Start scouting your alfalfa and alfalfa-grass mixture hay fields for these three pests, alfalfa weevil, variegated cutworm, and potato leafhoppers. These 3 pests can be controlled with the following insecticides.

Insecticides, Rates and Pre Harvest Intervals (PHI)

<u>Product</u>	<u>Rate</u>	<u>PHI</u>
Nufos 4E	1-2 pts/a	7-21 days
Lorsban 4E	1-2 pts/a	7-21 days
Mustang Max	2.24-4.0 fl. oz/a	3 days
Warrior*	2.56-3.84 fl. z./a	1 day-forage 7 days-hay

* Restricted use insecticide

HIGH NUMBERS OF ARMYWORM MOTHS

During the past two weeks, high numbers of true armyworm moths have been captured in the Southwest, West Central and Northwest Missouri. Similarly, high moth numbers have been observed in southwest Missouri. Numerous storms and high winds often transport moths into the state from more southern regions of the U.S. The risk of true armyworm damage is more common in southern Missouri areas, although about two years ago we had a lot of damage in Linn, Sullivan, and Putnam counties.

Crops most at risk of true armyworm damage are tall fescue seed fields, fescue and other grass pastures, and wheat. True armyworm overwinters as large larvae and quickly develops into moths in early spring. True armyworm moths are light tan to grayish brown in color with a pinkish-white spot located near the center of each forewing. Each female moth may lay 2000 pale green eggs, usually on green vegetation. Larvae emerge within a couple of weeks and feed on grasses and cereal crops for three to four weeks. Larvae are yellowish-brown in color with smooth hairless bodies and three dark longitudinal lines running down each side and back. A distinguishing characteristic is the presence of four pairs of abdominal prolegs, each with a dark triangle located near the tip of the leg. Although two to four generations may occur in Missouri each year, the first generation is responsible for most damage to tall fescue and wheat.

Armyworm larvae avoid light and spend most daylight hours hiding deep in plant residues near the soil surface. Feeding generally occurs at night with plants being defoliated from the soil surface upward. If larvae devour available food in one area, they will readily move (March) in mass to another field of grass or wheat. This behavior is responsible for the name armyworm. Although no reports of armyworm damage have been reported in Missouri at this time, producers of tall fescue seed, tall fescue pastures, and wheat are encouraged to scout for the presence of armyworm larvae or foliar damage to host crops. We will continue to monitor fields statewide for the presence of armyworm.

WARM SEASON ANNUAL FORAGES

Sudangrass, sudangrass hybrids, and sorghum-sudangrass hybrids are the most used warm season annual grasses. These grasses are very productive during the moderate and high temperatures of the summer, and must be seeded each year in a prepared seed bed, or clean no-till area. Being tall, juicy grasses, these sorghums are difficult to make into high quality hay. Sudangrass and sudangrass hybrids have finer stems than the sorghum-sudangrass hybrids and should be chosen over the sorghum-sudangrass hybrids for hay. Using a hay conditioner will crush the stems and speed drying.

Plant these sorghums when the soil is 60°F, to a depth of 1 1/2 inch at 15-30 lbs./acre. High seeding rates decrease stem size. Apply 50-75 lbs. of nitrogen for best production, and phosphorus and potassium if the soil test history shows low amounts.

Sudangrass, sudangrass hybrids, and sorghum-sudangrass hybrids produce prussic acid, a compound that is toxic to livestock in high amounts. Prussic acid is hydrogen cyanide (HCN). Sorghum plants produce a compound called dhurrin, which in ruminants is hydrolyzed to HCN. dhurrin content from least to most potential is sudangrass and sudangrass hybrids (least) and sorghum-sudangrass hybrids (intermediate), and forage and grain sorghums (most).

Graze sudangrass and sudangrass hybrids safely when they are 18 inches tall, and sorghum-sudangrass hybrids at 24 inches in height. The concentration of dhurrin is highest in young plant tissue, with more in the leaves than in the stems. Cattle or sheep that are very hungry should be fed other feeds that have no prussic acid potential or at least a low potential before turning them on to lush sudangrass or sorghum-sudangrass pasture. Prussic acid dissipates from plant material when dried for hay or ensiled in about 3-4 weeks.

Pearl millet (*Pennisetum americanum*) and pearl millet hybrids are becoming more important for warm season summer forage. They are tall, erect, freely tillering, annual grasses that grow 6-12 feet tall. In appearance, they are like sorghum sudangrass hybrids, having a finer stalk, with similar leaf shape and arrangement, but with a cattail-shaped seed head.

The seed size for pearl millets is small from 85,000-100,000 seeds per pound, compared to alfalfa, which is around 210,000 per pound. Plant when the soil temperatures are 68°-70° F, at a depth of 1/2 inch, and a seeding rate of 10-15 lbs./acre. Drill or use a billion-type seeder for best results with this small seed. Pearl millets are very responsive to fertilizer, especially nitrogen, just as the sorghums are. Apply 50- 75 lbs./acre of nitrogen with phosphorus and potassium according to soil test.

Grazing pearl millets can be done at any stage of growth because they have no prussic acid. For higher forage quality and yield, allow pearl millets to grow 4-6 weeks before grazing. After grazing, cut stalks back to 6 inch stubble for uniform re-growth. Allow new growth to reach 18-24 inches in height before grazing again.

For hay or silage to maximize yield and feed value, harvest in the boot stage when a few "flag leaves" appear.

HORT NEWS

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SUPPORT YOUR LOCAL FARMERS' MARKET

It's that time of year! Farmers' Markets in Missouri are in full swing and what better of a place to buy fresh, locally grow produce and products than your local Farmers' Market. Farmers' markets are an excellent outlet for direct marketing fresh, local produce to people in the community. Farmers' markets support local farmers and promote healthy eating habits while fostering community development. Farmers' markets are an excellent way for consumers to connect with their food source. By interacting with growers, consumers discover how the food is grown, experience new types of vegetables, and even learn how the vegetables can be prepared for maximum nutrition. Most consumers shop at farmers' markets for freshness, diversity and the opportunity to support local farmers.

Farmers' markets are well suited for small, individual lots of mixed produce items. Strict grading and packaging of produce is not required, and often seconds or lower grade items can be sold readily. Farmers' markets are relatively easy markets to access and do not require a significant amount of start-up capital. Most farmers' markets require vendors to grow what they sell from a specific radius around the market and will often have rules and regulations concerning how the items are sold. A rental fee may be required to sell at the market. Most farmers' markets are

centrally located, open-air markets within the community, so advertising by grower-vendors is not essential. Farmers' markets are compatible with off-farm employment because most market days occur on evenings or weekends.

Since farmers' markets are well suited for small volumes of produce, they may not be the sole market outlet for a larger-scale vegetable grower. Obtaining a premium price for produce at a farmers' market may be

difficult if there is a lot of competition for the same item. Farmers' markets are usually seasonal and transient, often opening in April and closing by November. However, year-round, covered farmers' markets may be available. Farmers' markets require a significant amount of time for marketing the produce and may not be an efficient use of time for all growers. Missouri has more than 100 community farmers' markets.

The Kirksville Kiwanis Farmers' Market opened the first Saturday of May and will continue through the last Saturday of October. The Schuyler County Farmers' Market will open the first Saturday of June and continue through October. These local markets offer a variety of leafy greens, beets, carrots, onions, hothouse tomatoes, and bedding plants early in the season. In mid-summer you will find a nice variety of field grown tomatoes, squash, green beans, herbs, peppers, eggplant, sweet corn, etc. In the fall you'll find a variety of pumpkins, gourds, broom corn and chrysanthemums. Many of the markets also have fresh eggs, meat, salsa, pickles, and other canned goods for sale during the entire marketing season. Check your local newspaper for the Farmers' Market nearest you. **Source: MU Guide 6221**

GARDEN TIPS FOR JUNE FOR ORNAMENTALS & VEGETABLES

ORNAMENTALS

- Watch for bagworms feeding on many garden plants, but especially juniper and aborvitae.
- Deadhead bulbs and spring flowering perennials as blossoms fade.
- Thin seedlings to proper spacing before plants crowd each other.
- Apply organic mulches as the soil warms. These will conserve moisture, discourage weeds, and enrich the soil as they decay.

- Most houseplants brought outside prefer a bright spot shaded from afternoon sun. Check soil moisture daily during hot weather.
- Rhizomatous begonias are not just for shade. Many varieties, especially those with bronze foliage do well in full sun if given plenty of water and a well-drained site.
- Apply a balanced rose fertilizer after the first show of blooms is past.
- When night temperatures stay above 50 degrees, bring houseplants outdoors for the summer.
- Apply a second spray for borer control on hardwood trees.
- Plant tropical water lilies when water temperatures rise above 70 degrees.
- Trees and shrubs may still be fertilized before July 4th.
- Softwood cuttings can be taken from trees and shrubs as the spring flush of growth is beginning to mature.
- Pruning of spring flowering trees and shrubs should be done after flowering.
- Continue spraying roses with a fungicide to prevent black spot disease.
- Early detection is essential for good control of vegetable pests. Learn to identify and distinguish between pests and beneficial predators.
- Stop harvesting asparagus when the spears become thin.
- Start seedlings of broccoli, cabbage and cauliflower. These will provide transplants for the fall garden.
- Soaker hoses and drip irrigation systems make the most efficient use of water during dry times.
- To minimize diseases, water with overhead irrigation early enough in the day to allow the foliage to dry before the nightfall.
- Set out transplants of brussel sprouts started last month. These will mature for a fall harvest.
- To maximize top growth on asparagus, apply 2 pounds of 12-12-12 fertilizer per 100 sq. feet, water well and renew mulches to conserve moisture.

VEGETABLES

- Repeat plantings of corn and beans to extend the harvest season.
- As soon as cucumber and squash vines start to “run,” begin spray treatments to control cucumber beetles and squash vine borers.
- Plant pumpkins now to have Jack-O-Lanterns for Halloween.

AGRI-BUSINESS SPECIALIST

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Watershed Planning

Watershed Management is a community development process to counsel, educate, and cooperate with communities (people) as they develop assets to seek solutions and solve problems, directly or indirectly affecting quality of life.

What is a watershed?

A watershed is the land area that drains to a common waterway, such as a stream or a lake. Watersheds may be referred to as basins or drainage areas and come in many shapes and sizes.

So what is meant by a watershed approach when we talk about planning and why would we go about problem solving from this perspective?

- Citizens make the decisions, assume responsibility and participate in identifying and implementing voluntary, common sense practices to improve, protect and conserve surface and groundwater resources
- The ability to target priority problems, both *point* and *non-point* pollution sources
- Request direct stakeholder involvement in all phases of watershed management
- Integrate solutions using expertise and authority of various agencies
- Measure success through monitoring and other data gathering

The “watershed approach” is based on the notion that locally led, watershed based planning is the only effective way to deal with many of today’s water quality problems, especially from non-point source (NPS) pollution. The whole point is that federal and state authorities are not equipped to effectively control NPS pollution. The theory is that it is up to the local people to work together - for citizens and community “stakeholders” to take responsibility for their individual and collective actions to control the NPS pollution and to restore, protect and conserve water quality of our streams and lakes.

Since the Clean Water Act was established in 1972, federal and state government authorities have done a pretty good job of controlling pollution from smoke stacks and sewer pipe discharges, the type of pollution referred to as “point” sources since they originate from a specific site, such as a sewage treatment plant, a processing plant, a landfill or an industrial discharge.

After 40 years under the Clean Water Act, it’s become evident that state and federal government regulators cannot easily control pollution from parking lots and farm fields. This source of pollution originates from a generalized area, such as an area that is undergoing urban development or when land is converted from forest to pasture. The rainwater runoff and resulting pollution from these activities is referred to as “nonpoint” source (NPS) pollution. Other examples of NPS pollution would be rainwater runoff during road construction or pollution from faulty septic systems.

Why have a watershed group?

One good reason is to address water quality issues and concerns of local citizens and communities.

Another reason is to address officially “impaired” waterways on Missouri’s 303(d) list.

This should include a three phase approach of 1) Assessment; 2) Planning; and 3) Implementation/evaluation

Watershed groups have been formed for different reasons and purposes. Ultimately, the specifics and details depend on local issues and concerns. Some watershed groups have been formed to address “impaired” streams officially designated by the Missouri Department of Natural Resources and identified on Missouri’s official 303(d) list periodically reviewed and approved by the U.S. EPA. However, the success of locally-led watershed efforts depends on having a clear vision and purpose and manageable goals and objectives.

In Northeast Missouri, as around the state, environmental concerns, stemming around watershed management, often provide a catalyst for local communities to organize and deliberate around water quality issues as a result of land use decision-making.

Who are the stakeholders involved when we talk about Watershed Planning?

Stakeholders are the people who live, work or recreate in a watershed. Others think a stakeholder is anyone who owns land, a home a business or goes to school in a particular watershed.

A watershed management plan is a good start to better serve our communities in soil and water management as it relates to specifics such as load reductions. We are already doing a considerable number of conservation practices but what we need are some benchmarks for the North and Middle Fabius because there is really a lack of data available to substantiate where we are at now. The counties that will be affected by the development of the Watershed Management Plan (WMP) in the North and Middle Fabius will be Schuyler, Scotland, Knox, Adair, Lewis, Clark and Marion Counties. We can determine with the conservation practices that we implement how much soil we are saving which improves water quality, but that doesn't tell us where we are at now and where we need to be. Other watersheds might consider getting a plan in place so they can proceed forward with effective planning, plus it builds a foundation for those counties applying for future SALT (Special Area Land Treatment and 319 (Federal funds through the Environmental Protection Agency –EPA). This plan could also serve as a guide for Soil and Water Conservation District Boards as they look at their annual plan of work and decide where the cost share dollars should be spent.

The goal for developing the nine step watershed management plan is to utilize it as a decision making tool and in applying for future funding. How we plan to arrive at a usable finished product includes stakeholder awareness and input, education, feedback, more input, research, media coverage, draft of the finished product, stakeholder review of the draft, finished product publication, and distribution.

What are the nine critical elements of a watershed plan?

- 1) Identification of causes and sources or groups of similar sources that will need to be controlled to achieve the load reductions estimated in this watershed-based plan.
- 2) Estimation of load reductions expected for the management measures.
- 3) Description of nonpoint source management measures that need to be implemented to achieve the load reductions estimated.
- 4) Estimate amounts of technical and financial assistance needed, associated costs, and/or the sources and authorities to be relied upon to implement this plan.
- 5) Information/education component that will enhance public understanding and participation in

selecting, designing, and implementing the nonpoint source management measures to be implemented.

6) Schedule for implementing nonpoint source management measures identified in this plan that is reasonably expeditious.

7) Description of interim, measurable milestones for determining whether nonpoint source management measures or other control actions are being implemented

8) Establish a set of criteria to determine whether loading reductions are being achieved and progress made towards attaining water quality standards.

9) Development of a monitoring component to evaluate the effectiveness of the implementation efforts over time, measured against the established criteria.

Water quality concerns in the North and middle Fabius include, but are not limited to, sedimentation; manganese; turbidity; grazing land health; use of land for commercial horticulture production; livestock watering out of the river due to no livestock exclusions or alternative watering sources; and the increased number of feedlots without proper waste management systems. The impact of these problems is evident with the North Fabius being on the 2002 303d list for manganese and sedimentation. This leads to a real, applied educational opportunity to educate producers and landowners about water quality issues. The first step in this process has been started. Over the last two years since two of the SALT projects started, we have been getting landowner input on concerns and issues in the District. We have gotten input from the SALT steering committees, local landowners via SWCD Board members, contractor meetings, lady landowner workshops and from the Extension Councils. The underlying theme from all groups was water quality issues must be addressed in a sustainable way. Suggestions thus far have been education and on-the-ground practices that other landowners could see and replicate. Currently, there is a cooperative effort underway to write a plan on the North and Middle Fabius watersheds thanks to the "U.S. Environmental Protection Agency Region VII, through the Missouri Department of Natural Resources, has provided partial funding for this project under Section 319 of the Clean Water Act." We would like to encourage any input you have to this particular project or future projects by calling the number at the top of this article.

PUBLICATIONS

The following publications are available at your local University of Missouri Extension office or on the website at:

<http://muextension.missouri.edu/explore/>.

G-302 2006 Custom Rates for Farm Services-MO

G-520 Oral Farm Agreements Under MO Law

G-2011 Determining Reproductive Fertility in Herd Bulls

G-2511 Evaluating the Contract Swine Finishing Opportunity

G-4050 Troubleshooting Field Crop Problems

G-6221 Marketing Vegetables in MO

WEB SITES TO CHECK OUT:

By-Product Feed Prices:

<http://agebb.missouri.edu/dairy/index.htm>

Forage Systems Research Center Updates:

www.aes.missouri.edu/fsrc

Marketing:

<http://valueadded.missouri.edu/newsletter>

Missouri Alternative Center:

<http://agebb.missouri.edu/mac>

Statewide University Extension Calendar

<http://access.outreach.missouri.edu/uoecalendar>

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