

MAEAP Progressive Planning Helps Farms Achieve Environmental Assurance

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The Michigan Agriculture Environmental Assurance Program (MAEAP) Progressive Planning Coordinator training has just been completed.

Progressive Planning is a new program that allows farmers to “sign up” for MAEAP that allows them to follow a step-by-step process at their own pace to achieve environmental assurance for their farming operations.

Progressive Planning helps producers break down each step of the MAEAP process into the following goals:

- Attend Phase I Education Session
- Complete Site Review and Action Plan
- Complete Spreading Plan
- Complete Conservation Practices on Fields

- Complete Emergency and Employee Training Plan
- Complete Odor Management Plan
- Complete Whole Farm Nutrient Balance
- Complete Mortality / Veterinary Medical Waste Plan

Progressive Planning also allows the producer to choose who they want to work with to go through each step. On the MAEAP Participation Form, producers are asked to choose which of the following organizations they would prefer to work with to establish goals and a timeline for implementing Progressive Planning:

- Michigan Milk Producers Association
- Michigan Farm Bureau

- Michigan Department of Agriculture
- Conservation District
- Michigan State University Extension
- Other – such as a private CNMP provider

The entity producers choose to work with will assign a project coordinator for the producer to work with. The MAEAP Project Coordinator will explain Progressive Planning and assist in finding any technical assistance that may be needed.

All MMPA member representatives have received coordinator training and are project coordinators. In addition, four member representatives – Michael Marvin, Dale Ledebuhr, Gary Best and Dean Letter – have received additional training and can

MMPA Member Testing Fees

- **Scheduled Herd Tests:** \$1 per sample
 - Includes three herd tests within 12 months.
 - The samples can be tested for any of the following: Culture for *Streptococcus agalactiae*, *Strep non ag*, *Staphylococcus aureus*, coagulase negative staph, total coliform, E-Coli. In addition, samples can be tested for somatic cell count, raw bacteria count, and components.
 - All herd tests with more than 10 samples must schedule with the laboratory through your MMPA Member Representative. *Ten or more unscheduled cow samples will be charged at \$2 per sample.*

- ***Mycoplasma* Cultures:** \$ 8 per sample
- **Bacteriology Cultures:** \$10 per sample
 - *Includes identification of bacteria and drug susceptibility.*
- **Johne’s Milk Test:** \$ 6 per sample
- **MUN Test:** \$ 5 per sample

Payment for testing will be made through an automatic milk check deduction.

All tests must be scheduled through your MMPA Member Representative or the laboratory.

Quality Watch

conduct site reviews, assist in finalizing all steps leading to the completion of a Comprehensive Nutrient Management Plan (CNMP) and assist with MAEAP verification through the Michigan Department of Agriculture.

MAEAP is a voluntary program which means the pace of participation and progress is entirely up to the producer, who always has an option to discontinue at any time.

If you wish to participate in MAEAP, MMPA member representatives can explain the program to you and have sign up forms available. I strongly encourage all producers, regardless of the size of your farm, to participate.

When considering whether or not to participate in MAEAP,

producers should address the following questions:

- How long do you plan on having livestock?
- How many animals are on the farm, are you considering expansion, etc?

For producers who plan to continue raising livestock on their farms, participation in MAEAP is critical.

It is also a good idea for producers to identify where they are in the stages of acceptance of environmental protection. Following are six stages of acceptance, according to Dann Bolinger, MSU Dairy Extension Specialist.

1. Denial. Goal: none. Producers in denial tend to oversimplify the problem by making statements like, "It's only a problem if you're big or have 'bad' neighbors," or "I

have never had a problem," implying there is no need to change.

2. Bargaining. Goal: make it go away. When producers strike a deal with themselves or others believing "If I do this or that, the problem will go away," tending to oversimplify the solution.

3. Anger. Goal: do as little as possible. Producers who are angry about environmental issues tend to place blame, making statements like; "The cities dump sewage all the time!"

4. Despair. Goal: avoid the issue. Producers in despair tend to give up, saying "Farming just isn't fun anymore," or "I might as well just sell out."

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MMPA Quality Premium Program

Somatic Cell Count premiums and deductions (in addition to Federal Order SCC Adjustments computed in the producer pay price) will be paid at the following levels:

• 50,000 or below	+45¢ / cwt.
• 51,000 - 75,000	+40¢ / cwt.
• 76,000 - 100,000	+35¢ / cwt.
• 101,000 -125,000	+30¢ / cwt.
• 126,000 -150,000	+25¢ / cwt.
• 151,000 - 175,000	+20¢ / cwt.
• 176,000- 200,000	+15¢ / cwt.
• 201,000 -225,000	+10¢ / cwt.
• 226,000- 275,000	+05¢ / cwt.
• Over 750,000	-25¢ / cwt.

A payment of 5¢ / cwt. will be added for each of the following, if the count is equal to or below:

- 10,000 Raw Bacteria Count
- 20,000 Pre-Incubated (PI) Count

There will be a deduction of 10¢ / cwt. for the following criteria:

- Greater than 100,000 Raw Bacteria Count

A high raw count deduction will be waived if the producer has received the quality premium the previous three months for raw bacteria count.

To qualify for Raw, PI and Somatic Cell Count premiums there must **not** be any of the following during the month:

- Positive drug residue
- Abnormal freeze points
- High load count shipment or rejected load shipment
- #3 or #4 sediment *
- Raw Bacteria count over 100,000 *

The count levels for raw and PI will be determined on one test run per month.

** Note: These do not affect the somatic cell count premium.*

To qualify for MMPA volume premiums there must be:

- No high load count shipment or rejected load shipment during the month
- No positive drug residue shipments during the month
- No abnormal freeze points during the month
- An average somatic cell count of 750,000 or less.

The anaerobic digester also has the capability of destroying pathogens such as *E. coli* and *Salmonella* that may be present in the manure.

How the System Works

The first step in the process is the removal of sand and grit from the manure. The digesters used in the past were unable to handle manure with sand in it. The development of the sand-manure separator makes the digester a viable concept again.

"We have used some new science along with age-old technology to develop a system that we hope will benefit today's dairy farmers," Bickert says. "We are going well beyond generating methane."

From the sand separator, the manure stream travels on through a grit removal system that removes fine sand and grit particles, further reducing problems in the digester. Once the grit is removed, the manure stream goes through a grinder, then through a heat exchanger and then to the anaerobic digester.

"Through this process, all the biosolids in the manure will be included in the digestion process, increasing biogas production and reducing the stream of unprocessed biosolids," Bickert explains.

The liquid and biosolids leaving the digester will then pass through a struvite reactor, where the phosphorus is removed in a sludge that can then be land applied or composted. The sludge and resulting compost can be sold as a fertilizer. (The struvite reactor is being constructed with a grant from the National Center for Manure and Wastewater Management.)

The liquid leaving the struvite reactor, with very low concentrations of biosolids and nutrients, will then be directed to a constructed wetland.

"The wetland effluent may be used for irrigating crops, for flushing in the barn or for other purposes, if disinfected," Bickert says.

Evaluating the Results

A team of researchers from the departments of Agricultural Engineering and Civil and Environmental Engineering will evaluate the integrated manure management system at each step in the process. Samples from each process will be collected and tested to determine the effectiveness of the complete system.

Jim Wallace, a graduate student in biosystems engineering, is studying the use of an anaerobic membrane as a part of the system to determine the impact on digester efficiency and on reduction of pathogens.

Already the researchers have conducted hundreds of experiments in the lab, evaluating various manure characteristics. These research trials will be beneficial when designing individual farm systems.

"Integrated manure management systems can be tailored to individual farms, depending on the needs and goals of the operation," says Dana Kirk, graduate assistant, in biosystems engineering. "Individual farm operations may not need every possible treatment component but may implement those that are useful on their farm."

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5. Acceptance. Goal: meet expectations. Producers who have accepted they need to address environmental concerns on their farm tend to appreciate the situation and actively seek greater understanding. They say, "I just want to do what's right," and ask, "What do I need to do?"

6. Approval. Goal: exceed expectations. These Producers not only accept, but embrace the entire concept, and say, "I want to participate in MAEAP."

The reality of this day and age is that environmental concerns must be addressed. I believe it is better to meet those concerns voluntarily rather than through enforcement. Participation in MAEAP's Progressive Planning is a great way for producers to get started.

If you would like to participate in MAEAP Progressive Planning, ask your member representative to explain how the program works.



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