

Milking Center Waste Assessment Workshop
December 17, 2002
Portage, WI

Present: Jacqueline Owens DATCP, Craig Webster DNR, Steve Struss DATCP, Ed Odgers DATCP, Carl Duley UWEX, Scott Mueller NRCS, Brent Bergstrom Sauk County LCD, Roger Lange Lafayette County LCD, Tony Pillow LCD, Mike Dreischmeier NRCS, Bruce Olson DATCP, Mike Goehring Jackson County LCD, Pete Wurzer DATCP, Randy Slags LCD, Ralph Hemling DATCP, Ronnie Williams DATCP, Mike Sampson NRCS, Dean Sylla NRCS, Gene Nimmer NRCS, Craig McCallum Dane County LCD, Kevan Klingberg UWEX, Gail Lisse DNR, Richard Brye Consultant, Brian Holmes UWEX, Doug Denk Lincoln LCD, Ginny Plumeau Cedarburg Science, Mike Murray SOC

Brain Holmes, UWEX, Presented an overview of Milking Center Waste issues. Background information was provided on the type and amount of pollution discharges typically encountered in milking centers. Pollution coming out of milking centers varies based on the design of the system. Various source controls and their impact on reducing wastewater were described. UWEX has numerous fact sheets and publications that detail milking center wastewater issues.

Jackie Owens, DATCP, presented material on what food inspection staff looks for while inspecting a dairy farm. She discussed the farm inspection reports and overviews of the programs and administrative codes related to milking center waste that milk inspectors deal with. ATCP 60 does not include very many details about milk house wastewater. Consequently, inspectors do not have much to enforce. The main things inspectors can remedy are free standing pools of water, odors, and insuring an area is well drained. On larger dairies the concern shifts away from wastewater to potable water.

Steve Struss, DATCP, discussed DATCP's experience with milking center waste management. In 1993 DATCP began cost sharing treatment systems. In the ensuing years, research projects and a milking center waste bmp committee were established to evaluate existing technologies. Findings concluded that reducing inputs and utilizing waste storage are good options where available. The biggest lesson learned was to keep treatment methods simple because waste management is a low priority for many farmers. If a farmers is not interested in a complex system, chances are that the system will not be maintained and eventually fail.

Ginny Plumeau, Cedarburg Science, presented material about bark bed research projects conducted in cooperation with GLNAC. Bark beds are proving to be an effective and economical method to reduce pollution leaving milking centers. The main advantages are they requiring little maintenance and do not freeze in winter. Additionally, odors are reduced because the treatment occurs beneath the bark layer. More research will be conducted to further evaluate this bmp. Another item that should be considered is the impact wetland vegetation carries out to reduce nutrients and slow the velocity of runoff.

There is potential for wetland vegetation to improve the effectiveness of filter strips; which remain a viable treatment option.

Carl Duley, UWEX, explained how flocculation technologies are used in the milking center. Flocculation reduces BOD and phosphorous but can also change the pH depending on the flocculant used. The devices are designed to be a pretreatment for the wash water. Because of regulations on wastewater, flocculation systems need to be located outside the milkhouse. There is potential for using flocculation pretreatment but cost is the limiting factor in its acceptance.

Brian Holmes, UWEX, presented materials on a constructed wetland project built near Green Bay. Constructed wetlands have been proven to reduce the pollution coming from milking centers. The wetland for this particular project was designed as a series of cells. After construction the farmer started conserving water. Because of the reduced output from the milking center, the system was larger than necessary. Eventually the septic tank and half of the cells were removed because of they were no longer needed. After the farm was sold, the new owner did not maintain the wetlands and they eventually failed.

Dean Sylla, NRCS, described a method of distributing milking center waste through a series of pipes that discharge to filter strips. This manifold system is currently used in Pennsylvania. There are both doused and siphon systems in use, with some combining the barnyard and milkhouse waste. The Pennsylvania 393 - Filter Area standard allows this practice and it is believed the existing standards in Wisconsin would not limit this application. An issue needing attention is that 635 - Waste Treatment Strip does not contain a way to size the treatment strip for milk house wastewater.

Discussion and group recommendations: Currently there are only portions of a few NRCS standards that address milking center waste, but none do a satisfactory job. There is a need to fill the holes in existing standards. No standards cover bark beds or constructed wetlands, however there is a national NRCS wetland standard, but it would need to be modified for Wisconsin. While companion documents could be expanded for milking center waste, it was generally thought that the guidance materials should be kept together or included directly in the technical standard.

The group proposed that a new standard be developed for milking center waste treatment. It may be possible to add materials to existing standards, but it was thought this might not be as efficient as one standard. The NRCS can develop new state standards, but would need to go through their national procedures. The impacts of a new standard on cost sharing for milking center waste were discussed.

Administrative codes cite flocculation but there are no technical criteria for its use. Pretreatment of waste and practices to treat waste installed in a series both need to be credited. BMP's used in conjunction with other treatment methods are acceptable and design guidance would be helpful.

A design procedure should be developed to customize waste treatment strips for milkhouse waste. This would include better criteria to size buffers and options for

utilizing wetland plantings outside of areas with pooled water. The plants could provide waste treatment benefits and also thrive in the waste discharge areas.

Clarification is needed how the Wastewater Treatment Strip, Standard 635 relates to milking centers, parlors, larger dairies and locations with discharges greater than 300 gallons a day.

It is believed milking center waste can be transferred to septic tanks meeting standard 313 Waste Storage Facility. Companion document 635-5 should be updated to reflect this possibility. Facultative ponds and irrigation systems for milking center waste could possibly be covered in standard 313.

On a side note: a suggestion was made that manure spreaders/tanks be made a cost share item.