Stay Back!

Manure Application Setback Distances

When applying manure, remember to obey all manure application setback guidance outlined in your Nutrient Management Plan. These distances are in place to help you avoid applying too close to a water body or sensitive area when the risk of runoff is high. When in doubt, stay back 40 feet from all waterways from September 1 - April 15; 10 feet from April 16 - August 31; minimum 40 feet with a big-gun at all times of the year; and 80 feet from October 1 - February 28. If you have questions about what your individual guidelines are, give us a call.

Practice Low Risk Application

It is your responsibility to follow all guidelines in your DNMP and use your best judgment when applying manure. Always err on the side of caution to prevent unwanted discharges. Manure application practices that cause a discharge can lead to fines and/or necessitate a CAFO permit for your facility. The Whatcom Conservation District and the NRCS assume no responsibility for inappropriate manure application. Proper application is ultimately your responsibility.

If you would like email updates on current weather alerts, manure application tips and timing, and other important information, please email us your request and we will put you on the list (nembertson@whatcomcd.org). (This list will NOT be distributed).

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Whatcom Dairy News

Manure Application Timing

When can I start to apply manure?

The appropriate time to start to apply manure should vary each year and be based on field and weather conditions. However, many nutrient management plans use T-Sum200, February 15, or another specified date (see your Plan for details). The problem with this guidance is that it can promote application at inopportune times and damage fields. Folks who apply based on their field conditions, weather conditions and crop needs have far less potential for a manure runoff event, do less damage to their fields, and supply their crops with manure at optimum times, which can lead to an increase in yield. Instead of going by set dates, it is better to apply based on the following criteria: forecast (precipitation), soil moisture, water table, and field conditions. (See article on “Watching the Weather” (Continued on page 2...)

T-Sum200

What is it and how should you use it?

T-Sum200 was originally developed as a tool to gauge when nitrogen fertilizer should be applied to provide nutrients for the start of forage growth. It is the sum of the difference in the high and low temperature units (daytime high minus low temperature) in Celsius starting January 1. Once it reaches 200, it is assumed that grass growth has begun. The limitation is that it does not account for weather conditions and crop needs have far less potential for a manure runoff event, do less damage to their fields, and supply their crops with manure at optimum times, which can lead to an increase in yield. Instead of going by set dates, it is better to apply based on the following criteria: forecast (precipitation), soil moisture, water table, and field conditions. (See article on “Watching the Weather” (Continued on page 2...)

T-Sum200 should be used as a management tool to help you gauge forage growth, not as a date for manure application timing.
Manure Application Timing

This allows you to apply the same amount of nutrients, but with less volume. It is better for your crops and soil, and when manure setback’s are followed, does not increase runoff concerns.

Assessing Field and Weather Conditions

Why it is important and how it can help you manage your manure better

Paying attention to the weather and field conditions can help you minimize any potential environmental issues such as runoff, and help you to maximize your manure use and deliver available nutrients to your crops when they are most needed.

The following weather parameters are simple things that can help you manage risk and your manure better if checked on a regular basis before every application event.

Precipitation

Rainfall is the number one weather parameter you should check prior to every manure application event. Too much rain (over 0.5 inches) can lead to a surface runoff event, while a little rain (less than 0.15 inches) can help remove manure from the leaf surface and help it incorporate into the soil, limiting ammonia volatilization and runoff losses. If more than 0.5 inches of cumulative rain is predicted in the two days following the day of manure application, it is recommended that you wait to apply until a better time. This can be difficult if you are relying on a custom applicator, but easy if you do your own application.

Soil Moisture

One of the primary things that effects the potential of a runoff event from your field is soil moisture. If your field is saturated, even a little bit of rain or manure application can cause runoff. If your soil moisture is low and the seasonal water table is below two feet, you may not experience any runoff issues with even 0.5 inches of rain. Each soil type is unique, so pay attention to how much rain we have had and monitor your soil moisture prior to applying. You can do this with a meter or by hand (see WCD’s webpage for guidance on how to do this).

Ambient Temperature

The ambient temperature will help you determine what type of losses you may experience from your manure-N. Hot weather (over 70 degrees), will increase ammonia volatilization losses from your applied manure, leading to less nitrogen available for your crop. Very cold weather (below 32 degrees) may lead to frozen soils or manure, which can runoff at thawing. Applying when a hard frost is expected can also damage your crop. In the summer, apply manure in the early morning or late evening when it is cooler, to help decrease ammonia losses and reduce odor drift to surrounding neighbors.

Soil Temperature

Soil microbes are responsible for converting the nutrients in your manure to a useable form that your crops can use. Below 40 degrees, microbes tend to be dormant and little conversion is taking place in your soil. Above 40 degrees, soil microbes begin to convert the organic and ammonia nitrogen in your manure to a useable form (nitrate).

Wind Speed and Direction

Paying attention to wind speed and direction is important for determining ammonia volatilization, odor transport, and drift from applied manure. Knowing which way the wind is blowing can help you alleviate any neighborhood issues that may arise. If applying with a big gun, wind speed can cause big problems if manure drifts into nearby streams or neighbors. A wind speed of 10 mph can carry irrigated manure 30 feet or more. Do not apply with a big gun if wind speed can cause a drift problem, and stay back 40 feet from waterways at all times.

Can’t Wait to Apply?

If your lagoon is full (within 12 inches of the top) by January, and/or you find yourself needing to apply in risky times before your field conditions are optimal, consider taking a look at your storm water management. Talk to us about possibly reducing the about of slab water you collect, or identify and fix areas in need.

Weather Resources

Our website (www.WhatcomCD.org) has many resources and links to helpful weather and forecast information, including a 4 day precipitation forecast discussion and forecast on upcoming weather events. Just click on “Weather” at the top of the homepage.

How Much Rain Have We Had?

Paying attention can help you maximize storage

Rainfall timing and amount is something we have no control over, but that greatly effects storage capacity, manure application timing, and liquid manure nutrient content. By paying attention to the monthly rainfall amounts in your area, you can manage these factors and better predict your storage capacity for the winter months. If your storage capacity is being maxed out each year, maybe its time for a clean water assessment.

Many people feel that we have had more rain this winter than last. Is that true? The table to the right (Table 1) shows the average monthly rainfall for the Lynden area for the last four years (2007 to 2011). What you’ll notice is that we have had similar amounts across the years. To get an idea of what the average rain has been for your area, you can track your own rainfall using your rain gauge or with websites like Weather Underground. Your annual rainfall will vary depending on your location in the County.

<table>
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<tr>
<th>Table 1. Precipitation amounts in inches for Lynden, WA (<a href="http://www.wunderground.com">www.wunderground.com</a>). Your annual rainfall will vary depending on your location in the County.</th>
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Table 1. Precipitation amounts in inches for Lynden, WA (www.wunderground.com). Your annual rainfall will vary depending on your location in the County.

Tracking annual precipitation amounts with your own rain gauge, or with websites like Weather Underground, will help you evaluate your storage and adjust your rainwater collection accordingly. If you would like a rain gauge for your farm, just contact us at WCD. We now have them available for FREE!