From:	Ragsdale, Dave (ECY)
To:	Jill Gable/R10/USEPA/US@EPA
Subject:	FW: FW: whatcom county manure application in winter
Date:	08/23/2010 10:11 AM

This is probably the last.

From: Nichole Embertson [mailto:NEmbertson@whatcomcd.org]
Sent: Tuesday, January 19, 2010 6:15 PM
To: Hood, Steve (ECY)
Cc: Ragsdale, Dave (ECY); Chris Clark; Chuck Timblin; Kaufman, Mak (ECY); George Boggs
Subject: RE: FW: whatcom county manure application in winter

Steve,

I wanted to add a few things to Georges response to address a few of the points and concerns that you made.

First, we are not simply promoting winter application, we are promoting a system of more precise, considered, and flexible application for all times of the year. Our new system of application risk management (ARM) addresses runoff concerns on both ends of the high risk season, fall and spring. By allowing more controlled and monitored winter (Jan, Feb) applications, we can limit fall applications after September 30 (our new suggested cut off date). The application of manure in Jan/Feb has been shown in scientific literature to be more readily available in March when grass growth begins to take off, than manure applied in late Feb or March, which may not be available until May. This is because there is a lag time between application of N and availability of N, which is dictated by microbial processes and nutrient cycling. By applying in January, we give the microbes sufficient time to convert the N to more plant available forms that are readily taken up by grass. This not only increases yields, but also increases plant nutrient uptake over the course of the year, effectively reducing the amount of nutrients left in the soil in the fall when runoff events occur. From a scientific stand point, late winter (Jan/Feb) application under controlled conditions will produce LESS runoff than allowing application under the T-Sum200 method. This is because T-Sum200 was developed in a very different climate and production area (Iowa), than Western Washington. It is a good tool when assessing when grass growth may begin to increase, but it should not be used as a definitive date on which to apply manure. In fact, the T-Sum200 typically encourages improper manure application by allowing cart blanch applications after we hit T-Sum200. People will apply in the rain, on saturated soils, without proper field cover, etc. because they are not restricted by these factors. They are only restricted by a date. It has served as a good guideline to date, but now that we have a more sophisticated and more accurate tool for determining appropriate application times, we are removing the T-Sum200 guideline.

Second, in order for a dairy operation to apply under our new ARM guidelines they have to go through a series of steps including a NMP update, a field risk analysis, a reporting requirement (to WCD), and they must follow application protocols. The risk analysis looks at 15 different risk factors, plus a visual inspection of each of the fields associated with a farm, and gives each one a risk rating. Only fields with a risk rating of medium or lower are to be considered for application. If a producer would like to apply manure, they are required to only consider those low risk fields, and do a risk analysis for each one; the same risk analysis you went through on our website. This analysis requires that producers conduct a visual inspection of their field including water table and soil moisture, and look at the precipitation forecast, to name a few. These are criteria that have never been required for application, but are very important indicators of runoff risk. The example worksheet you did give a risk rating of Medium-High, a very unfavorable rating. It also gave a maximum application amount. While it did not explicitly say "Do not apply" (which it will do if certain criteria are exceeded), it gave such a low maximum application amount that application would not be feasible, thus inhibiting application. Another important consideration here is that once completed, that worksheet MUST be emailed or faxed to me prior to each application. If criteria are not met, or are borderline, I will call or visit that producer and

asses if application may continue, or should be delayed for better conditions. This system will be monitored and tracked for compliance. If a dairy does not comply with the recommendations, or abuses the system, they will be removed from the program, put on more stringent application guidelines (yet to be determined), and are subject to being put under permit if they have a discharge.

Third, currently we only have 10 producers on the ARM system, a very manageable and focused group. Our intention is to go through a season cycle with these producers providing feedback to help us modify and optimize the ARM worksheet. We are currently in the process of applying for a grant in order to conduct through testing of the system. In the absence of said grant, we will conduct what testing and biological analysis we can with our resources available. Additionally, we are refining our threshold parameters as the season progresses and we are able to conduct better observations. All of these inputs, including those from our partners (that would be you), are considered, integrated, and the system is appropriately modified.

Fourth, where field boarders/filter strips are concerned, we are still observing a manure setback of twice the distance of the filter strip width for winter applications. This is typically 60 feet or more, which via scientific literature, should ensure that runoff will not reach streams or waterways. Under the new ARM system, this "insurance policy" should not be needed in the presence of more precise manure application, but will always be employed to assure the health of our waterways.

I hope these responses clarified your concerns. Please don't hesitate to call if you would like further explanations or clarification on any of the ARM system concepts. We are confident that this system will improve water quality within the watershed by reducing the chance of fall and spring runoff events, while at the same time allowing farmers to adapt to a changing climate and still maximize their yields.

I appreciate your concerns and curiosities, and welcome any further discussion you would like to have.

Cheers,
Nichole

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-----Original Message-----
From: George Boggs
Sent: Friday, January 15, 2010 6:12 PM
To: Hood, Steve (ECY)
Cc: Ragsdale, Dave (ECY); Nichole Embertson; Chris Clark; Chuck Timblin; Mak Kaufman
Subject: Re: FW: whatcom county manure application in winter

Steve,
We are recommending a more sophisticated approach than was developed 10 years ago. While you and dave went onto other more enjoyable challenges we have stayed in the

trenches and studied the paradigm in light of actual practices, climate and water quality monitoring results. We concluded that we could improve the situation for the environment and farmers.

This is not an unbridled green light to winter applications. Neither is it to give dairies a pass because of the difficult financial circumstances.

Instead it is well considered guidance solidly based in science that provides a higher level of accountability than exists currently. We believe that producers who go through this logic model and adhere to the strictures will make better use of the nutrients and afford greater protection against discharges.

Our staff is available to meet and work through this step by step so as to assuage anxiety. I would hope that given our record of accomplishments you and dave would give us the benefit of the doubt before rejecting the system out of hand.
Best
Geo

-- Sent from my Palm Pre
George Boggs, Executive Director
Whatcom Conservation District
360.815.5342

Hood, Steve (ECY) wrote:

George Dave was telling me that you are encouraging more applications in Winter. I found that hard to believe.

But this is what I read with a little highlighting.

In order to remediate this issue, we have created a system that allows you to asses the risk of applying manure at any given time of the year by helping you identify field characteristics that have a lower risk associated with application, while also guiding you through the process of properly assessing, managing and reducing application risks for all of your fields. As long as your Nutrient Management Plan is updated, and field and weather conditions permit, we would like to encourage more application events during periods in January, February, and March when rainfall is minimal and nutrients from these applications can become available to forage at times when plants have increased nutrient needs (Mar-Jun). Additionally, since manure application after September has limited benefit

for crops, and is at a higher risk for runoff, we would like to discourage application after September 30th. This will greatly reduce your risk of nutrient runoff during the fall rains.

George I thought the T-Sum200 was based on when the soil and plant community was ready to accept nutrients. Can an application of nitrogen in January really be available for growth in March? Will you be doing any testing to confirm?

I ran through the spreadsheet picking some marginal numbers. I could get an caution with some pretty dicey numbers. I'd be interested if there has been any follow up of fields that have filed these reports to see if the bacteria stays on the field until it has been deactivated.

By the way, any manure application would likely be unfavorable to the health of boarders, regardless of soil conditions. Maybe on lines 34 and 35 the sheet should refer to borders.

From: Ragsdale, Dave (ECY)
Sent: Friday, January 15, 2010 3:16 PM
To: Hood, Steve (ECY)
Subject: FW: whatcom county manure application in winter

Steve. Per our discussion… January application of animal waste is just too risky for surface and groundwater to be allowed (in planning or in practice)! These pollutants are already a water quality problem and we cannot "finesse" control over our weather.

Dave.