

Whelp Creek Watershed News

Spring 2011

Nutrient Beneficial Management Practices Evaluation Project

Wetland Restoration in Whelp Creek

There are several sloughs and wetlands in the Whelp Creek Sub-watershed. They are often physical indicators of groundwater interaction, as wetlands are present in landscapes that receive groundwater discharge. However, wetlands can also receive and store surface runoff. Wetlands are often present along slow moving creeks, such as Whelp Creek, which has a gentle slope.

Wetlands have several environmental and economic benefits. They reduce the effects of drought and abate floods during high flows, as well as reduce erosion by slowing the flow. Surface and groundwater quantity and quality are also typically improved by wetlands, as nutrients are stored and cycled through biological activity. Wetlands increase the aesthetic value of the landscape and provide wildlife habitat. On a larger scale, wetlands also alleviate climate change by offsetting carbon dioxide levels through carbon sequestration.

More than 60% of the wetlands in Alberta have been drained. Restoring wetlands is an important part of environmental stewardship and provides important long-term benefits for landowners and the public.

Ducks Unlimited Canada (DUC) have played a key role in promoting wetland awareness and management, including helping landowners restore wetlands on their property.



Blackmore wetland

You're Invited!

Whelp Creek Watershed Group Meeting
April 12, 2011, 7:00 pm
Greenway Inn, Lacombe

Topics discussed will be:

- Wetland Restoration – Tracy Scott, Ducks Unlimited
- Liquid Manure Draglines Under Provincial Highways – Alberta Transportation

For more information contact Wiebe Buruma, 403-782-8036

Please feel free to bring a friend.

The Value of Manure

Manure – if you have a good sense of smell, chances are you know it's around. Often, if you talk to a livestock operator, the comment will be “it's the smell of money.” You may ask, “why that comment”? The context of the comment depends on the individual livestock operator, but one aspect can be linked to the nutrient value of manure.

As an example, the Agricultural Operation Practices Act (AOPA) Manure Characteristics and Land Base Code states that a beef finisher will produce 2.2 tonnes/year (2.4 tons/year) of manure. According to the same document, there is 3.2 kg/tonne (6.5 lb/ton) of crop N in wet (50% moisture) beef manure. Crop N is an estimate of the total nitrogen available from manure for plant use during the first growing season after application. It should be kept in mind that all of the nitrogen and other nutrients in manure will not be used in the first crop year after application. Residual nutrients in manure will become available in subsequent years.

Based on manure production and crop N content, a beef finisher would generate 7.0 kg/year (15.4 lb/year) of crop N. A herd of 1000 animals would generate 7000 kg/year (15,400 lb/year) of crop N. Now bringing the story back to “it smells like money”, one way of estimating a dollar value for manure is to use the cost of commercial fertilizers. For example, urea fertilizer (46-0-0) costs

\$580/tonne (\$526/ton) of product, or \$1,261/tonne (\$1,144/ton) of actual N. Therefore, one beef finisher may generate \$8.82 worth of crop N per year, and this translates to \$8,820 worth of crop N for 1000 head.

The above exercise only takes into account the value of crop available nitrogen for one year. To take into account the residual value of nitrogen in subsequent years, the total nitrogen content of manure, rather than crop N, can be used to estimate a dollar value. Also, the value of additional nutrients can be added, such as phosphorus, which is often required for optimum crop yield. As well, the organic matter content of manure is beneficial as a soil amendment, but the dollar value of organic matter is harder to estimate. Manure is an organic fertilizer that can improve soil tilth, aeration, structure, and water-holding capacity.

Transporting manure is a subject most livestock producers deal with from time to time. The shorter the hauling distance from manure storage to the field, the more economically feasible manure hauling will be. Estimating a dollar value for manure can help determine a economical hauling distance for manure. Manure may be the “the smell of money” in terms of producing a finished product for market, but it also is a valuable nutrient source and soil amendment.

Moving Liquid Manure More Efficiently

Hauling manure from source to field is costly, and driving routes are dictated by the existing road system. However, in the case for liquid manure, by way of permit, the use of dragline under roads may be one option to reduced hauling distances. Not only would this help producers cut manure transportation costs by shortening manure hauling distances, but other benefits such as safety and improved infrastructure longevity would be realized. By using liquid manure draglines to reduce manure hauling distances, heavy slow moving equipment spend less time or no time on roads.

