

Sustainable Poultry Farming Group

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Newsletter

Members

Chair:

Daryl Arnold
B.C.C.G. Assn.

Vice-Chair:

Rob Schreurs
B.C.H.E.P. Assn.

Dave Siemens
F.V.E.P. Assn.

Harry Frose
B.C. Turkey Assn.

B.C.M.A.F.

Advisors:

Stewart Paulson, P.Ag.
Rick Van Kleeck, P.Eng.

Program Manager:

Kevin
Chipperfield, P.Ag.

SPFG Office:

4582 Bell Rd.
Clayburn, B.C.
V3G 2M1

Tel: 604-556-7781

Fax: 604-556-7783

email:

kchip@rapidnet.net

Groundwater Protection Program

Groundwater Protection Program Reaches NEW HIGH

The Groundwater Protection Program (GPP) has now been running for four years. The

Shipments to distant markets have again substantially increased Market orders to areas such as Quesnel are becoming possible while shipments to ... Merritt are becoming common

SPFG and poultry producers have seen the program expand from using one conveyor to our present three. Shipments to distant markets have substantially increased again this year (see Fig. 2). As well, markets continue to increase in scope. Market orders to areas as remote as Quesnel are becoming

SPFG Program Partners

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|--|---|
| ⇒ B.C. Investment Agriculture Foundation | ⇒ Environment Canada |
| ⇒ B.C. Chicken Growers' Assn. | ⇒ Agriculture and Agri-Food Canada |
| ⇒ F.V. Egg Producers' Assn. | ⇒ B.C. Ministry of Agriculture and Food |
| ⇒ B.C. Broiler Hatching Egg Producers' Assn. | ⇒ Abbotsford Aquifer Stakeholder Group |
| ⇒ B.C. Turkey Assn. | |

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Director's Corner

Dave Siemens, F.V. Egg Producers' Assn. Director Gives Views on SPFG Progress

As an egg producer in the Fraser Valley, and having grown up on a farm, I have seen many changes take place in farming practices over the years. Having been on the SPFG for the past year has shown me that practices in nutrient (manure) management are perhaps changing the most rapidly. Environmental standards, it seems, are tightening on all farmers more quickly than we dare to think about, but the reality is that we must continue to change with the times.

The SPFG has, for a number of years now, been providing an alternative to some farmers for keeping their land from being saturated with excess manure. This in turn will hopefully reduce the pollution of our aquifer. So far, most of the excess manure being reduced from the land has been broiler, turkey, and some layer manure.

But in the past few months, the SPFG has been working with a company called International Bio-Recovery to find a way to utilize more of the wetter manure, eg. layer, hog and dairy. Tests so far have shown a lot of promise, especially for layer manure, and we will continue to update you as the testing continues.

The SPFG has shown positive growth every year in its existence and I personally feel it will continue to grow as the environment becomes more of a concern to all of us. I hope as a member of the board of directors for this group that I can help to serve the needs of farmers and be accountable to you.

Best wishes for the new year,
David Siemens

Groundwater Protection Program Continued ...

possible, while shipments to areas such as Naramata, 100 Mile House, and Merritt are becoming more common. Delta, however, is still the largest individual market (see Fig. 1). To fill these orders, the GPP has been challenged with a larger supply of poultry manure this year. While much of the supply was available during the favourable spring to fall marketing season, an unusual turn of events occurred late last fall. The GPP was required to provide on-demand hauling and marketing services for chicken growers, when one of the mushroom manure composting plants reduced production and no longer required chicken manure. This situation placed a strain on the system, but the SPFG was able to meet the challenge.

Groundwater Protection Program Continued ...

GPP - Three Hauling Options for Fraser Valley Poultry Producers

The GPP continues to offer poultry manure hauling services to ‘distant markets’ for ‘dry’ manure, and as the occasion presents, ‘wet solid’ manure. Two factors allow the SPFG to deliver to distant markets: use of large volume trucks and the ability to load these trucks through the use of producer owned conveyors. To make this service convenient, the GPP offers the following three conveyor usage fee options:

⇒ **Please note** that for all options, there will be an additional fee for conveyor delivery, depending on the farm’s proximity to Abbotsford.

☛ **Option #1** is designed for poultry producers who only ship manure occasionally. Payment of fee in this scenario is on a straight user fee (\$0.75 per cubic yard).

Eg. 160 cubic yards/cycle x 6.5 cycles = 1050 cubic yards
 1050 cubic yards x \$0.75/cubic yard = **\$790 total per year**

Note: Temporarily, due to a surge in demand for winter manure hauling, the fee to new occasional users has been increased to **\$2.25 per cubic yard**.

☛ **Option #2** is designed for producers who ship manure all year through the SPFG. In this case, poultry producers participate through a membership fee approach, which is based on a reduced conveyor usage fee (from \$0.75 to \$0.50 per cubic yard).

Eg. Using the same volume of manure per cycle shipped with the GPP, membership fee for this farm would be $\$790 \times 2/3 = \530 total per year (or \$0.50/cubic yard calculated using the total annual production volume)

☛ **Option #3** is available to provide an incentive to producers with a covered manure storage facility. The SPFG feels use of a manure storage facility will increase flexibility for manure loading and pickup arrangements and expand manure hauling in the slower mid-summer to early fall period .

Eg. Using the same volume of manure per cycle shipped with the GPP, membership fee for this farm would be **\$0.00 total per year** (provided manure is being hauled consistently through the GPP throughout the year and not just during the winter season).

Fraser Valley Nutrient Management Action Plan Working Group

There is a new entity working toward finding common ground on the issues of nutrient (manure *and* inorganic) management and environmental sustainability. An environmental action planning process was initiated by the industry-led Partnership Committee on Agriculture and the Environment. This new group is the Nutrient Management Action Plan Working Group, or NMAPWG. It was facilitated by the Fraser Basin Council, and includes representation from agricultural commodity groups (five representatives from poultry - each association and SPFG) as well as government agencies.

Their mission is to undertake the development of a nutrient management action plan for the Fraser Valley. The NMAP will include actions - to be undertaken by farmers and government agencies - that

NMAP Objectives:

- ⇒ Address areas where manure production exceeds available crop land
- ⇒ Achieve balanced nutrient budgets for manure spread on-farm and promote actions that would lead to manure nutrient management improvements
- ⇒ Through planning, avoid future imbalances both on-farm and regionally

(NMAP—Continued from page 3)

will collectively improve our capacity to manage agricultural nutrients in a more sustainable way. A first draft of the Action Plan is expected in the spring of 2000. In order to raise awareness of the draft Nutrient Management Action Plan and get ideas about how it might be strengthened, commodity groups will be consulted through their representatives on the Working Group.

Environmental Action Plans, where the agricultural industry and various levels of government work together to initiate a solution oriented process are increasingly seen as the ideal way to address complex environmental problems. One example is in Prince Edward Island where an “Action Committee on Agricultural Runoff Control” was formed (see page 6). The issues being dealt with were soil erosion and pesticide-contaminated field runoff which caused sporadic fish mortality events over many years, culminating in a large fish kill in June 1999.

Fraser Valley Poultry Production – Environmental Issues Examined in NMAP

Environmental issues can best be assessed by looking at them in terms of their short to long-term consequences. These consequences will be influenced by many factors such as land use change, cropping patterns, and intensity of livestock and poultry production within a given area. Together, these factors create a complex, dynamic situation which makes the nutrient planning process challenging. Close examination of the situation will reveal areas where estimated nutrient budgets far exceed the capacity of the land or crop. Planning can then proceed to avoid future imbalances in nutrient application. The accompanying text boxes provide a brief overview of the chief nutrients of concern — nitrogen, phosphorus, and potassium.

Nitrogen Loadings

When nitrogen is over-applied to crops, the unused portion is available to move into surface water. In the case of lighter, more permeable soils, nitrogen may move downwards into the groundwater. Movement of unused nitrogen (as nitrate) is well documented in the case of the Abbotsford Aquifer. In heavier soils, when manure is applied to ‘wet’ fields, nitrogen runoff may occur. With manure applications, the form of nitrogen will likely be ammonium which is highly toxic to fish.

In the short to medium-term, poultry producers are working to do their part to alleviate this issue by shipping manure to distant markets through the Sustainable Poultry Farming Group. The result from this action will be lowered nitrate leaching to groundwater from the poultry manure portion of excess nitrogen. Other nitrogen sources exist which must also be

Phosphorus and Potassium Loadings

When applying poultry manure at the correct rate to supply adequate amounts of nitrogen, an imbalance often results in the levels of other nutrients. In the Fraser Valley, phosphorus applications will typically exceed the capacity of land or crops by 2 – 7 times. This relates to the fact that manure contains a fixed ratio of nitrogen to phosphorus and potassium.

The only way to fully balance field nutrient application from year to year is to apply manure every second or third year, or add part of the nitrogen in the form of chemical fertilizer. While nutrient ratios can be overlooked in the short term, depending on the crop grown, excess nutrients will eventually build up in soils. **Phosphorous**, for example, can runoff into streams and watercourses causing eutrophication (lack of oxygen in water for fish) and potentially, fish mortality events. For **potassium**, there is no known environmental issue resulting from excessive soil levels, but there is an economic one. Recently, some Fraser Valley dairy farms have been noting excessive forage grass potassium levels which have been estimated to be costing them \$2 million per year (Rick Van Kleeck, B.C. Ministry of Agriculture and Food). Since use as a forage fertilizer is an important market for poultry manure, in the long-term poultry producers should be aware of this issue.

As the poultry industry expands, the Sustainable Poultry Farming Group will endeavor to expand manure marketing options to poultry producers. The Groundwater Protection Program (manure hauling program) continues to increase manure management options for poultry producers, but producers with ‘wet’ poultry often rely on local dairy farmers to spread their manure. The question which needs to be addressed is: Will this continue for the foreseeable future?

Solutions to Identified Nutrient Management Issues

NMAPWG participants have identified the following eight solutions. These were selected on the basis of their usefulness at the farm level and their ability to address the environmental issues under consideration by working group participants. The eight solutions fall into three categories: changing nutrient management practices; economic incentives; and supporting resources.

A) Changing Nutrient Management Practices

1. Develop and Implement On-Farm Nutrient Management Plans

On-farm nutrient plans will be recommended for all crop and livestock producers. These plans are most complex for livestock and poultry producers who use manure for crop production on their own land, and somewhat less complex for crop producers who bring manure on to their farms. A nutrient management plan (NMP) for a farm which does not utilize manure on its own land would typically involve identifying the volume of manure produced, how and where it is used, and examining the risk of runoff to nearby water-courses. The need for a manure storage facility would also be identified. For crop producers not using manure, the NMAPWG may suggest that it would also be in their interest to acquire a NMP. At this point, there is considerable discussion on what form a NMP should take and what practices should be evaluated.

In the end, there will likely be some form and content of on-farm NMP suggested by the NMAPWG.

Benefits in developing the Nutrient Management Action Plan

While the primary goal in developing a Nutrient Management Action Plan is to protect soils and water, there are many benefits such as:

- ⇒ *Long term economic viability* – A well considered strategy for the Fraser Valley provides an opportunity for creating a competitive advantage for our producers by improving environmental sustainability.
- ⇒ *Public/Consumer perception* – Today’s modern and often intensive agriculture industry can raise concerns within communities. Whether real or perceived, these concerns are being taken seriously by government. Nutrient management planning can help strengthen agriculture’s relationship with the public.
- ⇒ *Stronger relationships* - Developing a Nutrient Management Action Plan provides an opportunity to redefine the relationships between government agencies and farmers.
- ⇒ *Window of opportunity* -Most of the environmental challenges can still be reversed and there is an opportunity to achieve improvements in environmental quality as a result of improved nutrient management.
- ⇒ *Protection of resources* – Improved nutrient management will help maintain the natural “infrastructure” that supports agricultural and non-agricultural economies.

B) Economic Incentives

2. Extend Manure Storage Expansion Program

The only incentive currently available for manure storage facilities is from Investment Agriculture, which offers funds @ 20% up to \$10,000 level. This level of funding will again be offered in the 2000/2001 funding year. Relative to the U.S., where incentives can be up to 65 - 75 % of manure storage building cost, the 20% level of funding is low. The NMAPWG has identified a need for increased funding for manure storage improvement on farming operations. Currently, this funding is not limited to poultry and livestock operations, but is also available to crop producers who wish to store manure for use on their crops.

3. Identify Economic Incentives to Assist Implementation of On-farm NMP's

In order to extract more manure storage funding, one possible scenario would be to link substantially increased incentives for manure storage construction with the implementation of on-farm NMP's. Both government and non-government participants feel their needs may be adequately met through this approach.. The scenario of tying additional incentives to some action may be adaptable to other situations as well.

C) Supporting Resources

4. Develop Producer Conservation Organizations

During the period 1991 - 1995, there were six producer conservation organizations (PCO) operating at different levels. There are currently only two fully functioning PCO's— the SPFG and the Abbotsford Soil Conservation Association. Both of these PCO's receive no core funding from government. Core or operating funds come from the B.C. Investment Agriculture Foundation, while individual projects may be funded by various levels of government. The NMAP has identified a need to re-establish PCO's with some level of core funding from government sources.

5. Develop Improved Nutrient Testing Tools

Common issues for all crop producers, whether using manure to fertilize or not, concern availability of applied nutrients. Major concerns revolve around the most cost-effective and efficient methods of applying nutrients so that plants utilize them most effectively with little loss to the environment. The application of nutrients using manure increases the challenge, since it is more difficult to account for applied nutrients. The NMAP will recognize this difficulty and promote the development of better soil and manure testing methods in order to increase accuracy and better predict nutrient availability.

6. Research and Develop Value-added Manure Processing

The NMAP recognizes the need for some form of manure processing for livestock producers, especially for those with a liquid manure product. This would aid poultry producers in the future as the industry grows, and shipping to distant markets may not provide adequate capacity to deal with the increased volume.

7. Develop and/or Identify nutrient management reporting tools

Where NMAP's are being developed in other areas, monitoring and reporting structures are being implemented. Such structures, also known as "indicators of success", are being designed to measure the progress towards the implementation of the NMAP. Some manner of environmental monitoring designed to show the progressive link at ground level between incentive funding and changing farm environmental practices will likely be identified. Realistically, on-farm environmental investment by government must show an environmental return, however it is to be evaluated.

8. Undertake awareness programs to support development and implementation of On-Farm NMP's

The NMAP recognizes the need to ensure producers have timely access to relevant environmental information. PCO's have been successful in this regard. Whatever the decided method, delivery of environmental information re-

The End Result—A NMAP Developed Through a Three Step Consensus Process

Step 1 involves the development of a set of concrete actions that will lead to accomplishing the NMAP objectives as stated on page 3. Understood by the NMAP Working Group is that provincial and federal governments will be allocating new funding resources to help cover any increased costs to industry. This step focuses on producer groups and government to achieve a consensual outcome for a draft NMAP.

Step 2 involves public participation and comment on the outcome of agreement from Step 1. Meetings will be held in different locations of the Fraser Valley for comment from the public on the draft NMAP.

Step 3 involves the preparation of a final NMAP document in which all parties will agree to its' contents and application.

P.E.I. Strikes an Environmental Action Plan for Potato Producers and the Environment

Prince Edward Island's "Action Committee on Agricultural Runoff Control" has recently put forward a set of recommendations detailing actions to reduce the environmental impacts of its' agricultural production. In the case of P.E.I., soil and water conservation activities were examined that were deemed critical to control field runoff and soil loss.

The committee was struck in 1999 after the discovery of severe fish kills in many creeks. The incidents were linked to agricultural activities, in particular potato production. Through examining the evidence, the Action Committee concluded that "fish mortalities were caused by pesticides carried in agricultural runoff, and that permanent remedies for soil erosion and prevention of fish kills, both short-term and long-term, need to be implemented," according to Action Committee Chair Dr. Carl Willis.

The Action Plan puts forward a total of 22 recommendations which include: implementation of pesticide risk reduction strategy; accelerated research on more environmentally friendly crop protection products ; identification of high risk areas and erosion control strategies for them; providing workshops on methodologies to address environmental issues; and provision of sufficient levels of funding to producers to improve farming practices.