

**Agricultural Innovations Group**  
Second Meeting July 16, 2013  
9 Attendees

Housekeeping: June 12, 2013 AgInG meeting minutes approved by the group

Guest Expert: Don Meals

Meeting format: Review the AgInG Work Plan, Feedback from Group, and Guidance from Don on the concepts

**I. Discussion of AgInG Relationship to AWG**

AWG has been working on short and near term practical solutions to address implementation of water quality initiatives. The work of the AWG ties in to the implementation plan for the TMDL, although it also will have broader application. Specific programmatic recommendations, technical in nature tailored to specific farm issues.

AgInG work focuses on long term solutions and is a broader based inquiry. Cross community dialogue, looking at wider array of issues, investigating feasibility of concepts and ideas.

The work of the two groups should be complementary, but not redundant, need to avoid confusion between them and ensure an efficient process. The work done by the AWG may help inform or refine AgInG thinking because there are some broadly based common themes.

**II. AgInG Work Plan**

During the first meeting, the group generated dozens of ideas. After categorizing the ideas, the facilitators developed the work plan after consulting with group members and having them identify priority issues that they wanted to pursue. Topics that received the most votes were included in the work plan.

**III. Market Transformation - Using environmental certification to drive farm and consumer behavior for change over time**

The group discussed concepts for an “environmental” certification process. The goal was not to focus on details about what the regulatory standards would be but rather a generalized exploration of whether there could be market support for a label that designates a business as environmentally or water quality friendly. Would local or New England buyers find value in a product purchased with an environmental designation label?

Don Meals stated that there was a program in Oregon that was able to launch a specific environmentally certified dairy product but that this concept was very difficult to apply to the fluid milk model because of the way milk is sold. Fluid milk is a commodity, there are national price controls and bottlers co-mingle milk. As a result, an environmental or water quality seal for fluid milk presents considerable challenges.

Certifying specific products such as vegetables, meat, or value added dairy products from a particular farm such as cheese or yogurt presents fewer challenges. Don pointed to a program where pesticide free “Salmon Safe” was successfully marketed and sold but again the grow conditions of the product could be monitored and controlled. This program did influence the market and the growers saw a benefit from the marketing of the fish in this manner.

The group discussed that similar to organic or fair trade, it was important to have a third party perform the authentication and compliance “audit” on the producer or manufacturer of the product because it carried more weight in the public eye than just being able to say the product was in compliance with state and federal laws. More credibility and cachet achieved when the standards were higher and enforced through an independent verification process. The third party auditor can give the designation and can also take it away if the producer falls out of compliance.

The group next discussed who the certifiers could be. Lake Champlain International (LCI) has a blue certification program for residential property. LCI’s blue certification program has a trademark that also includes certification for farms. LCI expressed a willingness to work with this group to develop a certification program for farms in Vermont.

Another possibility discussed was to work with NOFA because the framework for organic certification contains some similar practices and the process is already established. The group noted that NOFA’s current standards are not focused specifically on watershed friendly practices. In addition, the Farmer’s Watershed Alliance, the Agency of Agriculture and DEC are all organizations that could collaborate on developing this idea in the future.

Could be a joint venture between private sector, independent NGO and governmental agencies. All could work together to coordinate an outreach campaign on these issues and provide information to the public.

When Fair Trade started, no one knew what it meant nor was there a clearly defined global marketplace for the selling or purchasing of such products. It takes a leap of faith to start this concept. Perhaps larger farms would be interested in starting an environmentally certified or watershed friendly designation because they are probably already running in a water quality friendly way and so the cost of bring the farm into compliance will be manageable (if not already achieved). The goal in the beginning would not exclusively be to derive a current economic benefit from the designation, but also important for community recognition.

Some in the group said that in the end none of this would matter if farmers were still only getting \$16/cwt. A distinction label already exists—it's called organic milk and the farmer gets paid a premium for such milk and consumers buy it and are willing to pay for the designation. The group discussed consumer motivation for buying conventional vs. organic products whether it was exclusively for personal health reasons or also for environmental reasons.

The group discussed how in the Vermont market there are few milk processors for producers to sell their milk, so bottlers and co-ops do not have the same competitive process that happens in other states such as Wisconsin.

Other aspects of developing a market involve how to innovate a value for clean water. If we don't understand the issue, we don't know how to develop innovative approaches to it. How do we get the marketplace to value clean water and how do we get a farm to be able to utilize the public interest in the clean water with marketing for the product produced with higher water quality in mind?

In sum, although there is significant interest in developing a certification program, there are several challenges. The group will need to consider the following issues before beginning to develop a certification program.

What should be the scope to the certification of the program? Possibilities include vegetables, beef, dairy products such as yogurt and cheese but not fluid milk, fluid milk, all of the above.

If the AgInG recommends developing a certification program, should it be a new independent program or partner with a pre-existing program such as NOFA, LCI's Blue Certification program, or Fair Trade?

#### IV. Workplan Overview

##### Watershed Balance and Soil Health

Don Meals: If there are more nutrients applied to surfaces in the watershed than are being utilized then there is an imbalance and the nutrients end up in the water. Goal is to get the crops/land to uptake more of the nutrients and use them so they do not end up in the water. Other states and watershed are struggling with this issue. Chesapeake Bay is an example. Farms can develop NMPs and look at the Phosphorous Index but the index can't guarantee protection of the water. The P index is a national standard and in one state the scenario on a given farm would dictate no P application for a field but in another state there would be no limitation. The real issue is that you cannot detect nutrient management by photos or drivebys or by asking a producer to show you his plan sitting on the shelf. What is needed is monitoring and reporting and every state is struggling with this issue. In Kansas, they tried to get receipts for fertilizer to help determine if the NMP was being followed but that was abandoned.

Discussion of getting an updated mass balance for a watershed or region.

Discussion of applied P—most farms do not purchase phosphorous based fertilizer. It is expensive. Most farms understand the need to have the optimal level of P in the soil. Too much and the farmer is wasting money, too little and the yields is reduced. Majority of fields are under fertilized, the problem is not purchased fertilizer.

The concept of balancing the nutrients is very complicated. It also is not just a matter of field monitoring and balancing – there is also the issue of imported feeds, how much P is in the feed given to the livestock?

There are NRCS programs for feed management but they are under utilized by producers, The group discussed ways to do outreach to assist farmers in learning about this issue, possibly seeing if nutrient management planners could attend some NRCS meetings on the subject to learn more about the current programs.

##### Grazing and Diversification

Farmers often want to increase production, even though with increased input costs, increased production does not necessarily result in increased profits. Like

any business, farmers should focus on return on investment. Focusing on profitability requires the producer to look at a broader system of crop, pasture/grazing practices (with cows fenced out of the waterways) and how to reduce the costs of inputs which leads to more profit per animal. Demonstration of how to increase profitability within the existing structure of the farm. Not just about pounds per cow, or bushels harvested. Much more focus on being efficient.

Pasture and grazing management requires intensive one on one training and development of systems on the farm so its labor intensive. Discussion of what third parties may have resources and tools to help farms make such transitions. Discussion on fact that farmers are not paid to be environmentally friendly so how to incentivize more practices that focus in water quality initiatives?

Could there be a way to develop a Healthy Food Initiative that focused on innovative ideas to create jobs, strengthen the industry and protect water quality? What would it look like?

How could farms be encouraged to diversify their income—need to focus on reducing the costs of the inputs. If there was a practice that was beneficial for water quality but reduced a yield on a farm, is there a way to make up for the loss of income from that yield by giving the farmer some other source of revenue?

Vermont doesn't have test farms to develop these ideas but if it could be shown that double cropping or cover cropping could be a revenue source then there would be a way to incentivize a switch to this kind of system but not enough experimentation and reporting of results so farmers are unclear about benefits.

### Manure Management

Discussion with Don on efficacy of alum in manure pits. Scientific literature demonstrates that using aluminum and iron can absorb P in less soluble forms. Used in poultry litter in states with large poultry producers. There is some potential to the concept of using it in dairy but there are very few test or demonstration farms to serve as real world laboratories. There have been some studies and they have 7-10 year real time results, and for that time frame its effective. The difficulty is that past that time frame, it is unknown if the process continues well or if there are conditions under which the compound would release the P and then if it did release the P would the area be worse off since suddenly there is a high concentration of P being released after being bound up and held together for years.

There have been some studies of adding aluminum if a field is P optimized and they show no issue with aluminum toxicity to begin with but where there are heavy metals in the soil it has the opposite effect.

In addition there is the potential for a negative impact on producer behavior—if a farmer knows his field is under P and therefore he can increase herd size since his P index is under regulation amounts, then suddenly have more P created – have to ensure this kind of concept is understood as a tool to get better balance and not as a tool to increase herd size or yields.

Also important to understand that when you look at P balances and field issues, you are rarely talking about an entire field, it's usually a specific area where the P balance is off not the whole field.

#### Biodigesters on Farm and Regional Projects

Don explained that Biodigesters are not a water quality practice because the P doesn't go away. The amount of P in the end is the same in the beginning but it does impact nitrogen. It also leads to different management of manure—separate liquids and solids and can increase profits on farms leading to diversification. Can lower bedding costs, can partner with local colleges or hospitals to pay farmer for the manure, etc.

Unless this issue can be used to explore a water quality initiative, the group is not interested in pursuing the issue—but could be part of the conversation on diversification, increasing revenue sources for farms. To participate in the NRCS project it actually has to improve water quality so there is a tie in. Have to have an NMP in place as well.

Regional digesters in Middlebury and in VTC- One member of the group is working on the VTC project and can share info on that in more detail in later meetings.

One concept from the group was what if it were mandated that if a farm wanted to participate in a regional digester program, in exchange for that the farm had to spend a fixed percentage of the income from the digester program (5-15%) on drag line/manure injection systems or NMPs so there was a direct connection and improvement in soil health? Reduces the smell, the manure on the roads being hauled inefficiently and getting washed into culverts, enables the crops to utilize the nutrients more efficiently.

There are small towns in Europe that are experimenting with holistic waste management systems that reduce waste, generate power and

#### Land Swaps and Buy Outs

Most farms in Vermont were established long before the impacts to water quality were an issue. Some farms have operations in sensitive areas that will always be challenging to adequately address the environmental impacts. Would it make sense and be more efficient to develop a voluntary program that assisted farmers in these locations to relocate their operations or transition to a different farming operation?

Most conservation programs have constraints that do not allow financial support to move the farming operation or transition the operation in order to address water quality issues. For example, there is no authority under existing federal programs to move a barn to a better location—so even if the barn was built decades ago before water quality was an issue, the farmer can get money to fix the barn in place but not to pick it up and move it to a better overall location.

NRCS—VT Land Trust and Farmland Access Program have a program designed to help farms with existing environmental issues to retire land and the farmers are paid to abstain from using the land. The program works like the opposite of selling development rights to keep farming—instead selling the agricultural rights (also can't develop the land).

Group discussed ways to help more farms retire at risk fields—could you trade an at risk field for a field located nearby but out of a waterway? Could the land trust be a more active partner in helping relocation projects? Need to reach out and contact them to see if they are interested in a wider discussion with the AgInG.

#### V. Next Steps

One member summarized his preference for the criteria to guide AgInG topics of discussion. The topic:

- will significantly reduce agricultural run-off;
- will significantly change agricultural practices;
- will significantly increase agricultural income.

The group did not endorse this approach at the meeting.

The facilitators will contact AgInG members to discuss how to refine and focus on the specific topics they are interested in pursuing and a revised work plan will be sent to members based on feedback.