Lake Champlain Phosphorus Initiative

Third Meeting of the Agricultural Innovations Group 11/12/13

This summary reflects a range of views expressed during a meeting of the Agricultural Innovations Group. They do not reflect the formal or public position of any one group of people, organization or coalition. All errors and omissions are the sole responsibility of EMC/CBI.

Attendees: 9

These notes and the presentations that were given will be posted on the Environmental Mediation Center's website: http://www.emcenter.org/lake-champlain-phosphorous-pollution-initiative/

The purpose of this meeting was to discuss pasture based dairy farming and farm diversification. Guests attending the meeting: Jennifer Colby (Program Coordinator) and Kimberly Hagan (Grazing Specialist) from the Vermont Pasture Network, a collaborative endeavor between UVM's Center for Sustainable Agriculture, Natural Resources Conservation Service's Grazing Lands Conservation Initiative, Vermont Grass Farmers' Association and UVM Extension.

I. Pasture Based Farming

There is a consistent trend of farmers interested in developing pasture based grazing for livestock. A pasture based system requires frequent rotation of livestock over designated fields and can reduce input costs for producers who do not need to grow or import feed for their grazing animals. It can be challenging to implement this system because the learning curve for producers and animals alike is steep. Jennifer and Kimberly estimate that it takes three years for a farm to make a transition from conventional to pasture based operations. Pasture based farming can improve implementation of water quality initiatives and reduce pollution because this management system reduces the amount of crops needed for feed, reducing imports that may be high in phosphorus and lowering producer dependency on growing corn for feed. More land is kept more land in grass rather than using the land to grow crops. Supporting the growth of pasture based farming, it is hoped, will improve overall soil health and reduce pollution in streams, rivers and lakes.

Barriers to Implementation of Pasture Based Farming

Jennifer states that the biggest barrier to implementation on farms is the inability to provide technical assistance on farms throughout the long transition period. Producers who are thinking about switching to pasture based farming know that they will need assistance throughout the process. Where a county has a designated point person (through state, federal or NGO agencies) to call who is dedicated to pasture based operations, farmers will have more confidence to change their management to pasture based knowing they have a specific person to call on for assistance. However, where personnel change, or where producers know the contact person is

only able to provide limited technical assistance, the producers will not call and will not make the switch to pasture based farming.

Producers need consistent help in the beginning of the process to implement the system correctly. The only way to do this is to spend a lot of time with each producer on the land and that is about trust building, relationships and communication. The intensity of assistance is required in the first year, by the second and third year on farm visits are fewer and usually phone calls suffice rather than on-the-farm assistance.

Benefits of Rotational Grazing

Jennifer discussed the benefits to pasture based farming include an increase in overall soil quality. Nutrients stay in the soil and water run-off and filtration are reduced on the fields utilizing rotational grazing. There is a cycle of growth, fertilization and revitalization of the land that is created through rotational grazing. When done properly, rotational grazing will reduce the costs of inputs for farmers and improve profitability. However, it requires patience, consistency, an understanding of how the farm's land regenerates itself between grazing cycles, weather conditions and the ability to teach the livestock the grazing system. Kimberly stated that not only does soil health improve, but so does animal health. On the farms she has worked with the vet bills have all been reduced.

Rotational grazing requires rotating the animals every three days to new pastures or subdivided areas where plants have adequate time to recover. Plants grow at different speeds—variations not just plant type to plant type but also variations of that same plant depending on whether it is early in the season versus later in the season. Producers have to balance a whole host of different issues to get the rotation grazing system to work well for their animals. Danger of overgrazing and not getting full benefits of the system is a common problem.

Benefits of pasture based farming includes metrics like decreased need for energy use. Its hard to quantify these kinds of benefits but the producers notice there are several side benefits to the system.

To implement the change to pasture based farming you need increased acreage and infrastructure such as fencing to control the areas the animals rotate through to graze and you need to ensure access to water for the animals on each section. Soil quality becomes a large focus for the producers. There are some federal programs that assist farms with cost shares through NRCS, e.g. EQIP.

The reality is that production for a dairy farm making this change will decrease for many months, if not a couple of years before it improves. It may ever reach the same level of production as the farmer had been getting through conventional dairy management but there will be increased profitability because the cost of inputs are reduced.

Unlike the support provided to farms switching from conventional to organic milk production, there are no programs that offer economic support for lost production as the farm makes the switch so the farmers have fewer options and incentives to change management of the farms to pasture based farming. Producers are very interested in learning about rotational grazing but have to find a way to support the farm through the transition.

Most of the farms transitioning are smaller family farms. The switch allows the farm to stay in the family, no outside labor is required. Farms do not increase profitability by getting bigger but by more efficient use of pastures and reducing input costs.

Growth of Pasture Based Farming

The farm census comes out every five years, 2012 numbers not available. 2002 reported 7% of farms using pasture based grazing, 2007 11% and they expect 2012 will be higher.

In surveys, over 60% of the farms reported net profits using the grazing system.

Jennifer noted that in some ways grazing operations move in lock step with changes from conventional to organic based farming. For dairy farms, many switched in 2006/2007 and more acres are under pasture than before.

Supporting Producers to Evaluate Whether to Switch to Pasture Based Farming

Kim reported that she has been coordinating with Farm Viability when meeting with producers and having them go through a business plan and budgeting process when evaluating whether to switch from conventional to pasture based farming. In general, producers do not evaluate economic health of the farm in this way unless trying to change management structure or unless trying to qualify for loans or other projects. It can be an eye-opener for participating farms.

In some cases, the producers will go through the economic evaluation process and determine that the change to pasture based farming, and even continuing farm operations in general, is not economically viable. That process can be invaluable. Producers can focus and pinpoint areas of economic profit and loss in a way that they would not ordinarily do in the absence of trying a new operational method. If more farms took the time to evaluate the economics of the systems they are using and the economics of switching their operations, more farms would make changes and some would decide to not farm after determining that the economics of the business cannot support the family.

Kim stated it would be possible to develop a screening tool for producers that took into account the number of animals, land base, soil quality and estimate the benefits of the change. NRCS uses a spreadsheet for evaluating grazing potential and that is a good starting point however, she cautioned that until you actually walked the land with the farmer, evaluated the soil on the ground, looked at the topography, it was difficult to correctly assess the potential.

NOFA is a great resource for support of farmers making the change but not every farmer changing to pasture based systems wanted to be organic as well.

What is Needed to Encourage More Pasture Based Farming?

1. Technical assistance for on-the-farm support;
2. Dedicated personnel to perform outreach, relationship and trust building;
3. Outreach and information on the program;
4. Consistent funding for technical assistance and programs to defray costs of infrastructure to support grazing based systems; and
5. Funding for the transition going directly to the producer to support the farm and defray the economic loss as production drops during the transition period.

AgInG participants noted that providing support to the farms transitioning to grazing systems seemed like a postive. They observed that we could either pay for prevention or pay for clean up. Paying for prevention appears to be a more efficient use of funds.

Barriers Reported by Producers to Switching Production

Farmers consistently note how paperwork intensive it can be to get federal/state cost shares or grants. The amount of paperwork can prevent producers from following through on applying for funding and stop a farm from making the change.

Kim noted that sometimes all a farm needs is a little bit of help, a couple thousand dollars, to take care of some of the infrastructure needs (fencing, water, stream crossing) but the amount of paperwork and intensive application and follow though required was not worth it. A mini-grant or fast track grant option for these small numbers would be very helpful.

Timing of when funds are available is also an issue—sometimes a farm is ready to go in March and the funding is not there and the farm cannot make the switch that year. Its frustrating.

Kim reported that 60% of the farms she works with will make the switch without applying for NRCS funds. There are various reasons for this, including the long process of application, amount of paperwork and the fact that it invites scrutiny. It is difficult when the producer needs technical assistance to make changes but fears that reaching out for help will only bring inspectors and regulatory trouble to the farm. Technical assistants should not also wear regulatory hats. Its confusing for the technical assistant and for the farmer. In declining such funding, the farm will make the transition on its own and there will also not be any formal review of the changed management plan though a state or a federal agency.

Some of the regulations that exist prevent optimization of rotational grazing systems. For example, some of the buffer requirements do not take into account the fact that flash grazing is very effective at maintaining stream banks, preventing erosion and controlling invasive species. In flash grazing, the animals are allowed in for a 24 hour period and can clean out an area along

a river bank and it will actually be beneficial to water quality issues. If flash grazing isn't used, the reality is that the producer has to use pesticides to control the invasive species and so question becomes what is more harmful to water quality—animals allowed to flash graze near stream bank or application of pesticides to control the invasives?

Kim summed up grazing initiatives as being most beneficial to water quality because the system focuses on improving soil health. With improved soil health, less nutrients were lost and more used to support the land, fewer nutrients ended up in waterways.

II. Diversification

The AgInG is interested in promoting diversification on farms. Decreasing production of corn will benefit water quality by reducing the impact of nutrient run off from the land. Soybean and other grain crops are economically beneficial to producers as well. Cover crops decrease phosphorous run off. Harder to utilize cover cropping as a source of income, usually it is not harvested. Producers use cover crops to improve soil health but it is an added cost.

The biggest challenge for diversification is the lack of land base and infrastructure to properly harvest alternative crops. There are very few combines and the ones in the state are generally older and less efficient. Limited cleaning and drying facilities and limited labor pool are also challenges.

Lack of domestic crop growth leads to imports of feed that may be high in phosphorous. It is difficult to balance nutrients on the farm where the inputs contain higher phosphorous than that which is grown locally.

Diversification requires an investment in the equipment needed and setting aside the land needed. Dairy farmers in general have limited ability to implement diversification strategies on the farms and so tend to focus on value added products (cheese, butter).

Diversification could also entail diversifying equipment and energy use – installing solar and bio-digesters.

NRCS has a land retirement program in which producers take specific sections of land that meet certain criteria (wetlands, lands with altered hydrology) and receive payments for not farming on that land.

Some producers are in a catch-22, they would sell their land and stop farming because it is not economically viable but land doesn't sell and they have to keep producing until the land attracts an interested buyer.

AgInG participants discussed whether land trusts, state/federal agencies or NGOs could start water based easement programs, similar to when land owners sell development rights. Could

farmers be incentivized to agree to 15 year water quality easements and not farm lands that are in critical source areas?

Issues to implement would include how to properly appraise the land for this kind of easement, would this be seen by the larger community (and sources of funding) as a valuable enterprise? How can this support or enhance working landscapes?

Vermont is not an ideal climate for big crop growth. The land is wet, limited and steep in places. Vermont can grow grass well, sheep would thrive here. Companies are using sheep wool as a better insulation product—non-petroleum based, renewable. Getting interest in alternative ideas such as these may spur increased diversification opportunities for local producers.

III. Other Agenda Items

AgInG worked together to edit previously circulated AgInG Recommendations regarding a Certification for Water Quality Program. The Final version of this recommendation will be posted when approved by the group.