



Reflections from 2013 Summer PCO Field Days

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Quit assuming, start experimenting.

Good advice from South African rancher and Holistic Management grazing consultant Ian Mitchell-Innes. Ian had many such quips during a two-day event at Cliff and Maggie Hawbaker's PCO-certified organic farm in Chambersburg, PA, on June 14 and 15, 2013.



The field day, presented by PCO and the Pennsylvania Association for Sustainable Agriculture (PASA), and sponsored by the Northeast Center for Risk Management Education, was attended by dairy farmers, beef producers, dairy goat farmers and ranged from experienced producers to those just getting started.

Cliff grazes 315 cows on 324 acres and striving to be energy neutral in 5 years. This ideal is clear in Cliff's use of alternative energy sources such as solar water heaters, his utilization of natural weather and solar patterns in designing livestock shelters, and even in his practice of relying on the energy harvested on farm in the form of grass rather than importing expensive grains.

Cliff explains that, "All animals on the farm that are four years of age and younger have not tasted grain at all during their lives." As Cliff reflects on his management practices, it is clear that it relates nicely to the concept of Holistic Management. "I used to fight what I didn't want," says Cliff, "but now I work towards what I do want."

Ian Mitchell-Innes started the day by discussing his background as a cattleman in South Africa, and explaining how Holistic Management can be applied to all types of production systems. "Don't think a dairy cow is different than a beef cow. They both deserve the best." Holistic Management (HM) can make the difference.

A primary component of Ian's management style is setting a holistic goal. Consider the "whole" in making the goal... animal performance, the animal itself (in the case of dairy animals, a "barrel of anaerobic microbes"), the soil, grazing, minerals, and the ecosystem, including the water cycle, mineral cycle, community dynamics, and energy flow. Holistic management looks beyond managing the land to managing the components of the ecosystem, where the ecosystem is a conceptual filter taking you towards your holistic goal.

"Every decision you make should be thought of in terms of how it moves you towards reaching your holistic goal," says Ian. "It's chaos out there! Just when you think you have a system down, it can get picked up and smashed!" Consider that your holistic goal and management should serve as a road map, and it must be monitored and modified accordingly. Monitoring the elements of the whole is essential, but Ian warned that you should not get carried away in monitoring; "Only monitor what you have to monitor to put money in your pocket!" In other words, keep it simple.

Ian will not tell you what to do on your farm, but advocates for on-farm experimentation to learn what works for you. When experimenting on farm, do not be too afraid of failure. The best education you can receive is the result of being allowed to fail. Keeping in mind, there

are some management practices and considerations that Ian has found that work for him on his farm, and may be worth contemplating in the creation of a holistic goal:

1. Regarding free choice minerals, “Cows won’t lie to you.” Similarly, the diversity of species present in pastures is key in allowing animals to select what they need. Susan Beal, PASA’s Ag Science Advisor and co-sponsor of the field day, suggests to look at the free choice minerals animals are consuming and compare the amounts of each mineral consumed to soil tests -- you might be surprised to see the relationship. Also, keep in mind as you purchase pre-mixed minerals that most mineral functional deficiencies are a result of mineral excess.
2. Consider using inclusion zones, experiment to see what will happen without impacting animal performance. To do this graze a small area at high density for short time and observe what happens and how the pasture responds.
3. Let the cattle tell you about water quality. Watch them drink. If water quality is low animals won’t graze far from the water source. To correct this and to fix aerobic conditions aerate it to oxidize the iron in the water, allowing the sulfur to precipitate and disperse causing bacteria to die.
4. When an animal doesn’t perform in your environment get rid of it; “act the predator,” and allow natural immunity through diversity and management.” Ian suggests that when you dose an animal you will likely have to dose it again. Remember “form follows function;” where an animal’s function is to grow and reproduce in the environment in which it was born.

Ian invites farmers to consider their farms as solar panels, and to consider themselves as being in the energy business. As a farmer, he explains, you have to harvest the energy to make a profit. On a dairy farm, the energy component of Holistic Management is largely managed through grazing. A simple strategy might be to graze the top $\frac{1}{3}$ of the pasture - this is where the energy is after all- and then move to a new paddock. Also, be sure to manage the graze to trample ratio. This helps to determine paddock size, shape, and grazing period. A long, narrow paddock will result in a graze to trample ratio of 50:50, whereas a square paddock will result in a ratio of 10:90.

Manage the environment at the soil surface level. Grazing as described above helps to insulate the soil with carbon and makes the environment hospitable for bacteria in the soil. It also allows for the grazing of stockpiled forage during the non-growing season. Further, during the spring after beginning this method, cool season grasses will start growing even earlier under the “carbon insulation,” which allows for earlier grazing. This extends the grazing season and harvesting of energy earlier in the year and later in the year, and even potentially year round.

Managing Grazing with a Grazing Chart

During the barn session of the field day Ian introduced a grazing planning chart, a barn door sized grazing planning chart, developed by Troy Bishopp in cooperation with local graziers, **the Central New York RC&D Council, and the Northeast SARE Holistic Grazing training Professional Development Program Project**, as a tool for making informed decisions on managing plant and animal performance, enhancing soil health, profitability factors, and

improving the farm family's quality of life. The hang-on-the-wall holistic grazing chart moves the grazing plan out of the folder and into a strategic road map for the farm. With a grazing chart and annual biological monitoring, farmers can actually plan toward "what they want" and document it.

The chart helps farmer's create holistic production, financial, environmental, and personal goals and strategies around grazing season benchmarks like frost dates, calving, breeding windows, stockpiling, and helps to monitor and track dry matter production weekly for planning decisions to reduce off-farm feed inputs and reduce feed costs by utilizing pasture.

Management practices such as rotational grazing, stockpiling, bale-grazing, back-fencing, and attractant site movements as they relate to improving animal health and biological soil life can all be planned, implemented, and recorded. And of utmost importance, farmers can create scenarios and build in pasture recovery times for getting through weather events and plan back in time from projected and/or estimated major events.

Cliff Hawbaker says that by June 60% of the cool season grasses that are going to grow this year have grown, which exemplifies the importance of planning how to efficiently use the 60% and how to allocate the remaining 40%. The grazing chart helps farmers do just that. Farmers interested in obtaining a copy of the grazing chart may contact Lee Rinehart at 814-470-9734.

Get an Attitude

Ian's suggestion for farmers faced with change is to "think of something different." When something gets complicated, do something different because it could be you're doing it wrong. How do you do this? "It's all about attitude," says Ian.

You don't have to be a scientist to do an experiment, just curious. Taking a small piece of land where nothing is working and grazing it with high impact for a short time will definitely change things. Could be it could change it for the better. Encouraging pasture diversity where there is currently a monoculture will surely change things as well, and since we know change will happen whether we do anything or not, perhaps it's best to take control of the change and learn something as well.

Getting Down to Details; Learning to use the Grazing Chart and Biological Monitoring

Where Ian stressed observation and taking risks, a field day hosted by James Burkholder and The Rodale Institute on August 13, 2013, focused on drilling down grazing management decisions using a grazing chart. James, a PCO-certified organic dairyman, has been grazing Rodale pastures since 2011, and with assistance from the NRCS has established laneways, a water system, and a stream crossing that has opened these pastures to intensively managed units that have reduced runoff and increased resource efficiency. His 67 cows graze 130 acres and are milked twice daily.



The field day, sponsored by PASA, PCO, and the Madison Co. Soil & Water Conservation District, was the second in a 3-part educational project funded by the Northeast Center for Risk Management Education. The next event is planned for spring 2014 to assist graziers in planning for the grazing season with a planned grazing chart.

The field day began with rain, but due to Rodale's generosity the event moved inside the Rodale Pavilion, where participants, including farmers, NRCS, and ag business leaders were introduced to the elements of Holistic Management by Susan Beal and engaged by a comprehensive overview of the grazing planning chart, developed by Bishopp, that Burkholder uses.



Burkholder recognizes the importance of planning and credits the chart with giving him the ability to evaluate, plan, implement, and adapt his system over the course of the grazing season. "All your records are right here, on the barn wall... you know where you are and where you plan on going at any given time," says Bishopp, a grazing specialist for the Madison Co. Soil & Water Conservation District in NY.

With the chart, which looks like a calendar for each grazing pasture, Burkholder can plan when he will make hay, graze, and most importantly rest, his forage resources. If he has to plan for a certain event, like calving, a field day, or a vacation, he puts it on the chart and his subsequent management decisions will take these events into account. He can chart rainfall, forage production, or any other criteria that is important to his operation.

This is something Bishopp stresses, the chart is really a blank slate that gives the operator the ability to quantify his or her operation and adapt as the season progresses. For example, this year was a good forage year at Rodale and Burkholder can look at the chart, see where his cattle have been, what forage is going to be available, and make decisions like taking extra hay this year from paddocks his cattle probably won't get to.

After lunch and conversation, the field day group loaded into trucks and headed to Burkholder's pastures. The sun was out for a fantastic pasture walk led by Beal and Bishopp, and sparked conversation along the way from cattle condition and nutrition to forage measurement to reading a Brix meter. Along the way, Bishopp sat down and parted the dense forage and invited participants to get a sense of what is going on biologically with an easy-to-do monitoring technique.

Everyone knows pasture monitoring can give good information but few actually do it, and Bishopp demonstrated that with a few minutes and a notepad, an operator can get into the field, make some biological observations and have a baseline of information to compare to in following years. Important to notice are bare spots in the pasture, number of perennial grasses, worm castings, insects, manure decomposition, age of plants, etc. By comparing this information year after year an operator can get a good sense of changes that are taking place due to management.



Once a pasture manager gets close to the soil, parts the grass, and looks for specific things in the sward, a light goes on in their head, they get the bug, and their perspective on pasture management is changed forever. There is just so much to infer from a careful observation of the plant and soil life in a small sample of pasture.

So it's all about planning. And the grazing chart brings the whole farm planning to one place. It's a summary of organic inputs, field records, grazing records, and pasture access that can be of utmost help to an organic livestock producer.

