

Decision Case Number 1

Do We Worm? Nature Lands Sheep Dairy *A Holistic Management® Decision Case*

1. The Nature Lands Sheep Dairy is a small farm in central New York State that has supported the lives and livelihood of Kevin and Joan Castro since 1980. Starting with long-abandoned farmland and no buildings, they have built a homestead and farming operation that employs several features not often found together on organic farms. A strong concern with energy efficiency is expressed in solar building design and in the farmstead layout.
2. An equally strong focus on resource self-sufficiency has led them to a dairy operation that aims to minimize off-farm inputs of fuel, fertilizer, feed, and machinery. Features of the system include seasonal grass-based dairying, intensive rotational grazing, animal breeding for hardy, 100% grass diet, the use of animal traction power where appropriate, and a shift in perspective to see the primary function of animals as soil builders. As such, grazing animals have come to represent the driving engine of a sustainable agriculture; consequently, the Castros pay close attention to every step of the carbon and other soil nutrient cycling function, from maximizing manure production per acre, to efficient aerobic composting.
3. Over the years, a major emphasis has been to maximize independence from a wholesale agricultural marketplace. Essential to the success of this effort have been: the choice of sheep as the dairy animal with the most product diversity potential: on-farm cheese-making aiming for artisan quality dairy products and their involvement in building an attractive local farmers market in order to sell all of their products (dairy, meat, yarn, sheepskins, and apple cider) direct to consumers in retail form.
4. Lastly, they have always tried to manage the farm as an integrated whole, partly because as organic farmers they recognize such a complex whole to be the reality they must work with, but also because of the synergistic potential in looking at all parts of the enterprise as an integrated system. In an attempt to further wean themselves from an academic, agricultural paradigm largely based on isolated disciplines and piece-meal problem solving, they have taken formal training in Holistic Management, a unique decision-making model that recognizes social and ecological concerns as crucial to ultimate success in any enterprise.
5. Today, Kevin and Joan are working to transition the management of their dairy to a young couple, Marguerite and David Hanks. They each have studied and practiced Holistic Management, but Kevin is the one who is most invested. The younger couple is also committed to the overall goals of the farm, but is not currently practicing Holistic Management.
6. A major challenge for the two couples was to increase profits from lamb sales, in order to better support both families. This would require bringing more sheep to market weight, which would both increase meat sales and the number of sheepskins available. More sheep on the farm, however, would prevent long enough breaks from the animals grazing on any one pasture, and thus increase the likelihood of intestinal parasites.

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7. Internal parasites have been a concern on the farm for many years. Because of their values, the Castros have rarely used chemical wormers, as they preferred to practice genetic selection for parasite resistance. Worming sheep regularly will achieve just the opposite: a flock that is dependent on chemical wormers and less genetic resistance over time. This is not compatible with their desire to move toward sustainability.
8. Last season saw a major increase in parasite-related illness and mortality in the lamb flock. The causes were varied and difficult to ascertain. Some causes were specific to a given pasture and the weather of that year (cold, wet spring on poorly drained ground); others could have been nutritional, genetic (the ram used the previous winter); or an increasing parasite load over the whole farm due to the increase in sheep numbers. Wormers were eventually used to maintain the health of some of the lamb flock.
9. The question next season was: Should they plan to worm any lambs preemptively? Two elements of the holistic goal relate directly to this decision. First, to raise a healthy lamb flock that provides a satisfactory source of market lambs. Second, to continue to select for parasite resistance.

Given the whole under management and the holistic goal of the Nature Lands Sheep Dairy, answer the following questions:

1. What exactly is the problem?
2. What are each couple's objectives in this situation?
3. What are the major issues?
4. What are the options?
5. What would you do?

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Exhibit A Nature Lands Sheep Dairy Whole Under Management

Decision Makers: Kevin and Joan Castro, Marguerite and David Hanks

Resource Base:

People:

- Cheese, meat and sheepskin customers,
- Owner of adjacent rented farmland,
- Owners of adjacent or nearby farmland,
- Dept. of Agriculture and Markets

Land/Resources:

- 57-acre farm currently owned by Joan and Kevin Castro, including:
 - 30 acres fenced and grazed
 - 12.5 acres hardwood forest
 - 2 acres softwood: recently logged spruce and mature cedar
 - 7.5 acres in brush, woods and pasture
 - gardens, lanes, hedgerows, and building sites
- 30 acres of adjacent land rented year-to-year including 20 acres of hay field and 10 acres of brushy pasture
- 40 acres of hay/pasture on a 5-year lease from adjacent neighbor
- Livestock including:
 - 49 milking ewes of Texel, Dorset, Friesian breeding
 - 6 registered Icelandic ewes
 - 4 rams including a registered Icelandic
 - 2 registered Haflinger geldings
 - 1 Percheron mare, 1 Percheron gelding
 - 1 Labrit herd dog, & 1 registered Border Collie herd dog
- Machinery including: 45 hp tractor, 40 hp tractor, baler, 3 horse-drawn mowers, 1 horse-drawn rake, 1 tractor rake, 2 brush hogs, 1 combine, 2 harrows, 1 ground drive manure spreader, 1 sleigh, 2 hay wagons, 1 small trailer, 2 road inspected pickup trucks, one off-road pickup truck
- Buildings and Equipment including: farmhouse with attached greenhouse, office space, packing area, cheese aging room, cheese cooler and meat freezer; two equipment sheds with shop, freezers and coolers; sheep barn with 6-ewe milking parlor, milkhouse/cheesemaking room with 4x10walk-in cooler; new livestock barn with 400 square ft insulated heated room in loft; hay barn with 90 round bale and 1700 square bale capacity

Money Available: farm income, savings, health insurance, David's off-farm income

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Exhibit B Nature Lands Sheep Dairy Holisticgoal

Quality of Life

We want:

- To incorporate young people on the farm
- Environmental health
- Rural living environment
- A community of like-minded people
- Fun and challenge
- Political freedom
- Cultural stimulation
- Beauty and human scale
- Self respect
- Low stress
- Collaboration
- Equality
- Space and time for creativity
- Livestock in daily life
- Pleasure from creative production
- Financial security: debt limited to a small portion of current income
- Physical security
- Opportunity for travel, education, teaching
- Balance of physical with intellectual life, business with friendship, work load through the seasons, stewardship with profit, and creativity with work

Forms of Production

- Profit and enjoyment from dairy sheep and other livestock and farm products
- Homestead production for a healthy degree of farm self-sufficiency
- Farming for collaboration, innovation, and education
- Production and marketing to serve and enhance a local food economy
- A simple, energy-efficient home with attractive harmony of function and form
- Political and civic work toward an environmentally healthy, culturally active, egalitarian civilization
- Stewardship and agreements to provide agricultural permanence on this farm
- Work for balance

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Future Resource Base

People: We will be seen as caring and careful farmers and stewards of the land. We will be an example of how land may be transitioned from an older to a younger family in a respectful, healthful and financially responsible manner.

Land: We will have stable, living soils with at least 15% organic matter. There will be optimum biodiversity appropriate to each type of land use and a farm ecosystem that achieves a reasonable input self-sufficiency, particularly for feeding the soil community, plants, animals, and people. This ecosystem will include enough open space for production needs, and a conservation easement or other agreement that legally protects the farm from non-farm development.

Community: Our farm will have regional impact as a trend-setting model of sustainable design. We will live in a community that remains largely rural, and becomes highly interactive and interdependent, economically, socially, and culturally. We will have a thriving regional economy, and be reasonably self-sufficient in food, energy, and shelter. Our community will contribute to world peace via policies of economic security for all, replacing economic imperialism and other hegemonies and discriminations with democratic decision making.

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The Solution Considered

They considered three options:

1. To worm all lambs at weaning, prior to moving to clean pasture;
2. To give no wormer to the first group weaned (1/3 of the lambs) to be used for replacement animals and continue to select for genetic resistance, and worm all lambs as well as any showing parasite symptoms; and
3. Worm lambs only when signs of parasites persist .

Testing Questions

- 1. Cause and Effect -** *Does this action address the root cause of the problem (which is lambs that get intestinal parasites).*

As worming does not address the root causes of this problem, we want to use chemical wormers in a way that will not make the problem worse. We also must seek other solutions that go to the root of the problem. Chemical worming all lambs at weaning does not pass. However, not worming any animals may result in significant financial losses and this doesn't pass either. Option two seemed to pass.

- 2 (a). Weak Link – Social -** *Have I/we considered and/or addressed any confusion, anger, or opposition this action could create with people whose support I/we need in the near or distant future?*

Our social weak link was tested greatly by this decision, as there were differing points of view on how this decision would or would not lead to our holistic goal between the two couples. We used discussion and compromise to overcome these obstacles. The solution has to feel right to everyone. Again, option two seemed reasonable.

- 2 (b). Weak Link - Biological -** *Does this action address the weakest point in the life cycle of this organism?*

Chemical worming (option one) didn't pass this test. Option two seemed reasonable.

- 3. Marginal Reaction -** *Which action provides the greatest return, in terms of my/our holistic goal, for the time and money spent?*

This test was very important in choosing between the three options. We had great reservations about using chemical wormers, so we first decided that to worm the whole lamb crop preemptively was counter to our long-term goals. We thought the benefits of worming two thirds of our lambs

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after weaning were: a) we could use the first group as our genetic resource base (i.e., select replacement rams and ewes which have grown and stayed healthy without the wormer), while worming later lambs to reduce the parasite load brought from the lambing pasture; and b) hopefully raise and sell a healthy market lamb group. Worming no lambs could leave us exposed to losses again and could eventually cut into our genetic resource. Going the middle road of worming some lambs seemed the best option.

4. Gross Profit Analysis - Does not apply.

5. Energy/Money, Source & Use - Was considered to not apply.

6. Sustainability - *If we take this action, will it lead toward or away from the future resource base described in our holistic goal?*

Option two seemed best, but in order for this action to lead toward the desired future resource base it must be one component in a broader plan that would eventually result in parasite management without wormers.

7. Society & Culture - *Considering all the questions and my/our holistic goal, how do I/we feel about this action now?*

The decision to worm some lambs was an acceptable compromise for all. The final decision was to treat 65 percent of our lamb crop with wormer at weaning time. Lambs also would be treated on an individual basis when signs of parasites persisted. Several new strategies are being employed to try to deal with this problem; new leased pasture will allow for a longer recovery period for lamb pastures; increasing lamb nutrition immediately after weaning; and others. We believe that with these efforts our use of preventive wormer will be a temporary solution.

Results: We have had a good year growing lambs. The weights are heavy and the replacement animals look great. For all we know our success could be the result of better weather and a portable shade shelter, but we are happy with the results so far. The real measure of success will be how soon we can stop worming altogether; we are working hard toward that end.

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Do We Worm? Teaching Notes

Overview: “*Do we worm,*” describes a decision faced by two couples that are trying to make management decisions together on the farm. One couple makes decisions based more on personal values and ideals and the other couple has a greater incentive to keep financial matters foremost. Both couples have had training in Holistic Management.

Learning Objectives: After participating in this decision case, participants will:

1. Understand how Holistic Management® Decision Cases might be used in teaching.
2. Appreciate the value of a holistic goal for enhanced creativity in decision-making.
3. Have reflected on the value of shared decision-making and the use of a holistic framework in making decisions together.

Lesson Plan: This case is designed to be used in a 2-3 hour period with a skilled facilitator.

Materials Needed: Copies of the written case and exhibits.

Teaching Suggestions: The following is an outline with suggestions on how to use this Holistic Management® Decision Case.

1. Allow participants to read the situation slowly. Distribute the Exhibits, but they can be read later.
2. Read the case out loud together or create a role-play with dialogue.
3. Opening question: Can you understand the tension between the older and younger couple? Based on the holistic goal, what do you think they each want?
4. Form groups of 4-5 people each and ask them to meet to discuss the case. Suggest the group assign individuals to review each exhibit carefully and report to the others. Discuss the core issues, which make this decision difficult. Discuss how each of the exhibits adds relevant information.
5. Answer the following questions:
 - What exactly is the problem?*
 - What are each couple’s objectives in this situation?*
 - What are the major issues?*
 - What are the options?*
6. Determine if there is a consensus among group members regarding what should be done. If a consensus can’t be formed, you may vote and record the tally.
7. Report back on the results. Now, distribute the Testing Questions with answers. Discuss how the holistic perspective provided by the formal framework improves the quality of the decision.
8. If you think it useful, share the decision finally made by the decision makers, which is included in “The Solutions Considered.”

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Resources:

Situation Statement for Do We Worm Decision Case
The Solutions Considered (including Testing Questions)

Exhibits: To be used with the decision case

Exhibit C: Controlling Internal Parasites in Sheep, Purdue University, available at... <http://ag.ansc.purdue.edu/sheep/articles/control.html>

Exhibit D; Parasite Control While Grazing, Purdue University, available at... <http://ag.ansc.purdue.edu/sheep/articles/grazeparasite.html>

Exhibit E: Fighting and Winning Parasite Battle in Sheep, Purdue University available at... <http://ag.ansc.purdue.edu/sheep/articles/parasite.html>

Exhibit F: Sustainable Sheep Production. ATTRA Publication available at... www.attra.org/attra-pub.html.

Exhibit G: Background on Dairy Sheep. ATTRA Publication available at... <http://www.attra.org/attra-pub/PDF/dairysheep.pdf>

Additional Resources: Related resources for teachers may be found at...

Some thinking on the grass/ruminant system at.... <http://www.geocities.com/northsheep/grassrum.html>

Holistic Management at the sheep dairy at... <http://www.geocities.com/northsheep/sheepda2.html>

More farm background at.... <http://www.geocities.com/northsheep/ssif.html>

Because these materials identify the real names of the farmers in this decision case, they should only be used by teachers. For permission to use these, please contact Mr. Karl North at... northsheep@juno.com.