

Keeping Animals Healthy on Pasture

Ben Bartlett, D.V.M.

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Abstract

Maintaining healthy animals on pasture requires a combination of the right genetics, good nutrition, a well-conceived management plan, and the strategic use of health technologies. Pastures are a natural for the grazing animal, but so are parasites, predators, and pestilence. We will review the major pasture animal health challenges and the control options. We will also share new animal metabolic and nutritional information and its role in a healthy animal.

Editors Note:

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Thank you for the opportunity to share some of the issues we face as we move animals back to pasture with the new and improved grazing systems. Keeping animals healthy is critical to the farmer's success, the well-being of the animal, and society's acceptance of animals in the food system. Animal health is an every day issue and I encourage you to make today's session the beginning of your effort to keep animals healthy.

I don't think it's possible to cover all the issues on animal health on pasture in only 30 minutes, so what I would like to do is "uncover" some of the most common problems in the Midwestern part of the United States. One consideration I would like to touch on before we get started is the assertion that animals on pasture will be healthier. In many situations, good pasture and fresh air can be one of the healthiest environments for livestock, but danger can lurk in even the most pastoral scenes. If the stockman is not properly caring for the stock, health problems can occur in both pasture and confinement situations. I think it is a winless situation to get into discussions about pasture versus confinement husbandry. It is more important to focus on keeping animals healthy and not having to treat problems.

What are Healthy Livestock?

- The Absence of Disease
 - Infectious
 - Metabolic
 - Toxic
 - Nutritious

What are healthy livestock? Healthy livestock have an absence of disease and are achieving the desired level of performance. Absence of disease includes not having an infectious disease or a metabolic condition, not suffering from toxicity, and enjoying adequate nutrition. But "not being sick" is only part of being healthy. Livestock should be giving milk or gaining weight or delivering healthy off-spring and enjoying a long, productive life in

addition to not being sick. Unfortunately, we sometimes look at production and automatically assume that high production equals being healthy. Some livestock today are very productive, but also have very short and stressful lives. It is important to take the "long view" when judging the health of an animal or herd.

What are Healthy Livestock?

- Achieving Desired Level of Performance
 - Average daily gain
 - Reproduction
 - Milk Production
 - Physical performance
 - Achieving reasonable life span

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General Considerations

- Challenges vary by
 - Species
 - Location
 - Type of grazing
 - Time of year
 - Genetic selection
 - Luck?
- Sub-clinical vs Clinical "disease"
 - Poor performance is #1 health loss!

Keeping animals healthy is a never ending challenge that will vary by animal species, farm location, type of grazing system, time of the year, and even a bit of luck. For example, you could have the best planned and conceived health program for your livestock and have a new predator move into your neighborhood that considers your livestock his lunch. I have worked with producers who have never had a case of bloat and then after a frosty evening have multiple dead cattle in the

morning. I bring this up because there is no silver bullet, no "always works" health plan or someone that has it all figured out. Keeping animals healthy requires an ever vigilant effort. One of the greatest losses to disease occurs with sub-clinical disease. This is where animals are a little sick or not performing up to expectations but it is not visible. The nutritional level of a ration that is lacking or a low level load of worms can depress performance but you may be thinking that all is fine. It is critical that you monitor the health and performance of your animals to make sure they are healthy.

What tools do we have to keep our stock healthy? There are four categories of livestock health tools: knowledge of animal health and disease, a disease prevention program, the access and use of products and services, and known acceptable levels of performance. Too often we only consider ways to treat animals, such as a new and improved antibiotic. It is critical that husbandry factors such as genetic resistance to disease, multiple species grazing, and timing of management procedures also be considered. Keeping animals healthy is using all the tools in the tool box and using them appropriately for the situation. I think this is especially true on pasture since the animals are often out of easy control and sight so prevention and management is even more critical.

General Considerations

- Tools for Healthy Animals
 - Knowledge
 - Prevention program
 - Products and Services available
 - Performance Measures
- NO silver bullets
 - just pieces to the puzzle...

Recommendations

- Touch on the most common problems
- Review principals of
 - Health condition
 - Prevention
 - Treatment

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What are the most common problems you will see on pasture? **Internal parasites**, with stomach and intestinal worms the most common challenge.

Consider several principles in your worm management program. Young animals are much more susceptible than mature animals. Most parasites are on the pasture and are potential sources of re-infection. Sheep are more susceptible than cattle. Grazing close to the ground increases intake of parasite larvae. Winter reduces pasture parasite load but not to 100% clean. Haying and other species grazing will help clean up pastures.

Parasites – Internal ~worms~ Principals

- Most parasites on pasture
- Young > Mature animals
- Sheep > Goats > Cattle
- Larvae infective - not eggs
- Larvae close to ground & manure

Deworming is important for three reasons:

1. To reduce worm burden in animals.
2. To prevent animals from contaminating pastures with worm eggs.
3. To destroy worms in animals before they can lay eggs as a method to clean up pastures.

Parasites – Internal ~worms~ Control Principals

- Reduce Exposure
 - Change species / machine harvest / rest
 - De-worm before and during grazing
- Strategic De-worming
 - Pre-pasture / pre-birthing
 - Possible grazing season de-worming
 - Post grazing
- Wise use of de-worming products-resistance issues

A strategic parasite program often includes several facets: A pre pasture/pre birthing de-worming can reduce worm burden and prevent pasture contamination. Grazers need some method to keep pastures clean, which could include a post-turnout de-worming and/or haying and/or grazing with another species. If re-infection is not prevented, then summer de-worming especially of young stock should be considered along with the possible use of fecal egg count monitoring. Consider a post-pasture de-worming of especially young stock after

fall frost.

Other considerations that need to be incorporated into the program and require the utilization of local expertise include which de-worming agents to use and concern with other internal parasites that may not be covered with current products such as coccidia, flukes, and lungworms.

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External Parasites such as flies (horn, face, heel) and other pasture pests are seen just about everywhere. Flies cause economic loss by both harming animals and decreasing grazing effectiveness. Horn flies can extract up to one liter of blood per day. Fly control can be done with ear tags, sprays, pour-ons, dusts, back-rubbers, and even non-pesticide traps. Fly control in intensive grazing systems must move with the livestock. Horn flies spend a lot of time on the animal and sometimes can be controlled with pesticides. However, the flies quickly develop resistance to the treatment so be sure your pesticide is working. Face, heel, and other flies spend little to no time on the animal and are more difficult to control. Know how many and what kinds of flies are “bugging” your livestock before you pour on the chemicals.

Parasites –External ~flies~ Control Principals
• Horn – Easy – tags, back rubbers, no-chem brush-off
• Face – Some success with tags, rubbers, etc
• House and Stable – Difficult – Sanitation, sanitation, sanitation
• Horse, deer – “Impossible”

Pink-eye & Foot Rot
• Primary damage to Pocket Book
• Cause: injury + bacteria
• Prevention – Pinkeye: mature grass, flies, dust, white eyes – Vaccine of mixed value – Footrot: wet, rough, frozen, foreign objects
• Treatment – Individual animal – Consider mass treatment/prevention

Pinkeye and Foot-rot are two diseases that will bring the average daily gains to a dead stop and can progress to permanent damage. In both cases, the disease occurs when damaged tissue is exposed to virulent bacteria. In addition, with pinkeye, flies can help spread the disease from animal to animal. Control is achieved by decreasing the potential for injury. For pinkeye, that means avoiding the grazing of mature grasses with seed heads, having good face fly control, and

not having cattle with white skin around their eyes (which makes them more susceptible to pinkeye). There is a vaccination for pinkeye that has been successful on some operations. For foot-rot, injury occurs with wet, frozen, or rough ground and also when foreign objects such as sticks and stalks are present. Since prevention is not always possible, individual animals must be treated as needed. If over 5% of the herd/flock is affected in a short period of time, (10 to 14 days), a preventative dose of antibiotics to all animals should be considered.

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Legume Bloat is not a common problem but can be disastrous to farms since it can occur so quickly. Legumes are widely used and are important grazing plants because they are very nutritious, can produce nitrogen to stimulate grass growth and are more drought tolerant than grasses. Legumes, clover and alfalfa but not birdsfoot trefoil, can cause an acute life threatening frothy bloat. The only “no risk” system is to not use legumes. The ways to utilize legumes but to minimize the losses to bloat include the following:

Legume Bloat & Fescue Toxicity

- Bloat – clover & alfalfa
 - Graze 50% grass 50% legume
 - Grazing management
 - Daily feeding of poloxalene or monensin
 - Some animals more susceptible
- Fescue
 - Endophyte in seed head
 - “Fescue foot”
 - Heat intolerance = poor weight gains

- Use grass/legume mixes with less than 50% legume in the resulting stand.
- Turn animals that are not hungry into pastures after the dew has dried off.
- Wait to graze legumes until they are more mature, late bud to flower stage.
- Limit selective grazing by limiting the area to be grazed to one day’s worth of feed but make sure the stock have enough to eat so they are not hungry the next day.
- Feed additives that have proven useful include poloxalene and monensin, but regular daily intake is necessary.

It’s also important to remember that some animals are more susceptible to bloat and so the occasional animal will be lost even with the best preventative program.

Toxicities

- Man made
 - Paint, used oil, old batteries, etc
 - Pesticides
 - Japanese yew
- Plant toxicities
 - Lots of potential plants toxic but...
 - Rare due to un-palatability
 - Overgrazing is often a issue..

Poisoning or Toxicities are also not common but have to be considered. The most common pasture poisonings are caused by people and not poisonous plants even when grazing unimproved rough pastures. Lead in old batteries, paint, used oil, and linoleum can sometimes be found next to old buildings or the farm dump and continue to be a frequent cause of poisoning. Other poisoning situations occur when toxic items have gotten into livestock areas such as pesticide containers

breaking or blowing into the area. Other human related situations include the throwing of Japanese yew bush trimmings over the fence or having animals gain access to buildings or containers of toxic substances. The best poison prevention is good housekeeping and walking your pastures. This pasture scouting will also help you to identify any potential toxic plants and to monitor the level of suitable pasture remaining. Over-grazing is usually at least part of the reason that toxic plants are eaten. Over-grazed and underfed animals are more susceptible to poisoning.

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Metabolic and Nutritional Issues The most common pasture metabolic disease is grass tetany or hypomagnesemic. It occurs most commonly in lactating beef cows grazing lush pastures. The problem is more common in pastures that have been fertilized with potassium and/or nitrogen fertilizer. Other mineral problems that can be seen on pasture include: white muscle disease or selenium deficiency; and milk fever, which is low calcium predisposed by high potassium feeds. A high quality trace mineral salt and the grazing of a mix of immature green grasses and legumes will, in most grazing situations, provide all the needed vitamins and minerals. Animals that are expected to perform at peak levels should have their mineral programs closely reviewed. The most common nutrient deficiencies on pasture are inadequate levels of energy and protein to meet the desired level of animal performance. Too often pastures are too thin, too short, too tall, too mature, too small, or too big to provide feed for the expected level of performance. Please allow me to repeat this, the most common deficient nutrient on pasture is energy; be sure to monitor body condition or other performance measures to ensure adequate energy intake.

- Metabolic & Nutritional Concerns**
- Metabolic diseases
 - Milk fever, grass tetany
 - Nutritional Deficiencies
 - Minerals – selenium, copper, cobalt
 - Protein – should be rare with good grazing
 - Energy – the #1 problem
 - Pasture too thin, too short, too tall, too mature,

- Conclusions**
- Healthy is:
 - Free of disease +
 - Achieving desired level of performance
 - Key Steps
 - Well executed disease prevention program
 - Nutritional complete grazing program
 - Performance monitors in place
 - And.....

Conclusion. Healthy livestock are defined as animals being free of disease and achieving the desired level of performance. This has to be done in a cost effective and time effective manner with a resulting profitable production system. The three key ingredients are:

- 1) A well reviewed and properly executed disease prevention program;
- 2) A nutritionally complete grazing program;
- 3) Management monitors in place to see if the desired level of animal performance is being achieved.

Keeping livestock healthy on pasture is both satisfying and profitable.