

MANURE MANAGEMENT

By Lark Burnham, PhD, Animal nutrition

Whether you consider manure to be a valuable resource, a nuisance, or a health hazard, it is an inevitable part of animal husbandry, including alpaca production. Alpaca producers were recently surveyed as to their take on manure and what they did with it. Keep in mind such surveys are inherently biased and reflect only the opinions of those who answered the e-mail.

Generally speaking

Of the alpaca producers who took the time to respond, the vast majority (20) considered alpaca manure as a valuable resource, only two respondents considered it to be harmful to alpacas if used to fertilize pasture or crops intended for their consumption. Most who viewed alpaca manure positively composted it to some extent, composting will be discussed in detail in the next installment.

Alpaca manure was considered as a health threat to those who dissented, mainly because of the potential for parasite transmission. One was convinced that the inherent avoidance of grass grown near poop piles and of pastures fertilized with fresh manure indicated that alpacas would also shun such ground fertilized with manure in any form, including composted.

Avoidance behavior is not unique to camelids and has evolved as a protective mechanism. However, once manure has reverted to soil, it has lost its characteristic smell and parasites and their eggs destroyed by heat and sunlight this will also be discussed in a later installment.

If and how a producer uses alpaca manure may depend on herd size and availability of pasture and arable land. Producers with small herds, and especially those in dry lot, can probably spread the manure on flower and vegetable gardens. Manure disposal from larger herds in dry lot will require some creativity.

What's in it

Manure from ruminants kept on high roughage diets produce manure that it high in nitrogen content, mostly from microbial bodies. Dietary nitrogen (protein and non-protein nitrogen), like easily fermented carbohydrates, is quickly snapped up by rumen microorganisms, which can then be converted

to carbohydrates. Very little survives the gauntlet of the intestines to be deposited as manure. Therefore, all that nitrogen (approximately 20% on a dry matter basis) comes from the microbes themselves.

Nitrogen is essential for plant growth (the N in NPK values listed in soil and fertilizer analysis, followed by phosphorus and potassium). Good farming practices usually involve the recycling of livestock waste as fertilizer. Ruminants on pasture usually do the dirty work themselves, but non-camelids are not as fastidious as alpacas and llamas. Convenient piles scattered around pastures facilitate the collection, composting, and redistribution of this nitrogen source.

Undigested fiber and excess minerals are also voided in manure. Mature plant material is very difficult to digest, and most gets deposited back on the soil. Alpacas normally avoid mature plant material unless other energy sources are unavailable.

Fresh manure can be applied to pasture grazed by alpacas IF access is restricted until time and weather have reduced the poop to soil. This may take from a few months to a couple years. Several producers mentioned that lawn vacs used to collect fresh manure do a good job of pulverizing it, which speeds the breakdown process. Alpaca poop which has been reduced to small particles will deteriorate quickly, especially in a wet environment.

No matter what you may think of it, manure is rich in valuable nutrients, what you do with them may depend on farm size and type. As any good gardener knows, you have to put back what you take out of the soil or production will suffer.

About the author:

Lark Burnham received a B.S. in Animal Science (1979), from Kansas State University and a M.S. in non-ruminant nutrition (1995) from Kansas State University, Manhattan, and a Ph.D. Doctorate in ruminant nutrition (2004) from Texas Tech University, Lubbock. Her special interests are comparative nutrition, the role of the micro flora in all mammals, fiber digestion, and probiotics. Lark currently works for Natur's Way, Inc., Horton, KS, which produces MSE probiotics.

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