

Well-planned barns and pastures, and innovative use of high- and low-tech gadgets can make life on the farm much easier. If you have any helpful “husbandry hints,” *Alpacas Magazine* would like to hear from you.



Bill & Sherri Duey

## Husbandry Hints

# Alpaca Manure Management

A very important part of good alpaca husbandry is keeping your alpaca pens as free from manure build up as possible. Removing manure from the pens helps to maintain a cleaner environment for your alpacas, reduce some parasites, and improve odor control.

Alpacas are extremely efficient, requiring only a small volume of hay or grass and feed, because they utilize the nutrients very efficiently. Alpacas defecate relatively small amounts of manure, compared to most types of livestock.

The average alpaca only “produces” about one gallon (four pounds) of fresh alpaca droppings every 24 hours. But for each alpaca, this equates to about 1,500 pounds of fresh manure per year. For a ranch with a herd of ten alpacas that is about two five-gallon buckets each day or 730 five-gallon buckets of manure per year. That computes to

about 15,000 pounds or over seven tons of manure a year for a herd of ten alpacas. That is a lot of alpaca beans!

The daily routine care for alpacas includes watering, feeding, observation of each alpaca for “unusual features or activities,” and cleaning alpaca pens. A visual inspection of the manure pile can reveal some health problems.

### Efficient Handling

Manure handling can be time-consuming, so it is very important to develop a plan to maximize your manure handling efficiency. For small herds, this may involve relocating the manure spreader or compost pile to save you some footsteps and time. Locating the spreader 20 feet closer to the barn door may save you miles of walking or carrying buckets over a year’s time. On larger farms, extra gates

between pens may save hours’ of labor over a year’s time by improving traffic patterns for the manure cart/spreader as the operator goes from pen to pen. The point is, really examine your system and see if there are any time-saving steps you can take to improve efficiency.

Having two complete sets of scoops, rakes, and buckets to do the cleanup makes the job go much faster and allows both ranchers more fun time with the alpacas after the work is done. Alpaca manure has value. In some areas, it can be sold or traded to neighboring farmers needing fertilizer for crops, pastures, or gardens. You can use it on your own crop or hay fields and reduce fertilizer expenses. However, your alpaca manure should be tested to determine its composition so that proper rates can be determined for applying to fields. Testing labs are



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Medium-sized spreaders can be pulled by utility tractors and are designed to be ground driven or powered by a power take-off (PTO) shaft. The PTO shaft is used to transfer the power from the tractor engine to the spreader to drive the manure spreader system.



Barn lime is used to dose manure piles in barns or alpaca pens. It is very good to use on dung piles that have sunken in and are collecting urine or rainwater and are staying wet.



Clean the dung pile thoroughly. Spread the barn lime over the area and wet down with water. Stir up and shape into a domed mound.



Be sure to 'dose' the barn-limed dung pile to encourage alpacas to use the same spot.

located throughout the country that will test manure and give you an analysis of the nitrogen, phosphorous, and potassium, as well as micro-nutrients in the sample. Most land grant universities have a listing of certified testing labs in their state. You can generally find these by doing a quick search on the Internet. The soil for the targeted area should also be tested in order to determine the proper application rate. (See the Husbandry Hints article in the Spring 2003 issue of *Alpacas Magazine* for information on soil testing and fertilizer application rates.)

Manure is far superior to artificial, man-made, commercial type fertilizers and has several positive effects when added to soil. The manure naturally contains nitrogen, phosphorus, potassium, and micro-nutrients. Other organic compounds in the fertilizer trigger biological activity which makes the nutrients available to plants. Regular manure applications generally lower soil pH. Soil structure is improved, because it tends to bind light soils together and to loosen heavy soils. The moisture retention characteristics of soil are also improved with manure applications.

On a small alpaca ranch, the daily manure handling routine will include grabbing a "bean scoop," rake, and five gallon buckets or a wheel barrow and heading to the dung pile in each pen. The alpaca droppings (or beans) are raked into the scoop and then scoopfuls are emptied into the bucket or wheel barrow. When the buckets or

### Alpaca Manure Sample Test Result (results may vary)

%moisture	50%
%solids	50%
<b>Nitrogen (N)</b>	<b>18.0 lbs./ton</b>
<b>Phosphorous (P)</b>	<b>5.7 lbs./ton</b>
<b>Potassium (K)</b>	<b>13.0 lbs./ton</b>
<b>Calcium (Ca)</b>	<b>39.4 lbs./ton</b>
<b>Magnesium (Mg)</b>	<b>6.8 lbs./ton</b>
<b>Sulfur (S)</b>	<b>5.0 lbs./ton</b>
<b>Sodium (Na)</b>	<b>1.0 lbs./ton</b>
<b>Zinc, Manganese</b>	<b>Traces</b>
<b>Copper, Iron, Cobalt</b>	<b>Traces</b>
<b>pH</b>	<b>8.57</b>

wheel barrow reach a still manageable weight, the manure is then carried to and dumped in a nearby manure spreader or centralized transfer pile.

If a manure spreader is used, it should be emptied as it nears full capacity when ground conditions allow it to be transported to a target field for spreading. The spreader may fill up in anywhere from a few days to a month, depending on the size of the spreader and the size of your herd.

The centralized transfer pile is loaded and moved out either to a long-term compost pile or spread on a target field.

### Manure Spreaders

Manure spreaders come in a wide variety of types and sizes. The smallest that we have seen is an eighty-five pound, seven cubic-foot capacity cart that is designed to be pulled by a lawn tractor.

It costs about \$550 and is made primarily out of aluminum. Another company makes spreaders from 9 cubic foot capacity up to 138 cubic foot capacity with a variety of loading side heights and drive types. Major agricultural equipment manufacturers make some very large spreaders that have application on the bigger alpaca ranches.

Small spreaders are designed to be pulled by lawn type tractors or All-Terrain Vehicles, and the spreader mechanism works off drive wheels on the spreader cart. Medium-sized spreaders can be pulled by utility tractors and are designed to be ground-driven or powered by a power take-off shaft (PTO shaft). The PTO shaft is used to transfer the power from the tractor engine to the spreader to drive the manure spreader system. Large spreaders have to be pulled by large tractors and utilize PTO systems to operate their spreader systems.

One feature to consider in shopping for a manure spreader is the height of the sides of the spreader. If you lift buckets of manure up and into the spreader, a lower side height is very important. This will vary depending on your method of handling and the size of the person.

Most spreaders cannot be emptied when temperatures are below freezing. The moist manure can freeze to the bottom and sides of the spreader and will not allow it to operate. At these times it may be necessary to just stockpile the manure in a centralized transfer pile near the barn, but outside the



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Grabbing a rake, bean scoop, and five-gallon bucket to clean up after your alpacas is just part of the business. Manure management may not be the most fun part of alpaca ranching, but with the right tools and products it can become an efficient process that helps keep your alpacas healthy.

alpaca pens. When the weather warms up, it can then be loaded in the spreader and applied to a field.

Instead of purchasing a manure spreader, you may want to see if you have a neighboring farmer who already has a spreader. He may be willing to park it at your ranch and allow you to use it to place manure in it if he can have the manure for spreading on his fields. This might be a good trade, especially for a new alpaca rancher with lots of start-up costs to tackle.

Other products that are worthy of mentioning are barn lime and palletized wood bedding materials. Barn lime is sacked lime dust used to dose manure piles in barns or alpaca pens. It is very good to use on dung piles that have

sunken in and are collecting either urine or rainwater and staying wet. Thoroughly clean the pile, apply some barn lime, wet the lime with water, stir up the wet lime and shape to a slight domed figure. Then dose the top of the lime with alpaca droppings. The lime will harden like cement in a few days and will allow you to easily clean up the pile as it does not let the site become a mud hole.

Pelletized wood bedding material is a pine or fir material that is sterilized, compressed, dried, and pelletized. It works very well when applied to a urine spot in the barn. It not only absorbs the urine, but also absorbs the smell. It will decompose in a compost pile or after being spread on a field.

Grabbing a rake, bean scoop and five-gallon bucket to clean up after your alpacas is just part of the business. Manure management may not be the most fun part of alpaca ranching, but with the right tools and products, it can become an efficient process that helps you keep your alpacas healthy.

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*Bill and Sherri Duey operate Southern Iowa Alpacas, located 60 miles south-east of Des Moines. They have incorporated a number of innovative features in their alpaca ranch and are happy to share their experience in new ranch setup with alpaca owners. You may view their website at [www.southerniowaalpacas.com](http://www.southerniowaalpacas.com) or contact them directly at [alpacas@southerniowaalpacas.com](mailto:alpacas@southerniowaalpacas.com).*