

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

# Toys... Ahem... Farm Equipment for Alpaca Ranchers

Alpaca ranchers need farm equipment to help them perform tasks around the ranch faster, easier, and safer. A tractor, loader, posthole digger, manure spreader, mower, blade, hay mower, hay rake, hay baler, and a bale wagon can prove invaluable on an alpaca ranch. This column will describe the basic types of farm equipment that you may find helpful in an alpaca ranching operation.

### Utility Tractors

The main machine in a farm equipment fleet is the utility tractor. A utility tractor is described as a multipurpose tractor, 40 to 80 horse power, that can accept various attachments on the rear of the tractor and a loader attachment on the front. This size tractor is easy to operate, can fit into a moderate size building for storage and can handle all of the equipment that you might need on an alpaca ranch.

There are many manufacturers of utility tractors and most of them make very good products. Here are some things you should consider when choosing a utility tractor:

- 1. Horsepower.** Match the tractor horsepower to the size of equipment you will be using. Most average size ranch operations could fully utilize a 50 horsepower tractor.
- 2. Two or four-wheel drive.** If you will be operating in muddy or snowy conditions, four-wheel drive is best. Otherwise, a two-wheel drive will serve most purposes.
- 3. Wide front-end** (front wheels spaced apart for stability). Be sure to select a wide front-end for stability using a loader and for safe operation on hillsides. Narrow front-end tractors can tip over easily on steep slopes.
- 4. Cab or rollover protection.** The tractor should have either a cab or roll-over protection system (ROPS). A cab is necessary for tractor operators in severe winter conditions and protects the operator from dust and the sun at other times of the year.
- 5. Three-point hitch** to attach and lift rear mounted implements. There are three different sizes category I, II, or III. Category I hitches are used on equipment for tractors up to 45 horsepower only. Category II hitches are used on equipment from 40 to 100 horsepower. Category III is for 80-225 horsepower.
- 6. Power takeoff shaft (PTO)** to provide power to rear-mounted implements.



This utility tractor has a front-end loader and is being used to pull a rented fertilizer cart through a hay field.

**7. Transmission.** Select a transmission with at least eight forward speeds and four reverse speeds, for a wide variety of ground speed and power selections.

**8. Service availability.** Tractors require at least annual maintenance. A nearby authorized service dealer is most valuable as transporting a tractor for maintenance can be challenging.

Once you have selected a utility tractor, you should then match the equipment to the horsepower rating and hitch category of the tractor. Here is a listing of equipment, its uses and selection tips:

**Front-end Loader:** Front-end loaders attach to the front of the tractor and are used to lift, carry, and unload materials. A loader is a real back saver and one of the handiest attachments for your tractor. Materials such as dirt, driveway gravel, alpaca pen rock chips, manure, hay, posts, snow, etc. can be scooped up, moved, and dumped out of a loader. Loaders can be left on the tractor or may be easily removed in just a few minutes on some models. Some loaders have quick detachable buckets that can be very quickly removed to shorten and lighten the loader when it is not in use. Additional attachments such as pallet forks, bale forks, lifting booms, etc. can be attached in place of the bucket on some models.

**Rear Mounted Blade:** A rear blade is used to remove snow, or to smooth out driveways, alpaca pen areas, and

Owning your own utility tractor and fleet of farm equipment can help you perform those alpaca ranching tasks faster, easier, and safer. Plus, operating a tractor around the ranch is one of the best stress relievers there is.



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The main machine in a farm equipment fleet is a utility tractor, shown here with a mower/hay conditioner, used to cut standing hay and crimp the cut plant stems to speed the drying process.

A tractor cab is a wonderful option on a tractor. It not only shields the operator from the weather, but also serves as rollover protection.



Above, rotary finish mowers are used to cut grass to a lawn like appearance.

Below, brush cutters are similar to rotary mowers, but they are built much heavier, can cut small trees up to two inches in diameter and are used to mow pastures, weeds, and small brush along fence lines.

construction sites. The blade should be adjustable for both straight and angled blade work, and it should be wide enough to scrape the entire width of the tractor wheels when the blade is in the angled position.

**Rotary Finish Mower:** Rotary finish mowers are used to cut grass to a lawn-like appearance. The mower should be wide enough to cut a swath wider than the width of the tires. You should not use a finish mower to mow weeds or brushy areas as it may damage the unit.

**Rotary Brush Cutter:** Brush cutters are similar to rotary mowers, but they are built much heavier, can cut small trees up to two inches in diameter and are used to mow pastures, weeds, and small brush. You can mow grass with a brush cutter to a rough finish.

**Posthole Digger:** The posthole digger is mounted on the rear of the tractor and is powered by the power-take-off (PTO) shaft. The augers on the diggers come in various diameters and can be easily changed out. A twelve-inch diameter auger is best for drilling holes for corner fence posts. Be sure that the unit you select has a



Once the hay is mowed or cut, conditioned and allowed to adequately dry, it is then raked into a single windrow with the hay rake.





A manure spreader is used to haul manure and waste bedding and then spread the material out over a wide area in a field.



A flat bed car hauling trailer can be used to move small square bales from the field to a hay barn.



A power takeoff shaft (yellow) is used to transfer power from the tractor to rear-mounted implements.

heavy duty gear box with a shear pin system to protect the gear box from damage should you hit an obstacle while digging.

**Manure Spreader:** A manure spreader is used to haul manure and waste bedding and then spread the material out over a wide area in a field. Manure spreaders are powered by the wheels on the spreader as it is pulled (ground driven) or powered by the tractor through a PTO shaft. (see “Alpaca Manure Management,” *Alpacas Magazine* Herd Sire 2003 issue, for manure spreader details.)

**Hay Mower/Conditioner:** A mower/hay conditioner is used to cut standing hay and crimp the cut plant stems to speed the drying process. Mower conditioners are fairly expensive and are needed for cutting hay with alfalfa or clover in the mix. If you are cutting grass hay with no legumes, you can get by with just a sickle-bar mower and not have to crimp the plant stems.

**Sickle-bar Mower:** A sickle-bar mower is used to cut grass hay while it is standing in the field and drop it on the ground to dry.

**Hay Rake:** Once the hay is mowed or cut, conditioned, and allowed to adequately dry, it is then raked into a single windrow with a rake. Often times the windrow (cut hay that is raked and rolled into a continuous strip) will need to be turned (flipped over 180 degrees) to allow for additional drying time. Turning is also done with a hay rake.

**Hay Baler:** Most alpaca ranchers prefer small square (actually rectangular shaped) bales weighing 40 to 75 pounds (see “Hay There” in the Herd Sire 2004 issue of *AM*). A small square baler is the machine that forms these bales. It picks up the windrow of dried hay, feeds it into the baler, rams the hay into a compressed bale shape and then ties two strands of twine around the bale to hold its shape. The baler then feeds the bales up a ramp onto a hay rack, which is towed behind the baler. Some ranchers prefer to just drop the bales on the ground and pick them up out of the field later.

**Hay Rack:** Hay racks are flat bale wagons that are used to haul small square bales from the field to the hay barn. A car trailer, flat bed truck, or even a pickup truck can also be used to haul hay from the field.

**All Terrain Vehicle (ATV):** Another valuable piece of equipment on the ranch is an All Terrain Vehicle (ATV). An ATV can be quick, easy, and fun transportation around the ranch for a number of activities. They work great for fixing fence, hauling a hay bale, hauling feed or manure buckets, towing a small cart, or spraying fence lines, etc. The best part is when you are done with all those chores, an ATV is a great recreational vehicle.

### Equipment Selection Tips

1. **Availability of authorized service.**
2. **Frequency of use.** Can you justify owning the equipment or just rent it occasionally?
3. **Ease of operation.** Do you know how to operate the equipment or is it safer to just contract for the job?
4. **Repair history.** Some types of equipment have higher maintenance requirements than others. Select only those pieces that you are willing to assume the maintenance on. Check with other ranchers or dealers as to which pieces are best for your intended uses.
5. **Resale value.** If you plan to have the piece of equipment for a long time, this is not as important. But, if you are going to trade every few years, some brands retain much better resale value than others.

Yes, used equipment is less expensive, but do not forget some of the tax benefits of buying new. Bonus depreciation, available to U.S. taxpayers at the time of printing this article, can be a big plus for buying new equipment. New equipment currently fits into a different category for accelerated depreciation than does used equipment and this can make a big difference on the real cost of the item.

Your local farm equipment dealers can serve as great resources on which to call. They know their business, will be there for you when you need service (and you will) and are most helpful to their customers.

Farm equipment can be very dangerous if operated by inexperienced operators. Be sure to read all operators manuals carefully and follow all

The small square baler picks up the windrow of dried hay, feeds it into the baler, rams the hay into a compressed shape and then ties two strands of twine around the bale to hold its shape.



safety recommendations. “Farm Safety 4 Just Kids” [www.fs4jk.org](http://www.fs4jk.org) offers a great training course for alerting young alpaca ranchers about the dangers of farm equipment.

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