

# 26 Tips for a Greener Barn

IF YOU'VE ALREADY COMMITTED TO MAKING HEALTHY, ENVIRONMENTALLY friendly choices in your own home, do you really want anything less for the one your horse inhabits? While it might seem like a huge learning curve, “greening” your barn actually involves many of the same things you’re already doing on the home front—recycling, using nontoxic cleaning products, and conserving water and power.

Just one word of caution: unless you keep your horse on your own property, greening your horse’s living space will need to be a communal activity, and some barnmates and fellow boarders may not be as enthusiastic about it as others. Try and refrain from rummaging through the tack room trash checking for plastic bottles, and then screaming, “Does *no one* in this place *ever* recycle?” Encourage your barnmates to make some of the cheap and easy changes listed on the previous page, lead by example,

and take inspiration from big boarding facilities like Spring Valley Equestrian Center (see p. 3) that have successfully “gone green.”

## Let’s Talk “Trash”

My first encounter with the concept of “reduce, reuse, recycle” involved, of course, a horse. Growing up, I spent part of every summer with my grandparents, who lived in a small town in rural Indiana. Some of my earliest (and favorite) memories were of the occasional visits from Mr. West, the “Junk Man,” who arrived in a large wagon pulled by that most magical of creatures—a small, dark bay horse.

Mr. West picked up broken toasters, chairs with three legs, and in fact, anything and everything deemed no longer useful by most of the town’s inhabitants. He drove it all home in his wagon and repaired it, reused it, or offered it for sale in the hopes that someone would eventually be in the market for a single doorknob or a set of rusty bed springs.

The summer I turned nine, I arrived at my grandparents’ to find Mr. West parking an old pick-up along the curb instead of his trusty bay, and a few years later he passed away—as did the job of town “Junk Man.” These days, there’s simply your standard trash disposal and an overflowing land-fill outside of town. Isn’t progress great?

Most towns, however, do have a recycling program in place. And determining how your barn can be part of it is a terrific first step in becoming an eco-horsekeeper.

### **Become a Recycling Know-It-All**

Find out what *can* and *cannot* be recycled. Every community is different, so investigate your city or county’s Web site for information on their recycling program. Also, check out [www.earth911.org](http://www.earth911.org), a great site that lets

you type in what you want to recycle (everything from standard #2 plastics to car batteries and motor oil) plus your zip code, and it pulls up a list of drop-off options available to your area.

Once you know what items can be regularly recycled, and where, go through the barn and take an inventory of the items that can be incorporated: supplement buckets, SmartPaks (see p. 47), soda cans, plastic bottles, and office paper are just a few. Even horseshoes can go in some communities' "metal" bins. Then turn old muck buckets into recycling bins, and put them where boarders, staff, and visitors are most likely to use them—one for aluminum cans by the soda machine, one for paper in the office, bins for plastic water bottles next to trash cans, and so on.



#### GREEN IN THE REAL WORLD

##### *Setting an Example at Spring Valley Equestrian Center*

Think it's a challenge to get your three riding buddies to put their empty water bottles in your barn's recycling bin? Try motivating 52 boarders, riders in at least 200 weekly lessons, and 150 kids attending an annual summer camp program to separate their trash!

Located in Newton, New Jersey, Spring Valley Equestrian Center is home to 138 horses, and each day sees a steady stream of riders (and their garbage) come through the Center's three barns. Undaunted by the numbers, Spring Valley's owners Marie Cotton and Chuck McWhirter have successfully made "green" their barn color. Here, they offer some tips for going eco-friendly at your barn:

- ▶ Recycling has to be convenient. Only the green diehards will walk the length of the barn to put their can or bottle into a recycling bin. Set up recycling containers right next to the trash containers. Spring Valley uses big blue barrels purchased from the Polaner® jelly factory—they originally held the pectin used to make the



jelly. We cleaned them out, cut holes in the lids for the recyclables, and put a big recycling symbol on the side of each barrel.

- ▶ Encourage riders to use a water bottle that can be refilled (see p. 63). All of our instructors mention this to students during lessons and most have made the switch.
- ▶ Give empty supplement containers a second life—use them as buckets for cleaning tack, soaking feet, creep-feeding foals, and watering flowers around the barn.
- ▶ Buy your shavings in paper bags. SpringValley uses some to line the garbage containers around the farm and the rest are bundled and recycled. During the winter, some of the bags are rolled and used as fireplace kindling and starter for the wood-burning stove in the house. In the summer, the rolled bags are used to start the bonfires held during camp programs.
- ▶ Promote water conservation by bathing horses using buckets (maybe a recycled supplement container?) instead of running the hose. Also, SpringValley doesn't have hot water in the barns—we find people give quicker (more efficient) baths when the water is cold.
- ▶ Encourage riders to buy concentrated flyspray and reuse their spray bottles.
- ▶ Lead by example.

So what happens when someone simply refuses to recycle?

“I can honestly say we haven't knowingly had anyone refuse and just not do it,” says Cotton.

## 2 Use Your Imagination: Create “Reuses”

Can the paper wrappings from the shavings bags go to a local school or recreational program for use in art projects? Would a daycare or pre-school be able to use empty (and sterilized) supplement buckets? Would local “Green Thumbs” make use of empty SmartPak wells to start seedlings? Create a rag bin with old towels and T-shirts from home to serve

various “on-call” uses around the barn, and start a “library” of equestrian-themed magazines and books to share with barnmates and pass along to schools and art programs once they’re outdated. Remember the old adage “One man’s trash is another man’s treasure,” and don’t be afraid to use your imagination and suggest “reuses” to others—you might be surprised by the results (see sidebar, below).



#### GREEN IN THE REAL WORLD

##### *How Recycled Grain Bags Helped One Animal Shelter Continue Its Mission*

Lynda Groeschel, who owns [www.ColorofHorses.com](http://www.ColorofHorses.com), an online catalog of horse craft and scrapbooking supplies, has five horses on her farm in Cincinnati, Ohio. And that means every month lots of grain bags need to be recycled.

“My boarder volunteers at the Harrison Animal Rescue, a local no-kill shelter, and they had to ‘double-bag’ the store-bought plastic bags they used to discard waste from the dog, cat, and other small animal cages. As you can imagine, this was having a real impact on their budget,” relates Groeschel. “Then, someone discovered that empty 50-pound grain bags, with their thin plastic inner layer and double paper layer, were not only extremely sturdy but really cut down on odor.”

Groeschel’s barn now collects its empty grain bags each month and recycles them to the Harrison Animal Rescue, saving the organization money and helping them continue their very worthwhile mission.

### **3 Buy Recycled Paper Products for the Barn Bathroom and Tack Room**

According to the Natural Resources Defense Council (NRDC), if every household (or barn) in the US replaced one roll of virgin fiber toilet paper with a roll of 100-percent recycled toilet paper it would save 423,900

trees. Everyone replacing one roll of paper towels with a 100-percent recycled roll saves 544,000 more trees.

In addition, look for toilet paper and paper towels that are labeled “Totally Chlorine-Free” (TCF) or “Processed Chlorine-Free” (PCF). The chlorine used in many bleaching processes contributes to the formation of harmful chemicals that wind up in our air and water and are highly toxic to both people and fish.

### QUICK ECO-Tip

#### *For a greener barn:*

- **Make recycling convenient for boarders and visitors.**
- **Encourage everyone to use refillable water bottles.**
- **Buy shavings wrapped in paper that can be recycled or reused.**
- **Save water—bathe your horse from a bucket!**



### GREEN IN THE REAL WORLD

#### *Nothing Equine Goes to Waste in San Juan Capistrano, California*

If you're the Solid Waste and Recycling Coordinator of San Juan Capistrano, California—a city that proudly calls itself “The Equestrian Capital of the West Coast”—it's hard to ignore the amount of trash generated by equestrian activities.

When Ziad Mazboudi took over the job in 2002, it didn't take him long to realize that the city's 3,000 equine residents (and thousands of show attendees at elite venues like the Oaks Blenheim) were responsible for a staggering amount solid waste not normally dealt with by city recycling programs: manure, shavings and grain bags, and horseshoes—lots and lots of horseshoes. Mazboudi estimated some 108,000 pounds of horseshoes were being dumped into the local landfill each year.



“Since every city in California is mandated by law to divert 50 percent of its solid waste from landfills,” says Mazboudi, “it was essential that we find a way to capture and divert anything that could be reused or recycled.” The thinking-out-of-the-box solutions Mazboudi found have been so successful that the city’s diversion of equine-generated waste went from 0 to 17,743 tons per year, and is still increasing.

“When one stable hears that another stable is not just reducing their trash bill, but actually making money, it doesn’t take long for them to jump on the bandwagon,” explains Mazboudi. “But I have to say that money is not the only issue; the community as a whole has really embraced the environmental message and taken it to heart. And other cities in Orange County and in neighboring counties are now contacting us to find out how they can create similar programs.”

So, how has San Juan Capistrano done it?

**Horseshoes:** Adams Steel, a scrap metal recycling company headquartered in Anaheim, California, now provides bins to local stables that can be filled with horseshoes, nails, used rasps—anything steel. Adams picks up the bins and actually pays the barn for their steel. Note: area barns that are too small to be a pick-up center are encouraged to drop their horseshoes at participating facilities.

**Shavings bags:** Mazboudi asked Trex® (the country’s largest manufacturer of plastic lumber, a wood-alternative used in decking, railing, and fencing products—[www.trex.com](http://www.trex.com)) if it might be possible to recycle the plastic wrappers on shaving bags. Testing by Trex scientists found the answer was a resounding “Yes,” and Trex now supplies balers (machines that compress and bind the wrappers) to several area barns, sends a truck to pick up the wrappers, and like Adams, pays participating barns for their “trash.” Note: as with horseshoes, smaller barns may drop their shavings bags at larger facilities serving as pick-up centers.

**Manure:** All the city’s stables are provided dumpsters for manure collection. The largest barns get a 40-yard dumpster and small barns in residential



areas a 3-yard. Manure from these dumpsters—about 18,000 tons annually—is removed by the city and stored in its composting facility, and twice a year, free compost is distributed to city residents.

**Local support:** Finally, the San Juan Capistrano Equestrian Coalition, a nonprofit foundation established to preserve the city's equestrian lifestyle and recreational trail system, encourages a green frame of mind by providing muck buckets and pitchforks to all the stables in town. The buckets are emblazoned with an illustration of two horses—one wielding a shovel and the other a trash can—and the message: "Let's help Marco and Polo Keep Our Oceans and Creeks Clean."

## 4 New Life for Old Ribbons

Give that collection of ribbons collecting dust in the tack room a new purpose! The Web site [www.ribbonrehab.com](http://www.ribbonrehab.com) sells kits that include simple, step-by-step directions for creating quilts, pillows, wall hangings, belts, table runners, and T-shirts from your collection of ribbons.

## Earth-Friendly Cleaning

With so many good green alternatives available at your local grocery, Target, or Wal-Mart, there's no excuse for using products that may cause irreparable damage to your local streams and lakes.

## 5 Green-Clean the Barn Bathroom

Eco-friendly general cleaners and bathroom/toilet cleaners from companies like Seventh Generation® ([www.seventhgeneration.com](http://www.seventhgeneration.com)), BioKleen, Inc. ([www.biokleen.com](http://www.biokleen.com)), and Mrs. Meyers® ([www.mrsmeyers.com](http://www.mrsmeyers.com)) are price-competitive and just as effective as standard name-brand products. Local streams and rivers will thank you, and neither you nor your horse will have to inhale that "chemical clean" smell. One of my favorites is Ecover®

Lime Scale Remover ([www.ecover.com](http://www.ecover.com)), which managed to get rid of a toilet ring I'd been scrubbing at fruitlessly for months.

Oh, and about that antibacterial soap that sits on the sink of just about every barn I've ever been in—don't waste your money. An FDA advisory committee found that lathering up with an antibacterial product is no more effective than using plain old soap. And if that doesn't convince you, the American Medical Association (AMA) cautions that such “germ-fighting” soaps may actually encourage bacterial resistance to antibiotics.

## ADVICE FROM THE EXPERTS

### *How “Toxic” is Your Barn?*

I've always thought of barns as being, well, “natural”—frigid air blasting down the aisles in winter, the smell of manure early in the morning, wood everywhere you look, barn swallows flitting about. For me, going to the barn every day was like getting back to nature. Sure, I knew all barns had a few chemicals sitting about and the smell of exhaust from the tractor as it hauled freshly mucked manure certainly isn't like a breath of fresh air, but that a barn could be environmentally hazardous didn't really register...until I met Kiley Taylor. Taylor is Director of the HazMat Academy at Zephyr Environmental Corporation, a consulting, training, and data systems firm that assists clients worldwide with air quality, incident management, waste issues, and workplace and community safety ([www.zephyrenv.com](http://www.zephyrenv.com)). And he's a horseman—what are the chances of ever finding that kind of combination?

“Barns, as a whole,” says Taylor, “are hazardous. A barn's level of toxicity is a byproduct of the many ‘chemicals’—and that includes everything from flyspray and DMSO to medication and fertilizers—that are often improperly stored, disposed of, and handled (see p. 104).

“It’s important to remember that while hazardous chemicals affect all living creatures, people can take precautions when dealing with a potentially dangerous product and have more medical treatment options, so they are able to far better tolerate treatment in case of an exposure than horses and wildlife. If a chemical is a potential hazard for a human, great care should be taken to completely prevent or minimize an animal’s exposure.”

So, what steps can you take to make your barn less “toxic”? Here are the rules Taylor personally follows in his own barn:

**Read labels:** Before I buy any product for use on our farm, I want to know if it’s potentially hazardous and in what way(s) it could harm me, the environment, or both. I always take a moment to read the label and consider the risk to my family, my animals, the environment, and myself before moving forward. Reading and understanding each chemical’s potential hazard, and then abiding by the warning label, is key to maintaining a healthy barn. No one wants to be responsible for burning down a barn, or poisoning a horse or wildlife through negligence, but that risk is always possible if chemicals are improperly stored or used.

**Store safely:** Always store chemicals in their original containers with their lids secured. Keep them dry, avoid temperature extremes, and store them in areas separate from feed, horse equipment, and water. Too many barns have chemical products—often with damaged, dirt-encrusted, or capless containers and expired “Best by” dates—all stored together in cabinets or lined up on shelves in a store room or feed room.

Make certain that incompatible chemicals are never stored together. Just about every chemical will react with some other chemical, and the challenge in a horse barn is that there are all sorts of potentially dangerous chemical reactions that can occur if things spill and mix. All it takes is a kick from a feisty mare or a bump from the farrier’s toolbox to knock over containers left open in the aisleway, creating a big dangerous mess.

**Proper disposal:** Periodically clean out your chemical stock and dispose of old or damaged cans and bottles. If your community doesn't have a "Hazardous Waste Collection Day," you can go to [www.earth911.org](http://www.earth911.org) to find centers in your area that will accept everything from pesticides to used batteries. Do not simply throw them in the trash or pour them down the drain. Proper disposal helps to keep other people and their animals safe and healthy.

**Safe handling:** Minimize your exposure to potentially toxic materials—and just about anything can be toxic if you get too much of it. Toxicologists like to say that "the dose (how much chemical entered or contacted a body) makes the poison." And keep in mind that size matters—for example, it may take a lot less poison (depending on the toxin) to harm a small child, foal, or in some cases even mature horses than a full-grown man.

Use "potentially hazardous chemicals"—any substances (solid, liquid, or gas) that are capable of causing harm to people, animals, or the environment when not properly used or contained—only in well ventilated areas that are free of incompatible materials (see more tips for safe handling on p. 42).

**Look for less toxic options:** The greening of the world is creating all sorts of new alternatives to many common chemical products, so keep an eye out for them and use them whenever possible. But, never ever confuse "green" with "safe." There are many "green products" that can still be hazardous to your health—every solar panel system needs a battery with a corrosive chemical inside, and some green cleaners are still skin irritants and chemically reactive. Make certain to read the labels even on eco-friendly or natural products. Mother Nature has made some nasty chemicals all on her own!

**Buy only as much as you need:** Far too often people buy more product than they could possibly use in the year ahead. I don't know how many times we've had horse products that have gone bad before we used them all up.

**Clean-up after your animals:** Nobody wants horse manure in their drinking water.

## 6 **Discover the Power of Plain Old Baking Soda**

Scrub water and feed buckets with baking soda and water—it's cheap, really effective, and nontoxic.

## 7 **Give Windows and Glass a Vinegar-and-Water Wash**

For years I've mixed up my own vinegar-water brew and used it to successfully clean windows covered with everything from LA traffic soot to dog slobber. Recycle an old spray bottle and fill it with 1/3 vinegar and 2/3 water.

## 8 **Keep Your Horse Troughs Clean with Goldfish**

That's right: put goldfish in your water troughs! They may be tiny and cute, but goldfish have a mighty appetite for mosquitoes, algae, assorted bugs, and water tank debris. Plus, adding goldfish to your horse troughs is a great way to keep water from going stagnant.

Bonnie Taylor (see p. 31) has used goldfish to clean her troughs for 25 years and offers some tips to get you started:

### *What size tank should I use?*

Just about any size tank or trough (I have both a 50- and a 75-gallon tank) will work as long as there's enough water to prevent the fish from overheating (think shallow pan of water in the sun) or the water freezing solid. There needs to always be enough water that the goldfish aren't "soiling" it and polluting the water rather than helping to keep it clean.

### *How do I introduce goldfish to the tank?*

Once you've brought the goldfish home, float their bags—unopened—in your water trough for 10 to 15 minutes. This allows the fish to adjust to the new water temperature; otherwise, the shock of transfer will likely kill them. Then simply make a hole in each bag, allowing the water the fish

were transported in to mix with the water from the horse trough, and the fish to swim out into the tank.

***How many goldfish do I need to keep a 50-gallon tank clean?***

I usually buy five to seven medium-sized “feeder-type” goldfish for each water trough. Not all survive (although I’ve had some goldfish that lived for years in the same trough), and I usually have three to four left after a couple of months, which is sufficient.

***Where should the water trough be located—full sun or shade, or partial shade?***

I’ve put tanks in both full sun and shade, but partial shade is really best. Avoid putting tanks under trees that will drop a lot of leaves into the water.

***Do I have to feed the goldfish?***

No, the fish live on debris from the horses, insects, and algae.

***How do I keep the goldfish healthy and happy?***

Build a small “cave” at the bottom of the tank so the fish can hide and escape both predators and the sun. (You can use several large rocks—just make sure to stabilize them so the horses won’t knock them over.)

When changing the water or refilling the tank, put the goldfish in a clean bucket filled halfway with the old trough water. After you finish refreshing the tank, fill the bucket the rest of the way with new water and give the fish 10 minutes to float around. Then pour the goldfish and the water from the bucket back in the tank.

Goldfish are really low-maintenance creatures. I make sure they have a cave hideaway and that’s about it. As long as I add water to the tank on a regular basis (needed for the horses anyway), they’re self-sufficient.

***Do the horses ever inhale or swallow the fish?***

Probably, but I've never seen it happen. Some horses do like to play with the fish, which is why the fish need a place to hide away from inquisitive noses.

***What happens if the water freezes?***

Goldfish can winter outside and survive even when the surface of the water freezes. They're okay as long as there is more fluid than ice in the tank. During cold spells, I break and remove the ice in the troughs each day for the horses, and that keeps the water free for the goldfish, as well.

**9 Lose the Gas-Powered Leaf Blower**

According to the American Lung Association (ALA), powering up and using a "residential" gas leaf blower causes as much smog as 17 cars. A 2000 report by the California EPA determined that the hydrocarbon emissions produced from 30 minutes of gas leaf blower operation are equal to the emissions produced by driving round trip from Denver to San Diego—some 2,200 miles. Commercial leaf blowers with more horsepower are even more polluting.

And as for the noise...many leaf blowers can reach 90 to 100 decibels. The Occupational Safety and Health Association (OSHA) requires hearing protection for noise over 85 decibels, and according to the World Health Organization (WHO), "there is an increasing predictable risk" of hearing damage from noise above 75 decibels.

The lighter-shade-of-green solution: switch to an electric blower, which creates no greenhouse gasses, but still makes one heck of a noise.

Or may I suggest a broom or a rake?

## Simple Ways to Green Your Energy Use

I never really thought of a barn as a potential energy hog—probably because I've always boarded and never had to pay the electricity and water bills. If I wanted to ride at night, all it took was flipping a switch and the arena was bathed in light. If my horse was dirty, there was always plenty of hot water in the wash stall. When the footing in the jump field was getting hard or the outdoor ring was dusty, water was always available to make things right. (Note to boarders: be conscious of the energy you use. If you never leave the lights on or the water running at home, why do it at the barn?)

While those of you who are barn owners and managers may not be able to do anything about the rising cost of hay or feed, you can actually make up some ground by “greening” your energy—a great way to save money while doing right by the planet. I cover additional ways you can manage your horse-related energy-use later in the book (see p. 113), but here are a few basic changes that are simple to make and a good place to start.

### 10 **Replace Incandescent Light Bulbs with Compact Fluorescents (CFLs)**

Next time you're teetering on an overturned muck bucket or rickety ladder switching out light bulbs, consider the benefits of compact fluorescents. They use two-thirds of the energy of a standard bulb and last nine times longer! If you swap five standard light bulbs for compact fluorescents, says the Natural Resources Defense Council, you can save roughly \$60 each year on electricity (and quite possibly a trip to the emergency room after you take a tumble off that muck bucket). And yes, CFLs can be used in outside fixtures—just make sure they are labeled “for outdoor use” and you only install them places where they are covered and protected from the elements. If the bulb will be used in an enclosed or recessed fixture, it should be labeled for that purpose.

## 11 🌍 Use Rechargeable Batteries

According to the EPA, only 10 percent of used batteries are ever recycled. But a single rechargeable battery can be recharged 500 to 1,000 times and stand in for *hundreds* of single-use batteries. (Note: rechargeables should never be used in smoke or carbon monoxide alarms.)

### QUICK ECO-Tip

Using cordless clippers with rechargeable batteries saves energy and eliminates constant tripping over, tangling, and accidentally unplugging the cord.

## 12 🌍 Keep Tabs on the Barn Water Heater

Keep the barn water heater set to 120 degrees, and if it's an older model without insulation, wrap it in a "blanket" (available at Home Depot® and Lowes®).

## 13 + 🌍 Go Tankless

Consider switching to a small tankless water heater: it provides hot water *only* as needed—far preferable to the usual large amounts simmering away in a huge tank, wastefully maintained at a constant temperature until you eventually use it. The EPA estimates that for homes or barns using 41 gallons or less of hot water daily, a tankless water heater is 24 to 34 percent more energy efficient than conventional storage tank water heaters. They are 8 to 14 percent more energy efficient for homes or barns that use a lot of hot water (around 86 gallons per day).

## 14 🌍 Moderate Use of Heated Water Buckets and Tanks

Anyone who's struggled through horse chores in frigid winter temperatures has waged war on frozen water buckets and water troughs.

## ADVICE FROM THE **ECO** EXPERTS

### *Creating a Barn that Puts Horses First*

“It’s essential that we create spaces in which our horses’ physical and emotional well-being is paramount,” believes Holly Ann Matt, the Principal of Pegasus Design Group ([www.pegasusdesigngroup.com](http://www.pegasusdesigngroup.com)) and an internationally recognized expert on the design of optimal, sustainable, horse-friendly equine facilities. “When we allow human needs to override those of our horses, we risk compromising our animals’ safety, health, and happiness.”

Matt was raised on a horse farm in Virginia and grew up competing in hunter equitation, jumpers, and eventing. She currently events Preliminary Level on her nine-year-old Selle Francais mare, Fonteyn; writes articles on barn design, equine culture, and land use; and lectures on optimal equine environments, green building options, and master planning for sustainable stables.

“While we build stables and barns primarily for the same reason we did a century ago—to protect our horses from the elements and predators—as our country has become increasingly non-agrarian, fewer and fewer horse owners know what it’s like to live in the country or have ever had the experience of riding through the countryside,” she says. “Add to this the fact that our design and building professionals have little connection to the horse culture, and the result is we are now building barns that no longer meet even the basic needs of our horses.

“A facility that puts a horse’s physical and emotional well-being first doesn’t have to be more costly than the alternative, nor must it require undue compromise from the humans involved in their training and care. It does, however, mean changing the way we think about equine facility design. We must realistically

evaluate our stables based on the needs of our horses, rather than what makes us comfortable.”

*Holly Matt's Tips for a Better Barn*

**Make space optimal for horses; not simply adequate:** It is essential to allow horses to relate to their stablemates through visual pathways. Sight lines can be created by using stall partitions with bars and by carefully designing the shape of the barn so it allows horses to see each other. It is also important that horses are able to see what's going on in their surrounding environment—in the grooming and wash stalls, and if possible, even outside to the arena(s).

Make certain your barn aisle, wash racks, grooming areas, and all working areas are “horse-sized.” Aisles should be at least 12 feet wide, and wash racks and grooming areas should be no less than 9 feet wide and 12 feet deep. Stalls should be 12 feet by 12 feet—the minimum standard for the size of today's horses. If a stall is too small, there's always the danger of a horse getting cast. Stalls larger than 12 feet by 18 feet are just a waste of bedding and space unless they are housing a mare and foal. In no way do larger stalls reduce the need for proper turnout daily. And, stalls with runs are a dangerous alternative to turnout, unless a horse is limited by injury or age.

**Ventilation:** A horse's respiratory system is fragile and more demanding than that of a human. To keep horses feeling their best, they must be provided with three levels of ventilation and a large volume of refreshed air—something all too often overlooked in stables.

LEVEL ONE: Includes roof ridge vents, open or well-vented eaves, vented skylights, and adequately sized cupolas that allow stale, fouled air to escape.

LEVEL TWO: Windows and doors that can be opened to provide fresh air intake.

**LEVEL THREE:** Air must be allowed to circulate at the lowest level in a barn and stall in order for heavy ammonia gas, carbon dioxide, and dust to escape the stalls. If your barn has interior stalls with solid doors, they can be retrofitted to provide the needed air flow. Metal bars (spaced no further than 2 inches apart) or grates can be added at floor level. Or, you can simply drill a line of small 2-inch diameter holes (spaced 4 to 6 inches apart and no higher than 12 inches above the floor) in the bottom of each stall door. My stall doors were made by Equiline ([www.equiline-gmbh.com](http://www.equiline-gmbh.com)) and provide generous air flow at the bottom of each stall.

**Light:** As with humans, a lack of light can depress horses and affect hormone cycles. A barn should have as much natural light possible—in stalls, aisles, and grooming areas—to provide both an optimal environment for the horses and energy savings. Note: The most efficient task lighting in work areas and stalls comes from fixtures located on the sides, not above.

**Temperature:** Ideally, the air temperature inside a barn should be similar to that outside the barn. When closed up, the barn is naturally warmed by the horses' body heat and respiration, but without proper ventilation, it causes insufficient fresh air replacement—the oxygen is depleted (especially when you use a gas-powered radiant heater), and dust, ammonia, and carbon dioxide is not expelled. A barn should never be heated for the comfort of people. Such a system is only acceptable if you can afford to heat incoming fresh air slightly, and expel fouled air mechanically. If you live in a place with extremely cold winters, in-floor heat in tack rooms, offices—and if really needed, aisleway floors and wash stalls—is both horse- and eco-friendly.

While using modern “heaters” means no more hauling buckets of warm water or tackling stubborn crusts of ice, they can really cost you when it comes time to pay the electric bill.

Martha Cook, Managing Director of Trafalgar Square Books ([www.horseandriderbooks.com](http://www.horseandriderbooks.com)) and a longtime Morgan owner who has survived countless Vermont winters, discovered a way to control her electricity costs by cutting down on the amount of time the bucket heaters in her horses’ stalls and the tank heater outside had to be on.

“The GFI (ground fault circuit interrupter) power outlets where we plug in the heated buckets and tank are controlled by a digital timer,” she explains. “During the coldest Vermont weather, we program the timer so the power outlets are ‘on’ for three hours, and ‘off’ for two, but the warmer the temperature outside, the less frequently the power needs to be ‘on’ (our timer has a battery backup so our on/off schedule is saved during power outages and automatically resumes once power is restored).

“This schedule keeps the water liquid in both stall buckets and in the tank outside, which sits under an overhang. Not only does it save electricity, but it saves water because the ice doesn’t have to be broken out and dumped every chore-time, and it prolongs the life of the heating units in the buckets and tank because they are not constantly running.”

## 15 Let the Summer Sun Cool Your Barn

Solar security lights, gate lights, and fence chargers have become pretty standard around barns these days, but there are other low-tech ways to use sun power that won’t involve covering the barn roof with costly solar panels (though if you’re interested in using solar energy on a grander scale, see p. 113 for more information).

For example, Lisa Hinkle and her husband Jim discovered horse-friendly uses for the small passive solar fans she purchased from a specialty RV retailer.

“The fans are designed for use in cars, campers, and trailers, and I originally got two to use in the horse area of the trailer when we were parked during shows,” Hinkle says. “They were so easy to move and put up, I began toting them around our farm in Elgin, South Carolina, and using them in stalls, in the aisle where the farrier sets up, in the tack-and-feed room, and even in my office.”

As for how to get the maximum breeze out of tiny fans in the middle of a hot muggy South Carolina summer, Lisa says it’s mostly a matter of trial and error. “In my shed-row style barn, I have one stall that has a rear window and one that does not. In the one with the window, I put one fan in the window and the other above the front door to the stall, both angled so they blow streams that run crosswise to each other. In the stall lacking a window, I have one fan at the door blowing in, again at an angle, and the other at the back of the stall blowing out toward the front door at an angle. I hook up the solar panels first, then use baling twine to hold the fans in different places while I stand in the stalls and ponder how the breeze feels.

“I also have large electric fans hung high above the front doors,” Hinkle says, “and I do use those for a few hours during the warmest part of extraordinarily hot days (when we’re approaching 100 degrees F, for instance). But to keep costs down, I try to use the solar ones as much as possible.”

## Thinking Twice before Wasting Water

As the owner of a big gray Thoroughbred known around the barn as “Piggy,” I logged untold hours in the wash stall waging a never-ending battle to turn him from a smells-like-dead-fish brown back to spotless and pleasantly horsey-scented. And once finished, I made certain to hose down that wash stall mat until it was squeaky clean. Never once did I give a thought to the amount of water I was using.

But as the drought of 2007 taught even the most oblivious of us here in the Southeast, water is a precious resource. And wells—the source of all that water I used with thoughtless abandon—can indeed go dry.

So the next time you crank open that tap, take a minute and think about what you can do—at that very moment—to conserve water. Does your horse really need to be bathed or will a good grooming suffice? Are the flowers around the barn wilting while you toss half-empty water buckets on the driveway? Have you left the hose running in the water trough while you cleaned your tack, *hoping* you'd remember to turn it off before it overflowed? There are lots of simple ways to reduce water use.

## 16 **Become Conservation-Conscious**

The first step in reducing water use is the obvious one: make good choices about when and how you use water. Stop and think before you hose—just how clean does your horse really have to be? Are you riding in a clinic with George Morris or taking a leisurely Saturday afternoon trail ride with your friends? I'm not suggesting you show up for a lesson with your horse's mane in muddy dreadlocks, but whenever possible, ask yourself, "Will a strong arm and a curry do the job?"

If the budget allows, consider using a horse vacuum or—crazy as it sounds—an inexpensive portable Shop-Vac®. For a time, my horse Reason boarded with my friend Kate, and one winter evening Kate came home and found him so incredibly filthy she almost burst into tears. Exhausted after a long day at work but unwilling to throw a blanket on a dirty horse, Kate made a desperate grab for the Shop-Vac hanging in the barn. Much to her surprise, it worked like a charm. Since then, I have run into a number of people with perpetually dirty horses who swear by their trusty portable vacuums. (Just make certain that whatever vacuum you choose has a low decibel level—see p. 14 on leaf blowers.)

When a bath is overdue, instead of power-washing the wash stall mat after each use, perhaps the new barn rule can be that everyone simply sweeps up their “dirt,” and there will be one, final hose-down at the end of the day.

## 17 Lose the Drip

Fix or replace *everything* that leaks or drips, be it a faucet, hose, or toilet. A faucet that drips at one drop per second wastes 7 gallons of water a day and 2,700 gallons a year.

## 18 Go Low-Flow

Make certain all your barn water hoses have nozzles that let you adjust the spray as needed, as well as a “trigger” that allows you to shut off the flow of water completely while soaping up dirty legs or conditioning tangled tails.

## 19 Reuse Water Whenever Possible

Think twice before you mindlessly toss that half-a-bucket of water from your horse’s stall into the driveway—can it be used to soak hay, control dust in the round pen, or water the plants around the barn? And what about using that water on a barn vegetable garden? Who says you can’t plant tomatoes or bell peppers instead of flowers this summer? Add some home-composted manure (see p. 91) and you’ll have great organic produce at almost no cost.

## 20 + Install a Toilet with Choices

When the barn bathroom is in need of a new commode, consider the new “dual flush” toilets featuring one button and one measured amount of water for each...well, you know. They are highly efficient and can provide substantial water savings.

## 21 + 🌍 Update the Barn Washing Machine

Replace the old barn washing machine with a front-loading model that's both easier on your laundry and can use up to *half* the water of a conventional top-loader. An added bonus: they are also more energy efficient.

## 22 🌍 Hook Up a Rain Barrel

A rain barrel can be easily connected to one or more of your barn's downspouts to collect water that would otherwise simply wash way. Use the harvested water to wash cars, trucks, trailers, and farm equipment, or water the plants and veggies around the barn. While you can build your own rain barrel, they are easily available online, at garden centers, and even at some Whole Foods Markets® ([www.wholefoods.com](http://www.wholefoods.com)). Before you buy, check with your local city or county government, as there may be programs available that provide rain barrels at a reduced cost. A good source of further information is [www.rainbarrelguide.com](http://www.rainbarrelguide.com). (For more on rainwater harvesting, see p. 106.)

## Pest Control the Natural Way

If you have a horse, you also have an up-close-and-personal relationship with all sorts of buzzing, biting insects. But if you're like me, you're also wary of using pesticides containing ingredients that can only be cleaned up by a hazmat crew. Believe it or not, there are safer, less expensive, just as effective ways of battling bugs.

## 23 Banish Bad Bugs with Small Flying Creatures

Ah, the beauty of "fly predators"! Having boarded at two barns that used these gnat-sized insects to control the fly population, I can say from experience that they are worth their tiny weight in gold. Simply

“sprinkle” fly predators near manure and other fly breeding areas during the spring and summer months, practice good barnkeeping (no overflowing trash cans or dirty stalls), and you’ll see the fly population drop as fast as the temperature is rising. For a detailed look at the “how-tos” of using fly predators, visit [www.spalding-labs.com](http://www.spalding-labs.com).

## 24 Invite Bats to Board at Your Barn

Bats, as I have now learned, have gotten a bad rap. Okay, so they can be scary when they come swooping down suddenly out of the night sky. But while swooping, they are also eating an astonishing quantity of nasty disease-bearing insects. If you’re paranoid about the mosquito population at your barn—and who isn’t?—bats should be your new best friends.

“Bats are essential allies whose conservation is vital to human wellbeing,” says Dr. Merlin Tuttle, founder of Austin, Texas-based Bat Conservation International (BCI), which is dedicated to conservation, education, and research initiatives involving bats and the ecosystems they serve. “Bats are primary predators of the vast numbers of insects that fly at night, and in the United States, one little brown bat can catch up to 1,000 mosquito-sized insects in an hour and many species contribute greatly by reducing pests such as moths, beetles, and leafhoppers.”

For more information, consult the *The Bat House Builder’s Handbook*, available at Bat Conservation International’s Web site [www.batcon.org](http://www.batcon.org). Find out the basics for attracting bats and how to be a responsible bat house landlord in the sidebar on p. 26.

## 25 Wage War Naturally on the Dreaded Horsefly

You’re riding quietly along at a leisurely pace, thoroughly enjoying a bright sunny summer day, when suddenly your horse becomes a twirling, bucking, bolting maniac. As you gather the reins—and maybe

## ADVICE FROM THE **ECO** EXPERTS

### *Going “Batty”*

Bat Conservation International (BCI) offers these tips for establishing bat allies in your war against barn bugs. You can find plans to build a bat house at the BCI Web site, [www.batcon.org](http://www.batcon.org).

#### *Attracting Bats and Choosing a Bat House Location*

- ▶ A single-chambered bat house can house 50 bats, while large multi-chambered houses can be home to nursery colonies of 200 or more bats.
- ▶ The greatest bat house success has been achieved in areas of diverse habitat, especially where there is a mixture of varied agricultural use and natural vegetation.
- ▶ Bats may find houses more quickly if they are located along forest or water edges where bats tend to fly. Most nursery colonies of bats choose roosts within 1/4 mile of water, preferably a stream, river, or lake.
- ▶ Bat houses can be installed at any time of the year, but they are more likely to be used if installed before the bats return in spring after a winter of hibernation.
- ▶ 90 percent of bat houses installed in bat-friendly areas are used within two years (with 50 percent occupancy in the first year). If a bat house remains unoccupied after two full years, consider repositioning or modifying the house.
- ▶ Bat houses should be mounted on buildings or poles. Houses mounted on trees or metal siding are seldom used. Wood, brick, or stone buildings with proper solar exposure are excellent choices, and houses mounted under eaves are often successful.
- ▶ All bat houses should be mounted at least 12 feet above ground—15 to 20 feet is best. Houses should be placed at least 20 to 25 feet from the nearest tree

branches, wires, or other potential perches for aerial predators.

- ▶ Bat houses should not be lit by bright lights.
- ▶ Avoid placing bat houses directly above windows, doors, decks, or walkways. Most bat houses have open bottoms, which keeps guano (bat manure) from accumulating inside. Guano will, however, end up on the ground underneath.

### *Maintaining a Bat House*

- ▶ Bat houses should be monitored at least once a month (preferably more often) to detect potential problems, such as predators, overheating, or wood deterioration.
- ▶ Maintaining a proper temperature inside your bat house is probably the single most important factor in making a house bat friendly. Interior temperatures should be as warm and stable as possible (ideally 80 to 100 degrees F in summer) for mother bats to raise their young. In cool or variable climates (or where temperatures drop at night by more than 20 degrees F), mounting houses on the sides of wooden or masonry structures provide more stable temperatures than houses attached to poles. Bat house temperatures are influenced by exterior color, compass orientation, sun exposure, and how well the house is caulked and vented. You can check interior temperature by inserting a thermometer probe into the bat house (preferably when there are no bats inside!) or by installing a data logger, which monitors temperature.
- ▶ Clean out wasp and mud dauber nests each winter after bats and wasps have departed. (This helps ensure the bats return year after year.)
- ▶ Re-caulk, paint, or stain every three to five years to guard against leaks and drafts.

Note: Any repairs or cleaning should be performed when bats are not present.

your stirrups—you desperately look around to see what the heck could be causing the descent into madness. Sure enough, there's a horsefly doggedly clamped onto your horse's rump. You lean back in the saddle and try to swat it with your free hand (right, like *that* will kill it). Finally, you manage to dislodge it with the end of your crop. But, it just circles around and lands on your horse's belly...

I hate horseflies. And short of a chemical attack or stomping them to death with the heel of your boot (hard to do from horseback), nothing seems to kill them. But thanks to Mike Stringham, an Extension Specialist at North Carolina State University's Department of Entomology, you can at least mount a reasonable attack against the loathsome creatures. He provides detailed instructions for building an inexpensive horsefly trap at [http://alamance.ces.ncsu.edu/files/library/1/TABANID\\_Trap.pdf](http://alamance.ces.ncsu.edu/files/library/1/TABANID_Trap.pdf). Traps can be placed in areas where horseflies lie in wait for unsuspecting riders and their mounts—you can determine “fly-ways” or where horseflies rest by walking or riding 10 to 20 feet inside the perimeter of a paddock or pasture and noting where horsefly activity is most severe. Small areas may only need one or two horsefly traps, while large pastures may require more.

For those not handy enough to build their own traps, ready made models are also available. Check out:

- **The Horse Pal® Fly Trap** ([www.bitingflies.com](http://www.bitingflies.com))
- **The Epps Biting Fly Trap™** (available from many retailers, including SmartPak—[www.smartpakequine.com](http://www.smartpakequine.com)—and State Line Tack—[www.statelinetack.com](http://www.statelinetack.com)).

## 26 Rely on Your Feathered Friends

Birds don't just sit in trees and chirp; they feast on insects and rodents. Lots and lots of the very insects and small furry rodents you want to banish from your barn. So instead of blasting flies and wasps with insecticide and trying *again* to convince the barn cat to leave that cozy

bale of hay and go hunt for her “dinner,” take a look at this list of common pest-eating birds.

### ***Barn Swallow***

No need to give tips on how to attract Barn Swallows—they’re as common in barns as halters and lead ropes! The downside to Barn Swallows, of course, is they poop all over the barn and are always swooping down out of the rafters during nesting season. The big upside? A single Barn Swallow can chow down on 850 flies, grasshoppers, crickets, dragonflies, and beetles in a single day.

And think how handy they are to have around in the spring! No need to sweep up that huge pile of hair you curry off your horse—the Barn Swallows will carry it all off for nesting material in less time that it takes you to hack down to the arena.

### ***Purple Martin***

Like Barn Swallows, Purple Martins—and their distinctive white “condos” set atop tall poles—are a familiar sight to many. They munch on a wide array of insects, from dragonflies, damselflies, flies, midges, mayflies, stinkbugs, leafhoppers, Japanese beetles, and June bugs to moths, grasshoppers, cicadas, bees, wasps, flying ants, and ballooning spiders.

The Purple Martin Conservation Society ([www.purplemartin.org](http://www.purplemartin.org)) provides downloadable PDFs that explain how to attract and manage Purple Martins.

### ***Eastern Bluebird***

These are my favorite insect eaters—the males with their bright blue wings and tail and reddish breast, and the females with their more subdued palette. Once endangered because of the widespread use of pesticides, Bluebirds have made a comeback, in large part because of the

number of Bluebird boxes now dotting both suburban backyards and the rural countryside.

The North American Bluebird Society ([www.nabluebirdsociety.org](http://www.nabluebirdsociety.org)) lists information on everything from how to get started with Bluebirds to building specs for nesting boxes.

### ***Eastern Phoebe***

Recognizable by its “fee-bee” song and a tail that wags up and down, Eastern Phoebes live in woodland edges, shady ravines, river bottoms, and open fields.

Bees and wasps are the favorite food of Eastern Phoebes, along with, ants, beetles, flies, spiders, and ticks. Loyal to their nests, they will reuse them year after year.

### ***Kestrel Hawks***

Kestrel Hawks are the most common falcon in North America and one of the most colorful of all the raptors. They enjoy dining on deer mice and small rodents, and are also fond of grasshoppers, beetles, and cicadas. While they usually nest in the cavities of large trees, rock crevices, and in nooks of buildings, they are also happy to use nesting boxes.

The University of Maryland Extension has posted a terrific PDF on the Kestrel that includes information on how to attract them as well as designs for building a nesting box: [www.extension.umd.edu/publications/PDFs/fs797.pdf](http://www.extension.umd.edu/publications/PDFs/fs797.pdf).

### ***Barn Owls***

Barn Owls are easily recognizable by their heart-shaped face, which is usually white and lined around the edge with brown. While their favorite food is field mice, they also enjoy rats, pocket gophers, baby rabbits, frogs, lizards, and insects. A nesting pair of Barn Owls and their young can eat more than 1,000 troublesome rodents a year.

The Missouri Department of Conservation has great information on Barn Owls, plus blueprints for building nesting boxes at [www.mdc.mo.gov/nathis/woodwork/ww9/](http://www.mdc.mo.gov/nathis/woodwork/ww9/).

If my introduction has piqued your interest in these or other pest-eating birds, you can find photographs and good basic information (you can even listen to their “songs”) on the Cornell University Lab of Ornithology Web site ([www.birds.cornell.edu/AllAboutBirds/](http://www.birds.cornell.edu/AllAboutBirds/)). For more information on building nesting boxes, take a look at [www.birdhouses101.com](http://www.birdhouses101.com), and Shaw Creek Bird Supply has nest boxes and feeders at [www.shawcreek-birdsupply.com](http://www.shawcreek-birdsupply.com).



#### GREEN IN THE REAL WORLD

##### *A Year at an (Almost) Zero Carbon Hoofprint Barn*

When Bonnie and Kiley Taylor moved from Texas to Northern Virginia, they decided to lease a barn for their horses—Pippin, a 17-hand chestnut “who loves to get into trouble,” Simon, a 16-hand bay rescue “with too much brains for his own good,” and Ginger, a spotted jenny donkey—while they searched for a farm of their own.

“Our options were limited due to timing, the location of our jobs, and the infamous Northern Virginia traffic,” explains Bonnie Taylor. “Boarding for three was very expensive, so we settled for renting a 30-year-old wooden, shed-row barn on 5 acres. The setting was lovely—large, grassy turnout and mature trees—and the location was right, but . . . there was no electricity or running water on the property.

“While certainly not a ‘princess,’ I’d always been lucky to either have my own private barn with modern ‘luxuries’ or boarded at barns with similar features. I took for granted how important simple things like light switches and water faucets are to day-to-day horse care. But both Kiley and I are self-confident and like to think of ourselves as inventive and handy. Renting an antiquated barn (unfortunately) didn’t faze us—we naturally thought we were more than up to the



challenge for a year. Heck, we thought it might even be fun! The reality required ingenuity, hard work, and acceptance of the barn's limitations."

### *Bringing Light and Power to the Barn*

"We learned quickly that the property was very, very dark with no streetlights or ambient lighting available," says Taylor. "This posed a huge challenge for two full-time professionals on an 8 to 5 schedule! To put it mildly, cleaning stalls, mixing feed, and bringing in horses was difficult in the pitch dark. We had to find a way to light the barn at night."

The Taylors employed several different methods for shedding light on their barn chores. To light the stalls directly, they mounted a solar panel on the side of the barn that fed a car battery located in the tack room that was then hooked up to an inverter box. This system dimly lit three compact fluorescent light bulbs in the two stalls and the tack room.

"In the winter this plan wasn't ideal as overcast skies didn't always feed the solar panel, but overall, it was an effective way of bringing light inside the barn. If we were to do it again, we'd use a marine battery designed for boats instead of a car battery, as we would drain the car battery's power in about 30 minutes. We learned to do any chores that required light pretty quickly!"

The Taylors also installed several LED patio lights (powered with their own individual solar panels) in the overhang of the barn. "These were a reliable light source and bright enough for our work but not so bright as to create light pollution for the neighbors.

"At each field gate we placed individual solar spot lights that shown directly on the lock and latches. These were invaluable for late-night walks across the fields! We also carried rechargeable fluorescent and LED lanterns and always left a couple in the feed room for emergencies. Those lanterns were godsend because they shed more light than flashlights and could be used in the barn for cleaning



stalls or mixing feed, hooked onto the wheel barrel (hands-free), or even hung in a tree if we needed light in a field.

“A few of the fields required electric tape in front of the existing post-and-rail structure to make for a safer enclosure and for these, we employed solar fence boxes that kept the current live and useful, even in the winter.”

### *Water Wars*

“Water was more important than electricity,” says Bonnie Taylor, “and for that we relied on Mother Nature more than we liked via a simple rainwater collection system, and even by drawing water from a nearby stream. When we first rented the property we asked the owners if water was always available from the little stream about 150 feet from the barn. They answered that it ‘hadn’t dried up in 30 years.’ Of course, it dried up two weeks after we moved in and we were without water for close to a month!

“We hooked up a small pump to about 300 feet of hose and drew water from a larger creek at the back of the property into a water trough. From there we pumped water from the trough to the 175-gallon rainwater collection cistern located next to the barn. That was a royal pain! While the water tested safe, we were always a little worried with this system that someone fertilizing his lawn upstream might cause a sick horse.”

In anticipation of the rain that finally did arrive, the Taylors prepared a rainwater collection system at the barn. “We attached about 5 feet of flexible black plastic tube to one of the barn’s rooftop gutters and fed the tube into the cistern. We secured several layers of fine mesh with wrapped twine at the end of the tube to collect debris and block bugs. In the winter, we wrapped the cistern in silver reflective heat insulation to prevent freezing.

“As the cistern was not always helpful in the winter—the nozzle was too susceptible to freezing and rain was in short supply that year—we sometimes



had to walk buckets of water from the stream to the horses. Kneeling down on a wooden plank in the dark to scoop water from the stream, then carrying six full buckets across acres of fields, was not fun in the snow and ice!”

### *Going Forward*

Even though Bonnie, Kiley, Pippin, Simon, and Ginger are now settled on their new farm (complete with water and electricity), they have taken some of the tricks learned from their low footprint year and put them to use.

“Solar panels were a given—we loved having ‘free light’ in the stalls and at field gates. We’re adding rainwater collection systems that will work with our new buildings, although this will most likely be for plants and situations that won’t require high pressure or drinking water. We’re still using fly predators and recently installed a bat box (see pp. 25 and 26).

“All in all, the year was an eye-opener. We gained an appreciation for the environment and how much we rely on energy and clean, running water, even for the simplest tasks. We also realized how challenging our ancestors’ lives were—and how much we love having electricity!”

### *Other tips the Taylors tried and recommend for every barn:*

**Limit pesticide use:** The Taylors used fly predators, erected a bat box per the specs from Bat Conservancy (see p. 26), planted marigolds (a natural insect deterrent) around the barn in areas where the horses couldn’t eat them, and used goldfish to keep their water troughs clean and bug-free (see p. 12). As a result, “Our bug population during our ‘low carbon hoofprint summer’ was surprisingly low compared to my years of fighting them chemically!” says Bonnie Taylor. “We did have to put fly boots on our donkey, but the horses didn’t need much of anything other than a quick spray on the worst days.”



**Recycle shavings and grain bags, supplement buckets, and other items “in-house”:** The Taylors’ barn trash went into feed bags, and supplement tubs held everything from screws to extra brushes. Everything in their barn had at least a second, and often a third or fourth life.

**Keep water buckets ice-free in winter by creating silver reflective heat insulation sleeves:** The Taylors purchased silver housing insulation from Home Depot®, and cut, shaped, and taped it with reflective tape to perfectly form around a water bucket. “We then placed the ‘insulated’ bucket inside a second bucket and hung the whole thing from the second bucket’s hook (the weight of the water kept the two buckets and insulation together),” says Bonnie Taylor. “On very cold nights we’d stuff a hand-warmer pack (found at any camping supply store) inside the insulation. Our water buckets never froze!”

**Let nature take over— sometimes:** “We did not kill or remove the local black snake population,” says Bonnie Taylor. “In fact, we had a nest of rat snakes hatch in our sawdust pile! Those were little cuties. I don’t think I saw a mouse the entire time we were at the property.”