

Celebrating High-Quality Horse Farm Stewardship in Maryland Elements of a "Green" Horse Farm by John Blackburn & Jane Thery

What is a "green" horse farm? Climate change discussions have been on the top of the global agenda in 2021 with a big focus on reducing the atmospheric pollutants of carbon dioxide and methane. These gases trap solar heat in the atmosphere, warming the planet and causing sea level rise and stronger storms. In our region, water pollution throughout the Chesapeake Bay watershed threatens our clean water supply and as such, multiple government and non-government groups from the Chesapeake Bay Foundation to your local sewer authority are working to mitigate the damage. The relationship between this global and regional agenda and the horse farm you manage or where you ride or keep your horse falls into three categories: water, carbon and wildlife habitat.

An environmentally-sound, or "green," horse farm is managed with best practices to control water run-off and erosion, to reduce carbon emissions and fix carbon in pastures and trees, and to protect wildlife habitat. These practices also create a healthy environment for horses and demonstrate high-quality farm stewardship. Maryland has over 700,000 acres in horse farms which is about one-quarter of all agricultural land. What we do with this land for our horses and the natural environment has a big impact.

On a "green" horse farm, the key is water management, whether you have too little, too much, or a deluge. Water runs off rooftops, pastures, and paved surfaces. The goal is to slow the water down when it flows to areas where it can filter into the ground. The first step is to see where the water naturally flows and collects. Barns and indoor arenas need gutters, downspouts, and a way to draw the water away from the structures by using piping, ground swales, French drains, and undergrounds diversion systems. Once away from the buildings, the water needs to be captured in areas with trees and native plants, bio-swales, and/or ponds to reduce the water flow off the farm and promote water filtration into the local water table. Grassy verges, gravel, and diversion socks slow the water flow off paved areas and reduce erosion by pushing the water into vegetated areas where it can be absorbed. To avoid stream bank breakdown and sediment runoff, streams need to be fenced off and a wide vegetative border maintained between pastures and watercourses on the farm. Water control in pastures is also essential to horse health. Pastures and paddocks with good grass cover and a footing system that reduces mud keeps the water draining well and horses' feet healthy.

The carbon footprint of your horse farm depends on how much fossil fuel energy it uses and how much carbon your soil, pastures, trees, and other vegetation fixes in the ground. Buildings should be designed to maximize natural light and natural ventilation. Using the principles of airflow physics, barn construction can create updrafts to provide fresh air for horses with minimum use of electricity. Skylights and proper geographic orientation in barns and arenas can maximize natural light for the horses and minimize artificial lighting needs. An energy audit highlights ways that increase energy efficiency by using, for example, LED lights and low-power-use heating systems. Installing solar panels and switching to electric vehicles can further reduce your farm's overall use of

fossil fuels and generation of carbon dioxide. When it comes to removing carbon dioxide from the atmosphere, known as carbon "fixing," horse farms can have a super power with healthy pastures, natural vegetation and trees. Keeping roots in the ground and deep topsoil with active microbes is a proven way to fix carbon in the grasses and the soil. AND great pastures are great for our horses.

Part three, after water and carbon, is wildlife habitat. Most horse farms provide a resting place and feeding grounds for birds and small animals. Minimal use of pesticides and herbicides helps these wild populations flourish. Additional best practices that help foster habitat are planting specific plants to attract pollinators, restoring streams and stream banks for fish and other aquatic animals, eliminating invasive species and planting native ones, providing bird houses, and minimizing noise and light pollution.

Finally, a word on manure management. Horses produce about fifty pounds of natural nutrients each day as they digest large amounts of vegetal products and then poop. The best management practices for horse manure are: dragging pastures to break up manure mounds for worm control and soil absorption, picking up manure from paddocks and stalls, storing manure on hard surface, level areas to avoid runoff, regular pick up of manure off the farm and, if feasible, composting and then using the composted manure as a natural and local soil amendment.

A "green" horse farm can be built from scratch with careful site design, knowledge of the needs of the horses and the clients, and a good dose of common sense. An existing horse farm can be upgraded with new water management installations, pasture improvements, solar panels, and barn redesign, just to name a few of the available best management practices. There are enormous resources available in Maryland to help you do this, from your local Soil Conservation Districts, University of Maryland Agricultural Extension offices, and your county and state offices of agriculture and the environment. There are also new sources of funding to help defray the costs, and there are many conservation and agricultural consultants to guide you.

Advocacy, policies, and regulations to curb climate change will only increase as global and local economies accept that we have a massive problem. But, as they say, "think globally, act locally." Your real effort on the horse farm where you live, work, ride, or keep your horse, can be part of the local solutions.

Our horse community is a great asset to the natural environment and it can be even better as we learn about the elements of a "green" horse farm and include these best management practices in our daily work. Our horses and our natural environment are the winners!

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