Integrative Pasture Management Strategies

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Pasture production on horse farms is a critically important component of total farm management. Pasture can provide nutrition via forage consumption by horses and contributes to the aesthetics of an attractive farm landscape. A healthy, productive pasture will also play a major role in the farm's Best Management Practices (BMP's) by reducing soil erosion and promoting uptake of nutrients like nitrogen and phosphorous to minimize the potential for leaching of these nutrients into ground water or runoff into surface water. In Florida's subtropical environment, pasture management can be a difficult and continuous challenge. Some of the considerations that need to be addressed include: the intended use of the pasture, the climate zone of Florida the pasture is located in, the type of soil conditions that exist on your farm, equipment that will be available, the level of management you wish to invest in your pasture(s), forage type selection, philosophy on fertilizing the pastures, weed management strategies, pasture rest and rotation limitations.

The intended use of the pasture

It is important to evaluate whether the pasture will be used to fulfill a major portion of the horses' nutrition, provide a supplemental amount of nutrition, or will serve as a short term exercise area. Pastures expected to meet the majority of the horses' nutrient requirements will require more management in order to maintain a healthy and productive stand of forages.

In which climate zone of Florida is the pasture located?

While all of Florida has tropical weather in the summer, Tallahassee generally has temperate winters combined with short spring and autumn weather. Miami has tropical weather for large portions of the year. Central Florida generally has tropical summers, temperate winters and little to no spring or autumn weather. Weather conditions like cold/frost, drought, heat, and high humidity and heavy rainfall must be accounted for in any pasture management program in Florida.

What type of soil conditions exist on your farm?

Soil fertility in Florida generally weakens from north to south, but soil type and fertility can vary between sites located just a few miles apart. Water holding capacity of a given soil is critical to

pasture management. Much can be learned about local soil conditions by knowing the natural ecosystems of Florida. Sites that were scrub and high pine/turkey oak will be most limiting in natural fertility, nutrient holding capacity and water holding capacity. Flatwoods soils are intermediate in natural fertility and water holding capacity, but flooding can be problematic during extended wet periods. Hammock sites are generally the best in natural fertility but can vary in water holding capacity from potentially droughty to excessively wet. The following USDA website provides excellent information on soils:
http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspxs

What equipment will be available?

While tractors, mowers, planting equipment, cultivation equipment, etc. are expensive to purchase and maintain, they will be required to perform many pasture management tasks necessary for success. On a small farm, the equipment may be used infrequently. Hiring the jobs out, renting, or sharing equipment should be compared to costs of purchasing equipment.

What level of management is required?

As a horse owner, your immediate concerns are related to the care and management of your horse(s), but if you are trying to establish and/or maintain pasture to provide quality forage, then gaining a better understanding of the science and management of forages also becomes an important part of horse ownership. However, it can be challenging to take care of the horses and pastures in addition to managing work schedules, family commitments, and other responsibilities. It is helpful to set realistic goals. Not every horse pasture can or needs to look like the White House Lawn to be functional.

Selection of forages?

Bahia grasses make up the largest percentage of horse pasture in Florida, but a wide variety of forage types are found in Florida. Forages range from annuals to perennials, legumes to grasses, cool season and warm season, forages requiring wet ground to those that prefer drier conditions and low to high soil fertility requirements. Within each of these divisions there are many varieties, some with similar names which can lead to confusion. The Forages of Florida website provides information on several varieties of forages:
http://agronomy.ifas.ufl.edu/ForagesofFlorida/index.php

What are your philosophies on agrichemicals?

Agrichemicals for pasture forages are basically divided into the following categories: fertilizers, herbicides, insecticides and fungicides. There are many and varied types of products within each category. Recently, there has been interest in moving toward the use of more "natural" products. The desirable plants, weeds, insects, and diseases are oblivious to the source of any of these control mechanisms. For instance, plants require nitrogen for growth, the plant responds to the nitrogen regardless of whether the nitrogen is provided via composted manure or fertilizer from a bag. At the cellular level, the nitrogen is utilized the same way, just delivered in a different form. However, the amounts needed, pasture application methods, time needed for root absorption and costs will vary with the source. Among herbicides, 2,4-D sold under various trade names, has been the standard for controlling broadleaf weeds in most grass pastures for over 40 years. Proper plant nutrition, grazing management and mowing are all good management strategies that must be combined with any use of agrichemicals to achieve the best results.

Weed management strategies

Weeds are going to be an issue in any pasture. Weeds compete with desirable forage for space, sunlight, moisture, and plant nutrition. Some weeds can also be toxic to horses if consumed. Weeds can be controlled, but never completely eliminated. Most often, a combination of cultural, mechanical and chemical controls is most effective. Cultural management, keeping desirable forage strong, is a big help in suppressing weeds in a pasture. Mechanical controls via mowing and even hand pulling in small areas can be helpful as well. Using natural enemies to control weeds is popular in research studies, but there are few options to choose from and the mode of action involves living organisms that must be maintained and managed. Control via the use of natural weed enemies is generally limited to one specific weed species and pastures usually have many different types of weeds, thus implementing this method can be difficult. New generation herbicides are much safer than previous options and add another tool that can be used strategically in conjunction with other practices to keep weed pressure at acceptable levels.

Pasture rest and rotation limitations

All forages have a biological requirement for a rest and recuperation period. Annual forages need a period of time after planting to reach enough maturity to tolerate grazing or harvest. Established perennial forages also need periods of rest to recuperate and restore reserves in the roots after grazing or harvesting to be at their healthiest. On smaller acreages, it is often not easy to allow forages adequate rest and recovery. This inability to allow the forage to recuperate is a key contributing factor to many pasture problems.

For more information on pasture management, please contact your local UF-IFAS Extension County Office. You can also search under “pastures” at http://edis.ifas.ufl.edu.

BMPs for Pasture Management. In: Small Scale Horse Operations: Best Management Practices for Water Resource Protection in Florida. 2013. Florida Department of Environmental Protection. Pp. 17-20. Available at: http://www.dep.state.fl.us/Water/nonpoint/docs/nonpoint/SmScaleHorseOps.pdf