The interaction between rangeland health and horse health has been documented since historic horses grazed the steppes of Eurasia.

A horse’s health connection with rangeland condition hinges on several factors, including forage supply and forage composition. We’ll start with a short discussion on overgrazing and then move to horse health.

Overgrazing is grazing a plant to the point it does not have enough ability to conduct sufficient photosynthesis to maintain its root structure, recover from grazing, or persist. In short, when the plant is grazed too low to the ground or too much leaf surface is removed (especially repeatedly) – it dwindles or dies. When done pasture or area wide, it is referred to as “over utilization.” Once groups of plants are overgrazed, the plants produce less leaf area, more space between plants occurs and are filled by fast-growing opportunistic plants such as noxious weeds.

Horses usually select the most succulent forage available AND seek to consume about 2.5-3.5 percent of their body weight in dry matter each day. When pastures are overgrazed, the amount and type of forage can shift causing several health challenges with horses including sand colic, founder, nitrate poisoning, and plant poisoning risks.

Sand colic is a condition where horses graze increasingly closer to the soil and consume amounts of sand and soil while trying to graze in overgrazed pastures. This soil matter irritates the intestines, which try to eject it by aggressive hyperactive movement. The horse’s intestines (often the colon) swells and often twists, shutting off movement and absorption of water and some nutrients. The condition is extremely painful as it progresses resulting in horses rolling and kicking their guts. This condition, if not addressed, often results in death.

Founder and nitrate poisoning are related to horses that have not had sufficient forage supplies and then are turned into new areas with lush plant growth (from new plant growth due to improperly managed grazing or climate or season changes). Since horses on “over grazed” pastures are hungry, they are desperate to consume as much new grass as they can. With over-utilized pastures, there is insufficient old growth residue to buffer their intake for health.

The condition referred to as “founder” occurs when a horse consumes more protein than its system can metabolize. The excess products of too much protein generate a swelling in the joint coverings called “lamina” causing lameness and
discomfort. If the condition develops, the animal will be more prone to recurrences. In addition, the condition causes sensitivity and rapid, soft growth rings on the hooves. If not addressed, this condition can cause total hoof sloughing or hoof loss, totally disabling the animal.

Nitrate poisoning is the result of over consumption of grass or other forages when the nitrate levels are high due to lush growth, drought effects, or recent fertilization. Excess nitrate in the bloodstream ties up the hemoglobin molecules and limits the transfer of oxygen by those molecules to the entire body. Essentially, nitrate poisoning is suffocation at the cellular level that can result in nervous conditions, weight loss, general malady, and death.

Plant poisoning – When pastures are over utilized and plants are over-grazed, horses still seek to meet their forage needs. They will try to eat plants they have never eaten before and others they had tried previously but did not like the taste. This can cause them to consume toxic plants. Species such as locoweeds (Astragalus and Oxytropis), nightshades (Solanaceae), lupines (Lupinus), milkweeds (Asclepias), and others have a number of effects on horses. Some less toxic plants such as curly-cup gumweed are nitrate accumulators if eaten. Some plants hungry horses may browse have high levels of tannins, and leaves of tree species such as chokecherry may have alkaloid toxins. Such toxins can reduce vigor, cause illness, or death.

The best management practice is to stock appropriate numbers and manage grazing so horses always have suitable amounts of grass forage (old residue and new growth) so their health is stable. UW Extension has educators at a number of offices adept in helping you develop a horse grazing plan.

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