



RANGELAND CONDITION DIRECTLY

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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 on a healthy pasture usually consume primarily grass, which is a mixture of new and old growth

that helps regulate the health of the horse and the health of the rangeland. Horses graze for three reasons including protection, socialization, and nutrition. Historically their intake was varied and modified by the band moving around (movement from herd interaction and flight from real or perceived risks). Now horses seldom have to move from predatory risk. This allows them to constantly consume a readily available forage source. This generates a need for careful management of that forage source.

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



Those reliant upon horses know health dependent upon good grass

Although many domesticated horses are maintained on nutrition sources other than rangelands, horses as a species have evolved on primarily grasslands.

Historically on the northern plains of North America, young Cheyenne men were assigned the tasks of managing the horse bands for safety, access, and health. These “tse’-ne’eva’voosa’neste – o’ha(m)” horse watchmen or “pony boys” were required to stand watch to move horses to good grazing, have them available to warriors when needed, prevent theft of horses, and prevent horses from eating noxious plants or moving onto lush new bottoms where the grass would make them sick in the spring.

The Lakota had similar horse watchmen. Crazy Horse allegedly sent four boys with a band of 80-100 horses to good grazing when he turned himself in to Fort Robinson. When he heard of the Nez Perce run for Canada just days before his demise, he sent the boys and horses toward the Nez Perce to aid their flight. General Nelson Miles included in his reports that in late September “a patrol intercepted four apparently Sioux boys attempting to bring 70+ horses to the aid of the Nez Perce” (Oct. 1 report by General Miles) just 11 miles from where the 5th Infantry had stopped the flight of Chief Joseph just a day’s ride short of the Canadian border. The Nez Perce escape had been hindered by a shortage of sound horses.

AFFECTS HORSE HEALTH

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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