

This column features questions from readers submitted via the Web site. To submit a question to Small Acre Sam, visit [BarnyardsandBackyards.com](http://BarnyardsandBackyards.com). If your question is featured, you will receive a free one-year subscription to *Barnyards & Backyards!*



# ask Sam

## question

### Dear Sam,

I'm considering purchasing a piece of land in the northern part of the state. However, I've noticed that quite a bit of the property is covered with alkali. I have horses. Is alkali a problem for horses (either from eating the plants growing on alkali or with the alkali itself)? I'd appreciate any information you can provide.

— Mary

### Dear Mary,

It is important to determine if the white deposits on your soil you identify as alkali are from sodium salts (a sodic soil) or from a mix of other salts (a saline soil). Both types of soil are common in the Rocky Mountain region. They generally are clay soils, and, if a lot of sodium is present, the pH will be high (> 9), and it will have a poor soil structure and a low infiltration capacity. From your perspective, the biggest problem is the quality of your forage. High salt concentrations of any type may decrease the nitrogen the plant can take up. Now, will lower nitrogen concentration in forages affect the health of your horses? Probably not, if they can get sufficient protein from other sources of forage (grasses or hay) and/or a concentrate (grain/sweet feed, etc.). Lower nitrogen concentrations would also likely affect young, growing horses and possibly mares in the last trimester of pregnancy more so than a mature horse used for light work and recreation.

Another concern with these soils is that not many plants are adapted to the high concentrations of salt found in them. The salts will deter plant growth. You would need a soil test to identify what types of salts you have and what crops will tolerate your soil conditions. The biggest concern will be providing an alternative source of forage for your horses. I would suggest trying to purchase a piece of property with fewer visible salt deposits on the soil and more land that can be better used for grazing and maintaining your equines. Keep in mind that approximately 45 acres are required to support a horse in Wyoming, but this would increase if there are acres that are salty or sodic with little to nothing growing on them.

— Sam



ANSWER