When fertilizing a pasture, what kind of fertilizer should be used and how often?

I have a small farm with approximately 5 acres of grazing pasture. The pastures are a mix with clover. Is there an all-purpose liquid fertilizer product(s) that you would recommend that will not break the bank? And how often do I need to fertilize?

The best way to find out how much fertilizer your pastures need is to take a soil test. Your grasses, just like your horses, need certain nutrients (such as nitrogen, phosphorus and potassium) to keep them healthy and the only way to know what may be missing in your soil is to get it tested. It is a simple and inexpensive process which may actually save money that might have been spent on unnecessary fertilizer. Go to the Rutgers Soil Testing lab website for instructions on how to take a soil test and where to send it. http://njaes.rutgers.edu/soiltestinglab/. If you are not in New Jersey you can do an on-line search for your state’s Cooperative Extension Service soil testing lab.

You can also go to our website and read other answers to questions regarding fertilizing pastures. http://www.esc.rutgers.edu/ask_expert/ate_fpmfh.htm.

Answer provided by Carey Williams, Ph.D., Rutgers Cooperative Extension.

How long do I need to keep horses off of a newly-fertilized pasture?

I have 3 horses on my pasture. I want to spray a liquid fertilizer on the pasture. How long do I need to keep the horses off the grass after I apply the fertilizer?

Horses should be removed from pastures when nitrogen based fertilizers are being applied and should not be returned to the pastures until adequate rainfall has removed the fertilizer from plant tissues and leached all nitrogen from the soil surface into the ground. Generally, approximately ½ inch of rainfall is sufficient to dissolve granular nitrogen; less is needed when the fertilizer is in liquid form. Under ideal circumstances, it is best to leave the horses off of the pastures for at least 2 - 3 weeks after fertilizing the grasses to allow time for the grass to regrow.

Liquid fertilizers are becoming increasingly popular. The major disadvantage when comparing liquid fertilizers to dry formulations is that they are generally higher in price and usually have a lower analysis. Remember that when making calculations of liquid fertilizer, the analysis is given on a weight percentage, NOT on a volume or "per-gallon" basis. Most fluids weigh between 10 and 12 pounds per gallon. As an example, if you choose a liquid fertilizer with a 10-34-0 analysis that weighs 11.4 pounds per gallon, the gallon will contain only 1.14 pounds of nitrogen (11.4 x .10) and 3.87 pounds of phosphorus (11.4 x .34). Approximately 48 gallons of this liquid fertilizer would be needed per acre to supply the 50 pounds of nitrogen that is recommended for spring applications to pasture grasses. Depending on the productivity of your pastures and your grass species, additional nitrogen applications should be considered in early and late summer. Conducting a soil test will allow you to determine if you need to add lime to maintain proper pH conditions or add any potassium or phosphorus to your pastures.

Answer provided by Donna Foulk, former Senior Agriculture Program Coordinator, Rutgers Cooperative Extension.

Will horses founder on freshly-fertilized pasture?

I was going to fertilize and lime our 6-acre horse pasture, but was advised by a friend not to, as there have been cases of founder linked to over-fertilization and nitrogen left in the soil. I lost a horse last summer to a mysterious case of founder a few months after my pastures were treated. Are the two events related?

Fertilizing and liming pastures is a very important component of pasture management. There is no risk to horses as long as the correct protocol is followed as outlined below:

Soil Testing Pastures
It is always advisable to conduct a soil test on pastures before applying fertilizer so that you are only applying nutrients that are necessary for the forage in your particular pastures. A soil test kit can be obtained from your local Cooperative Extension office.

Liming Pastures
Pastures can be limed with ordinary limestone without removing the horses from the pasture. It may be advisable to remove horses from limed pastures until rain has removed the limestone "dust” from the forage leaves, but agricultural lime has no toxic properties.
Fertilizing Pastures
Horses should be removed from pastures when fertilizer is being applied to the pastures. Nitrogen (N) fertilizer is toxic and horses should not be allowed to graze pastures until rain has completely removed all of the fertilizer from the leaf surfaces and carried it into the soil. Ammonium-based nitrogen fertilizers bind to soil particles but are quickly (within 2-3 days) converted to nitrate nitrogen when the soil is warmer than 50 degrees. Nitrate nitrogen is quickly leached from soil. Generally it takes about ½ inch of rainfall to dissolve the fertilizer. Therefore, as a general rule of thumb, horses should be removed from fertilized pastures and not returned until at least ½ inch of rainfall has occurred and the fertilizer is no longer visible on the soil surface. Best management practices dictate that after fertilizing pastures, horses should not be returned to the pastures for 2-3 weeks in order to provide ample time for the pasture grasses to grow and recover from grazing.

Sources of nitrogen fertilizer
Pastures should receive an application of 50 lbs. of nitrogen per acre in spring and late summer. There are many different chemical and physical forms of nitrogen fertilizer. The nitrogen in urea (46-0-0) is completely water soluble and is readily available to plants upon application to the soil. If ½ inch of rain does not fall after application, significant loss of nitrogen will occur from volatilization. Therefore, urea should be used only if rainfall is imminent.

Other sources of nitrogen, including ammonium nitrate and ammonium sulfate as well as complete fertilizers such as 10-10-10 or triple 15 are not subject to volatilization and will remain on the soil surface until rainfall leaches the fertilizer into the ground.

A note of caution: Turf-type fertilizers should not be used for horse pastures since the nitrogen is specially formulated so that it is released very slowly. Slow release fertilizers can exist on the soil surface for several weeks.

Laminitis
As far as laminitis being caused by fertilizers, there is no evidence that pasture grasses that are fertilized correctly cause laminitis. It is important to introduce horses to new pasture slowly since any abrupt change in diet can trigger digestive problems that can result in laminitis. If your horse has foundered in the past, you may want to restrict access to pastures. Two periods of time to be especially careful in grazing laminitis-prone horses are in spring and fall. If you think back to your biology classes, you will recall that grasses produce sugar through photosynthesis during the day. At night plants use up some of the sugar through respiration. It has long been known that the sugar content of pasture grasses is higher in the afternoon than in the morning. If nighttime temperatures in spring and fall drop below 45 degrees, respiration slows or stops and the sugar remains in the grasses. Fairly high sugar contents can occur in cool season grasses if several cold nights occur in succession and are followed by bright sunny days. This is a normal process that does not affect most horses. However, there is some discussion and research occurring at present to determine whether the high sugar concentration in pasture grasses caused under specific environmental conditions can contribute to laminitis in horses that are predisposed to metabolic problems.

Is there a lawn fertilizer that is safe for horses?
I was wondering if you could recommend a commercial fertilizer for that includes an agent for weed and crabgrass control that would be safe for horses. This would be for my home lawn.
Although our horse lives on a nearby farm, he is brought to the house on occasion to graze.

No fertilizers or weed control products that are labeled for lawn use should be used on grasses that are used for grazing. They are not labeled for pasture use and it is illegal to use these products on pastures or lawns that are used for grazing.

Lawn fertilizers are frequently time-released products. The nitrogen is often encapsulated to allow a slow release of fertilizer. Slow release nitrogen fertilizers can remain in the soil for many weeks. Nitrogen is toxic and horses should not graze in areas that have received fertilizers marketed for lawns.

Lawn weed control products also cannot be used on grasses that are being grazed either. The products have not been subjected to the rigorous testing that is required when the products are used for pastures.

If you truly need to graze your lawn, then you should manage it as a pasture and only use agricultural fertilizers and herbicides that are labeled for pasture use.

Hope this helps answer some questions!