

## There Are Plenty Of Ways To Ensure Good Alfalfa

### LIME AND PH: THINK AHEAD Mark Goodson, C.C.A. Extension Agent Agronomy Soils York County Capital Region Agronomy Team

Watch the pH. The favorable pH for most crops is 6.0 to 7.0 and alfalfa requires 6.5 to 7. With perennial forages, it's easy to forget to lime.

Fields that have not received lime during the past three growing seasons are probably falling below the optimum pH range. It's a good idea to take a soil sample of perennial forages that have not received lime in the past few years. This will provide the opportunity to review other nutrient needs as well.

Remember, agricultural limestone does double duty. In addition to correcting pH, it is a fertilizer and provides the essential plant nutrients calcium and magnesium. Soil test recommendations are the only way to determine whether high calcium or magnesium limestone is needed.

### Feed Your Established Alfalfa

According to the latest Penn State Agronomy Guide, alfalfa has the highest yield potential of all the perennial forage crops grown in Pennsylvania.

Eight tons of dry matter yield and 4 tons of TDN per acre are not uncommon when grown on deep, well-drained soils. Alfalfa has no equal as a feed for livestock or cash crop among perennial forages

### Good Management No Accident

Alfalfa is a voracious feeder of when it comes to nutrients, especially potassium. Each ton of alfalfa removes 45 to 60 pounds of fertilizer potassium (also called potash or K<sub>2</sub>O). If you have soils that are adapted to alfalfa and you want to hit the 8-ton dry matter yield, your soils had better supply enough potash to provide that yield.

At 50 pounds of potash per dry matter ton, eight tons would require 400 pounds of K<sub>2</sub>O. Straight potash fertilizer is 0-0-60 and contains 60 pounds of K<sub>2</sub>O per hundred pounds of fertilizer material. It would take 666 pounds of straight 0-0-60 to replace the potash removed by just one year of 8-ton alfalfa. That's a lot of fertilizer.

How much potash do your alfalfa fields have to start the growing season?

### Soil Test Every Year

Don't buy fertilizer you don't need. While alfalfa is a heavy feeder

of potash, the soil levels of potash may be built up by manure applications made for other crops and prior to planting the alfalfa.

The only way you know what the levels are is to soil test. The latest Penn State Agronomy Guide recommends annual soil testing of established alfalfa fields for top performance and stand persistence. Make sure potash levels are in the optimum range then add the amount the crop will remove.

### More Than Potash

Other information provided by the soil test report is important. Alfalfa is very sensitive to pH and monitoring of lime is important throughout the life of the stand.

Also, boron, an essential micronutrient, is often limiting in Pennsylvania soils. Alfalfa is particularly sensitive to boron deficiency and yields will suffer if it is short.

The soil test report will remind you when this should be added.

### Good Management Pays!

I suspect a lot of alfalfa stands "tucker-out" prematurely because proper management attention is less than it should be. At the end of the third year, a stand may look tired and the farmer figures it isn't worth putting any more into it. WHAT A SHAME! In many cases, a soil analysis the previous fall and a timely fertilizer or lime application would have kept these stands in tip-top shape.

### For More Information

As usual, the Penn State Agronomy Guide is your handbook for basic agronomy knowledge. Also check the Department of Agronomy Web site. The web is [www.agronomy.psu.edu](http://www.agronomy.psu.edu). Click on publications, then click on Agronomy Fact Sheets. As always, you can call me at (717) 840-7408 or email [mwgl@psu.edu](mailto:mwgl@psu.edu).

## Want Good Alfalfa?

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The precious topsoil then is in a precarious position to blow away later by the wind.

"I plant oats for a companion crop when I seed the alfalfa down and I put some timothy in it, too," Weimer said. "The timothy sort of fills in around the alfalfa. It is shorter and less prominent than alfalfa. The timothy you will see only the first two years.

"The benefit is a quick groundcover. So, in the spring, if you get a lot of rain, you aren't goin' to lose the topsoil.

Weimer sells alfalfa seed, too, which adds a social dimension to the business life he has lead for the last 15 years.

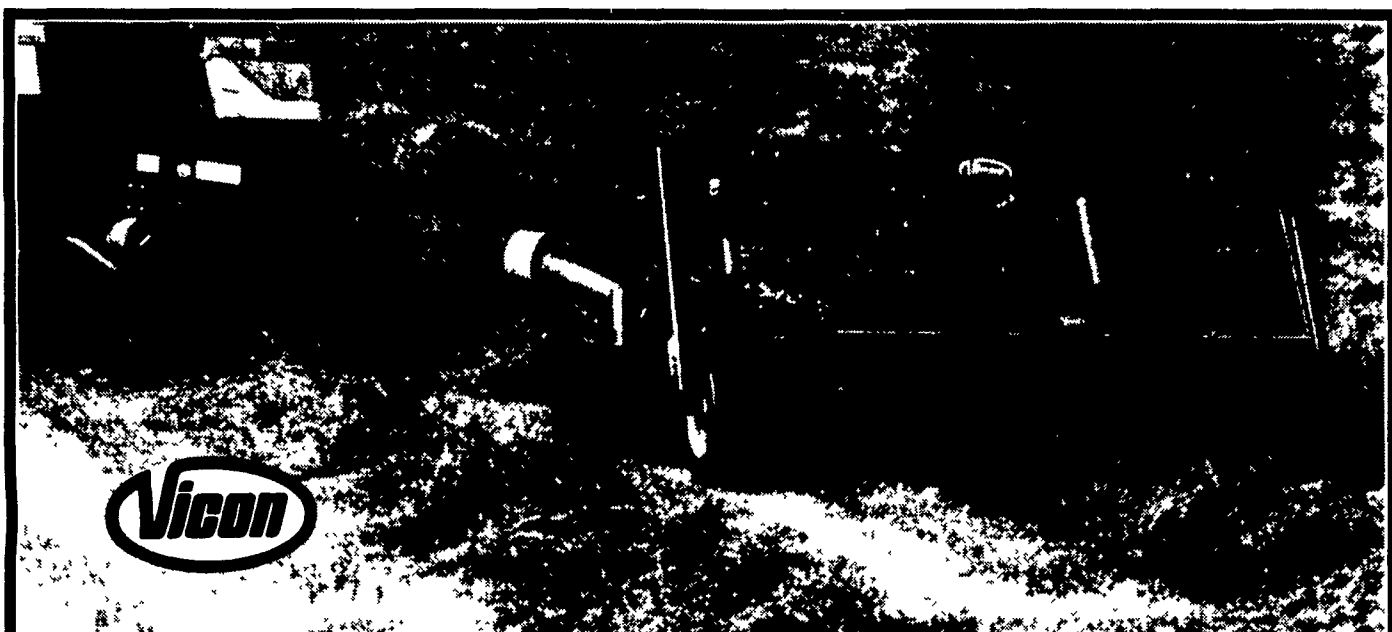
"I do it just to get out and see what other farmers are doing," he said, telling how he enjoys the exchange of ideas and observations.

The drought in 1999 made watching the growth of alfalfa quite interesting.

At a site where Weimer found a natural underground water course exposed by a cave-in at a county road, the root system of his alfalfa had gone several feet deep until it reached the source of moisture.

Overall, Weimer's alfalfa survived quite well during the drought, he said.

Weimer suggests anyone starting into alfalfa needs to select some of the better fields and follow up with soil testing and monitoring the drainage.



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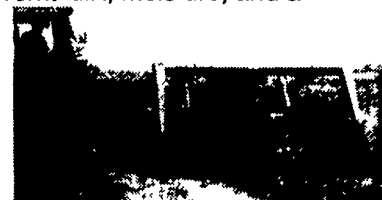
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