

Soil Fertility Essential For Alfalfa Establishment

BLUE SPRINGS, MO.

Alfalfa is the most productive legume in Missouri. It can be grazed or fed as hay, is productive all summer long except during extreme drought and has high yield potential. But alfalfa can be extremely particular about the soil it grows in, said a University of Missouri Extension agronomy specialist.

The first step in providing adequate fertility for alfalfa establishment is to take a soil test around 12 months prior to planting, said Travis Harper. Alfalfa requires well-drained soil with a pH of 6.0-6.5 and adequate levels of phosphorus, potassium and boron.

"Every year soil tests come across my desk in early March for fields where alfalfa is going to be planted in late March or early April," Harper said.

Most of the time, the pH of the soil is less than 5.5 and soil-test phosphorus levels are in the single digits, he said. "Farmers are less than thrilled when I tell them they should work on the fertility of their field and wait until next year to plant alfalfa."

The main reason they should wait is that it can take several months for lime to correct the pH of an acidic soil. Adequate soil pH is important for the formation of root nodules, which contain ni-

trogen-fixing bacteria. "It is very difficult for alfalfa to thrive without good nodulation," Harper said.

Apply lime on prepared seedbeds and work it into the soil at least six months before planting. For no-till seedings, when lime cannot be incorporated, apply lime a year in advance.

"If you are planning to plant alfalfa in the spring, lime should go on in the next few weeks," he said.

Phosphorus also is important in establishing a good stand of alfalfa. Phosphorus stimulates root growth, which helps with summer drought resistance, winter survival and quick spring growth.

"Soils in Missouri have a tendency to be low in phosphorus. Unless a field has had phosphorus applied recently, more phosphorus is likely to be needed," he said.

Even soil that is well-fertilized prior to establishment is still going to need additional lime and fertilizer down the road, Harper noted. Test soils two years after establishment and every two years after that.

For more information, contact your local MU Extension center or search online at <http://extension.missouri.edu>.
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