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## Bluegrass

Howell N. Wheaton

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Higher Crop Yields From Improved Soils

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# HIGHER CROP YIELDS FROM IMPROVED VARIETIES

corn      soybeans      wheat      oats      legumes      grasses

Cooperative Extension Service  
Purdue University  
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## BLUEGRASS

Howell N. Wheaton, Extension Agronomist

A natural grass for permanent or semi-permanent pasture in northern and central Indiana is Kentucky bluegrass. About 90 percent of the bluegrass pastures in America has developed spontaneously. However, it needs management and fertilization for maximum benefit. Bluegrass responds to lime, phosphate and nitrogen.

Kentucky bluegrass is extremely sensitive to high temperatures. Some growth occurs at 40°F. However, best root and rhizome growth occurs at 60°F. Extreme summer temperatures cause dormancy, although much of the so-called summer dormancy is caused by lack of nitrogen. Abundant nitrogen will prolong the effectiveness of bluegrass in the summer period. Dry weather can bring on dormancy, but bluegrass survives most severe droughts.

Kentucky bluegrass is a sod forming plant with a spreading root system that can compete very favorably with orchardgrass and timothy in production of dry matter per acre. Grazing management can greatly increase yield of bluegrass. In management of bluegrass it is important that the grass not be grazed to a height lower than 2 or 3 inches. If it is grazed too closely, the sod becomes unproductive and weedy, and soon it is relatively unproductive.

### Response to Nitrogen

Bluegrass always responds to nitrogen if no legume is present. Thirty-sixty pounds of nitrogen should be applied for pro-

ductive stands, and larger amounts may be profitably used. Nitrogen applied to bluegrass in late May will provide a longer grazing season than if it is applied earlier. However, if early pasture is needed, application of nitrogen in March or early April will produce growth several weeks earlier. However the later applied nitrogen will tend to produce bluegrass later into the summer. The total production will tend to produce bluegrass later into the summer. The total production will remain about the same. Many bluegrass sods can be made more profitable by application of phosphate and potash. There are many instances of just phosphate applied to thin weedy permanent pastures resulting in a vigorous bluegrass sod. However it must be remembered that bluegrass needs additional nitrogen for top production.

A long-lived legume will best perform with bluegrass. Alfalfa and red clover will die out in a few years. Ladino clover will give good results with bluegrass but some danger from bloat exists.

### Bluegrass with Birdsfoot Trefoil

The best legume to use with bluegrass in central and northern Indiana is birdsfoot trefoil, either certified Empire or Viking. Experiments at the Miller-Purdue Farm showed that birdsfoot and bluegrass produced 115 pounds more beef per acre than a straight fertilized bluegrass pasture. Even after 120 pounds of actual nitrogen was added

to the bluegrass pasture, the birdsfoot-bluegrass pasture out-performed it by 35 pounds of beef per acre. Beef from birdsfoot was produced at less cost than that produced using commercial nitrogen. It costs about 12 to 13 cents a pound to produce beef with the nitrogen-fertilized

bluegrass and just over 5 cents for the trefoil-bluegrass.

One of the major reasons for using trefoil in permanent pastures is because birdsfoot is long-lived. Some pastures at the Miller-Purdue Farm are now 24 years old. They were originally seeded in 1939.

Historic Document

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