Time to Fertilize Alfalfa Ground

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As the old saying goes, “Put it (fertilizer) on, don’t put it off”. Following first harvest is an excellent time to apply fertilizer. Let’s discuss some aspects about phosphorus, potassium, sulfur, and boron fertilization for alfalfa hay. A soil test is the starting point for a fertilizer program for any crop. Depending upon the soil test values, build-up and/or maintenance amounts of phosphorus and potassium can be planned.

In terms of the maintenance required, one ton of hay removes 12 to 15 pounds of P$_2$O$_5$ per acre and 50 to 60 pounds of K$_2$O per acre. This equates to 26 to 33 pounds per acre of 0-46-0 and 83 to 100 pounds per acre of 0-0-60. It works well to top-dress phosphorus and potassium split after the first and last cutting of the season. Fertilizer should be applied soon after harvest before regrowth resumes. Avoid contact with wet foliage.

Phosphorus is important for seedling establishment and energy transport while potassium is needed for legume persistence, disease resistance, and water relations for alfalfa.

Potassium levels are good for the plant, but high potassium levels (above 3%) can cause health problems for early-lactating cows. High testing potassium fields need to be managed if concerned with high potassium levels in forage. Some of these management factors include well calibrated, current soil tests to guide potassium applications, cut the alfalfa lower, and allow alfalfa to mature a few days longer before harvesting.

Plant or tissue analysis should be used to determine sulfur and boron levels by sampling the upper six inches of alfalfa at the early bloom stage. Organic matter is the main source of these two nutrients; so sandy, shallow, and low organic matter soils favor response to sulfur and boron. 20 to 25 pounds per acre of sulfur can be applied on established stands.

On sandy soils, 1 pound of boron per acre may need to be applied yearly, whereas on heavier soils, 3 to 4 pounds of boron per acre in the first hay year should be adequate for the life of the stand. Boron should not be applied to alfalfa the year preceding corn and it should not be applied to the seedbed as it can damage germinating seeds. Other than boron, micronutrient deficiencies in alfalfa are rare in northern Illinois. Consult the Illinois Agronomy Handbook, available at Extension offices and on-line at www.aces.uiuc.edu/iah, for more information.

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