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Fall Fertilization and Liming For Tobacco Production

J. L. Sims and K.L. Wells

Proper nutrition of tobacco is a prerequisite for achieving high yields of cured leaf possessing desirable marketing characteristics. Together with the variety grown, soils, climate, and curing conditions, a desirable nutrient environment greatly influences yield, quality, and usability of the leaf produced. Late summer and early fall is a good time to select fields for future tobacco crops or to sample this year's tobacco fields which will be used for tobacco next year, and to assess their needs for lime, phosphorus, and potassium. Planning fertilization strategies this fall that lead to increased profit is much more effective than waiting until next spring.

Generally, tobacco grows best in rotations with sod crops and on soils with good internal drainage. Grass or mixed grass legume sods encourages

development of granular soil structure that enables plant roots to grow into larger volumes of soil from which to extract nutrients and moisture. Tobacco grown in rotation is also less likely to have manganese toxicity or black root rot and black shank diseases. If tobacco is to be grown following tobacco, cover crops should be planted in tobacco fields each fall. Cover crops absorb carry-over nitrogen, and reduce both soil erosion and the amount of nitrate reaching the ground water.

After selecting fields for tobacco, soil samples should be taken to determine lime and fertilizer needs. County Agricultural Extension Agents can assist in securing both the chemical tests of soil and the recommended kinds and amounts of lime and fertilizer to apply. If lime is needed, it can be broadcast and disked

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into the soil before seeding cover crops on existing tobacco fields. This gives the lime 6 to 7 months to react with the soil before transplanting tobacco and will more effectively raise the soil pH ahead of transplanting than if applied the following spring.

The desirable soil pH for a tobacco field should be around 6.6 before applying fertilizer or sidedressing in the spring since pH drops after plowing and fertilization. By the middle of the growing season it may be 0.5 to 1 pH unit lower than just prior to fertilization. Application of lime (Ag lime) is the most economical way to adjust soil pH and additions should be made 1 to 3 years ahead of the crop. This will minimize the likelihood of manganese toxicity. If more than 4 tons/acre are required, plow half down and disc in the other half for soils with water pH below 6.0.

Generally, both phosphorus and potassium are applied broadcast and incorporated. Fertilizer plowed down is most likely to be in the zones of greatest

soil moisture availability for the next crop season and is also less subject to erosion losses. Potassium should not be applied in the fall on sandy soils nor should nitrogen be fall applied on any soil, to prevent leaching losses over winter. Nitrogen is best applied in the spring in one or two drill bands, 10 to 12 inches to the side of the row and soon after transplanting.


Extension Soils Specialist