Nornicotine accumulation in ethylene treated tobacco leaves. (A00-cotterill101127-Oral)

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Abstract:

Nornicotine accumulation in tobacco results from nicotine demethylation. Accumulation of nornicotine is not desirable in cured tobacco leaf. The objective was to determine the variability of nornicotine accumulation among individual tobacco plants within commercial cultivars. Leaves were sampled from the plant as they reached about 15 cm in length. The leaves were then sprayed with ethephon to induce nicotine demethylation and allowed to senesce for approximately 5-7 days, they were oven dried and then nicotine and nornicotine amounts were measured. Results indicate differences among cultivars for stability of nornicotine accumulation among individual plants but not within an individual plant. Ethylene stimulates nornicotine accumulation to maximum genetic potential of a plant. Among burley varieties, the percentage of plants for which nornicotine exceeded 20 % of total alkaloids ranged from 7.1 for TN 90 to 11.2 for KY 17; two to four percent of plants from each variety exceeded 60 % nornicotine.

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