

Dr. Green.

Regarding the use of ammonia vapour to turn Indian grey tobacco yellow, this was ~~report~~ mentioned to us in a confidential letter from Dr. Reddy (letter EX/43/346 dated 18th April 1963 - File 79, Indian Leaf Tobacco Co. Ltd.) We carried out a few tests which I have not yet reported to Dr. Reddy, but was in fact about to do so.

We confirmed his observation that treatment of leaf for a few minutes turned it yellow, but the yellow was not uniform as it occurred in streaks and patches giving the leaf an unnatural appearance. It faded fairly rapidly, and in a few days the colour was back to the original.

[Query: in Gilliam's letter should "ten or fifteen months" read "ten or fifteen minutes" ?]

There is one possible explanation which occurs to me, but which may not be the correct one. Tobacco leaf contains chlorogenic acid and rutin. When a plant extract containing these two substances, and similar polyphenols, is separated on a paper chromatogram and the dried paper is "fumed" with an open bottle of conc. ammonia, the polyphenols show as bright yellow spots in daylight, fading slowly to colourless when the bottle is removed. I suspect that something of the same sort is happening in the case of tobacco leaf.

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