

products marketed in the United States: Burley, flue-cured, Maryland, the Dark tobaccos, and Oriental. These tobaccos vary both in nicotine levels and in pH. The pH of a tobacco can have a significant influence on the amount of, and rate at which, nicotine is absorbed into the bloodstream of the tobacco user and delivered to the brain.

Of the five major types of tobacco, Burley tobacco generally contains the highest nicotine levels compared to other tobacco varieties, and it has an alkaline pH. Flue-cured tobacco represents the major tobacco ingredient in American cigarettes. In comparison with other tobacco varieties, flue-cured tobacco has a medium nicotine content and is somewhat acidic.³⁹⁹ Maryland tobacco has a low nicotine content in comparison with other varieties and has an alkaline pH. The Dark tobaccos produce an alkaline smoke, and are the traditional tobaccos for cigar wrappers and fillers as well as for chewing tobacco and for many pipe tobacco mixtures. Oriental tobaccos, cultivated in southeastern Europe and Turkey, are used for their characteristic aroma; they have a low nicotine content, and low pH.⁴⁰⁰

American tobaccos of all types have undergone cumulative increases in total nicotine levels since the 1950's.⁴⁰¹ As the following chart demonstrates, nicotine levels in the most widely grown American tobaccos increased almost 10% for Burley and more than 50% for flue-cured between 1955 and 1980:

³⁹⁹ Browne CL. *The Design of Cigarettes*. Hoechst Celanese Corporation; 1990. Page 43.

⁴⁰⁰ *Id.* at pp. 22, 44.

⁴⁰¹ DeJong DW. The role of American tobacco leaf chemistry in low-yield cigarettes: an agricultural viewpoint. *Tabak Journal International*. May 1985. Pages 376-83. DeJong notes that higher-nicotine American tobaccos are needed in limited quantities to "spike" low yield cigarette blends. He further notes that off-shore tobaccos are invariably lower in nicotine, but serve to provide "filler" style leaf materials deemed necessary for the manufacturing of low-tar cigarettes, which comprise the majority of the U.S. market.