

AIRBUS

EXECUTIVE SUMMARY

With RJR's announcement of Premier in September 1987, Project AIRBUS was initiated at Brown & Williamson as a BAT Group Benefit Research Project. Its first year objectives were to identify technologies, innovations, and resources required to develop product parameters and pathways responding to Premier. Differing from Project Greendot (also initiated at Southampton at the same time), AIRBUS was intended to directly compete with Premier in the concept of "heating but not burning" tobacco.

These first-year objectives have been met. Between the start of research in February 1988 and now, AIRBUS has investigated a wide range of technological, marketing, and consumer concepts. Critical areas for future research have been identified. Consumer reaction to alternative product designs have been assessed. A comprehensive analysis to determine best future directions has been completed.

In addition to developing an understanding of the Premier product itself, technological efforts focused on two basic configurational models: a concentric (Ellis-type) design and a tandem or sequential type design. These basic configurations were used to understand the processes of aerosol generation, heat generation, and nicotine delivery. Extensive research was conducted in identifying conventional materials to control heat and mass transfer operations. Practical experiments were backed up by theoretical models to more quickly identify and solve technical problems.

It now appears that concentric designs cannot deliver the appropriate nicotine aerosol without overheating tobacco to the point of burning or charring. Within the framework of conventional materials, fuels, and product size and weight constraints, these devices are relatively poor generators of the nicotine aerosol and produce messy residual debris.

Sequential designs show more overall promise. With the additional separation of fuel and tobacco, heat management and aerosol generation can be improved. However, substantial additional research is necessary in areas such as fuel, materials science, aerosols, and elution before working prototypes are possible.

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