



These laboratory technicians are making nicotine analyses on tobacco samples representative of Kentucky's burley growing areas. In general, the samples from the 1954 and 1957 crops had a higher nicotine content than those from

1955 and 1956 crops. The results of this study indicate that the most optimum growing condition, such as in 1956, are required for the production of a crop with a nicotine content equivalent to the traditional range of 3 to 3.25 percent.

**In studying factors responsible for the higher nicotine content of Kentucky burley tobacco, researchers report**

## **Nicotine Content of Last 4 Burley Crops**

By R. B. GRIFFITH

In 1953 and 1954 representatives of the major cigarette companies informed the Kentucky Agricultural Experiment Station that the average nicotine content of burley tobacco had reached an undesirably high level. As a result, the desirability of producing milder, lower nicotine burley tobacco was emphasized in the University of Kentucky agricultural extension program, and studies were initiated to determine the nicotine characteristics of the current crops. The current study was made to determine factors responsible for the higher nicotine content and to measure its level in the crops now being produced. This report presents a general summary of the results obtained.

### **Scope of Study**

Samples from the 1954 crop were obtained from the Burley Tobacco Grower's Cooperative Association and were representative of the tobacco which went under loan in 1954. Those obtained in 1955, 1956, and 1957 were sent in by the county extension agents and represented tobacco grown in most of the tobacco-producing counties of Kentucky. Each group of samples

represented the grades as stripped by an individual farmer. Data were obtained from the farmers on growing conditions prevailing for the individual crops and the cultural practices used.

In the laboratory a center cross-section was taken from each hand as submitted and total alkaloid determinations were made. Since the total alkaloid content of most samples consists of 90-95 percent nicotine, total alkaloid content and nicotine content may be considered as essentially the same. Each hand from a given crop was classified as "flyings" or "trash," "lugs," "bright leaf," "red leaf" or "tips" even though some were badly mixed. Some crops did not have samples for all grades. No attempt was made to assign specific government grades to the samples.

### **Alkaloid Characteristics of the Crops**

The average alkaloid content of the samples obtained in the four years 1954-57 and the average alkaloid content of those obtained from specific areas in the state in 1955 and 1956 are given in Table 1. In general, the samples from the 1954 and 1957 crops had

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