

calculated by methods described by Hayes and Garber (10) and are given in Table 5. Correlations which may be considered significant and highly significant are indicated by one and two asterisks, respectively.

Coarse root indexes, yields and burn test data for all tests were combined and analyzed in pairs by the method of Snedecor (18). Conclusions derived are given in the text.

## RESULTS BY SEASONS AND TESTS

Results varied somewhat by seasons as well as by tests. This was particularly true of yield and burn. Since the differences in grade index within tests were mostly small and not significant, the crop index was approximately proportional to the yield. Paragraph numbers correspond with test numbers.

### 1946

The rainfall was low in April, very high in May, and fairly low in June. Yield was high and burn was satisfactory, but the crop was low in grade.

**1. November Fumigation.**—Fumigation on November 2, 1945, gave large increases in yield, averaging 338 pounds per acre for Dowfume W-15 and 322 pounds for D-D at the 23-gallon (approximately normal) rate. Results with D-D at the 40-gallon rate were not quite as good, but all three treatments gave significant increases in yield.

**2. February Fumigation.**—Fumigation on February 4, 1946, gave lower yield of fumigated plots and higher yield of checks than did November fumigation. Yield differences in this test were not significant.

### 1947

The rainfall was high in April and May and normal in June. Low yield, high grade and good burn characterized this crop.

**3. Residual Effect.**—Results of plots fumigated on November 2, 1945, showed substantial, but not significant, increase in yield as compared with checks. D-D (40 gallons) produced the largest increase, followed closely by D-D (23 gallons). Dowfume W-15 (20 gallons) produced the least increase.<sup>5</sup>

<sup>5</sup> Iscobrome gave poorer results in 1946 in nearly all respects than did no treatment. On the other hand, results of the residual test in 1947 showed a substantial, but not quite significant, increase in yield. No explanation for this outcome can be suggested.