

Characteristic Composition and Sensory Contributions of Acidic Aroma in Mainstream Cigarette Smoke of Cherry-Red Tobacco

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Abstract : Cherry-red tobacco is receiving constant attention from cigarette enterprises because of its special flavor. This study aims to explore the material basis for the formation of the characteristic flavor of cherry-red tobacco and to clarify the distribution characteristics of the acidic aroma component groups in its mainstream smoke. In order to reach the aims of current study, this study employs GC/MS to examine the differences of distribution characteristics in particulate matter of mainstream cigarette smoke between cherry-red and common tobacco, meanwhile the aroma activity values (OAV) was used to compare the contribution of acidic aroma of cherry-red tobacco. The results showed that: 1) Isovaleric acid, acetic acid and butyric acid were the key acidic components in the mainstream smoke of the samples, followed by 3-methylvaleric acid, 4-methylvaleric acid and n-valeric acid. 2) Analysis of the release of these key sour fragrance components showed that the acidic aroma of "YUN 85" mainstream smoke was stronger than the leaf group, cherry-red tobacco was the weakest. In addition, aging had the effect of reducing the acidic components of cherry-red tobacco and the addition of cherry-red tobacco had little effect on the acidic components of the original leaf group. 3) For 14 acidic aroma(OAV>1) in smoke of cherry-red tobacco, 3-methylpentanoic acid, 4-methylpentanoic acid, pentanoic acid, and isovaleric acid were very prominent in contributing to acidic aroma, while pyruvic acid, 2-methylbutyric acid, hydrogenated acid, and propionic acid were less contribution.

Keywords : cherry-red tobacco, acidic aroma, GC/MS, mainstream cigarette smoke, odor activity value

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