

# Effect of Yellowing Times During Yellowing Stage on Physico-chemical Properties of Immature Tobacco Leaves in Bulk Curing

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Leaves harvested were separated with visual characters into 2 classes such as immature and mature leaves. In the curing process, the prolonged yellowing treatment during yellowing stage was automatically controlled at the different stalk position and condition of curing process after this period was all the same with conventional ones. In case of prolonged yellowing in immature leaves, increase of price per kg reached to 8% compared with those of conventional ones. In physical properties, and it was equal level in filling capacity of immature leaves between curing method while shatter index was decreased in yellowing treatment than that of conventional ones. There was no difference in chemical components between immature leaves of prolonged yellowing and conventional once. As to the prolonged yellowing of immature leaves, there was decreased in citric and malic acid of the nonvolatile organic acids, and it was equal level in all higher fatty acids conventional curing method. A major chemical compounds in relation to aromatic essence was lower in prolonged yellowing of immature leaves than those of mature leaves cured by conventional ones.

**key words :** Immature leaf, prolonged yellowing, physico-chemical properties