

## Characteristics of moisture adsorption and desorption with tobacco type

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Tobacco moisture content has influence on directly the physical properties (filling power, fineness index etc.), combustibility, smoke components and panel sensory attributes of tobacco. In the present work, we investigated moisture adsorption and desorption characteristics of domestic and imported tobaccos. Experiments were performed at various temperature(5, 15, 25, 40°C and relative humidity range (11~84%) controlled by saturated salt solution. Regression equation was obtained to predict equilibrium moisture according to various relative humidity, temperature and tobacco types. The obtained regression equation showed a high  $R^2$ (above 0.95) and predicted accurate equilibrium moisture. Equilibrium moisture contents were declined in the following order when a relative humidity is 50% or above : domestic expanded stem, domestic flue-cured, domestic expanded tobacco, domestic reconstituted tobacco, USA flue-cured, imported orient and domestic burley, respectively. To maintain the 13% moisture of each tobacco type in the range of 5~40°C 49~56% of control relative humidity for domestic expanded stem, 50~57% for domestic flue-cured, 54~61% for USA flue-cured, 56~60% for domestic reconstituted tobacco, 57~62% for domestic expanded tobacco, 58~64% for imported orient and 58~65% for domestic burleywas required, respectively. In the range of 5~25°C the lower temperature showed the higher equilibrium moisture content. The results mean that the relative humidity of each tobacco type should be differently controlled to maintain the same moisture content under the constant temperature.