The invention refers to the tobacco postharvest treatment, in particular to fermentation, and may be used by tobacco producing farms and fermentation enterprises for obtaining of tobacco raw material useful for manufacture of smoking articles.

The problem, the invention solves, consists in the elaboration of a process for tobacco fermentation optimal according to the technological parameters.

The process, according to the invention, solves the given problem by the fact that in the known process for fermentation of baled leaf tobacco, including discontinuous heating of the leaves up to a temperature of 50...60°C and their discontinuous cooling up to 40...45°C with active ventilation of the treated raw material mass with humid air, at heating the relative humidity of the air is decreased proportional to the temperature growth from 85 to 55%, and at cooling it is increased proportional to the temperature decrease from 55 to 85%.