

热泵型烟叶自控烘烤设备的研究

Heat pump type of autocontrol equipment for tobacco leaf flue-curing

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中文摘要:

针对我国烟叶烘烤设备陈旧落后,耗煤量高,环境污染重,且难于保证烟叶烘烤质量问题,利用热泵加热和冷凝除湿原理,采用微电脑程序控制温、湿度,设计建造了热泵加热式温、湿度自控烟叶烘烤设备。试验检测结果表明,装烟室内温湿度环境和烟叶变化均衡,烘烤1kg干烟叶平均耗电量约为2 kW/h,冷凝除湿效率达15%左右,工作过程不产生废气、废水,能有效提高烟叶烘烤质量,社会效益和环境效益显著。

英文摘要:

Out-dated curing facilities brought about the waste of coal, environmental pollution, and unreliable tobacco quality. A heat pump type of tobacco leaf flue-curing equipment was designed and built with the added concern that temperature and humidity would be controlled by a microcomputer. Heat is generated by a heat pump and it is dehumidified by vapor condensation. The results of the experiment indicated that the changes of temperature and humidity of the curing room and that of the tobacco leaves were identical. The average power consumption was roughly 2 kW·h for flue-curing 1 kg dry tobacco leaves. The efficiency of dehumidification by vapour condensation was about 15%. The process does not produce waste steam or water, which improves the quality of flue-cured tobacco and produces remarkable social and environmental benefits.

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