ABSTRACT

This paper presents a framework based temperature controling design based fuzzy logic whos applied to a coffee beans dryer system. With fuzzy logic enable to made intelligent controlling system whos applied to implement an expert skill in controlling the temperature. With use this system so drying the coffea bean is not influenced by weather condition outside the system. The process of drying coffee beans can easily be set by entering the setting point form degrees Celsius and humidity of the air in the form of RH (Relative Humidity) suitable drying coffee beans we want.

The main emphasis of this paper lies in the fuzzy control design methodology that consists of the understanding of plant systems to be controlled, the identification of input / output, the determination of membership functions and the formation of fuzzy if-then rules. In this design process is assisted by the program fuzzy toolbox in Matlab as fuzzy simulation and by using microcontroller.

The advantages of the system maker Hybrid Automatic Coffee Beans is its ability to maintain the temperature and humidity in the drying room properly when used without any help from the warming rays of the sun and when used with the help from the warming rays of the sun, beside that its ability is deactivated all of drying system after drying process is done for 7 hours drying. With use the heater as electric heater and sun dryer can produce the economization of used energy until 56,9% than only use electric heater.

Keywords : *Fuzzy Logic, Framework, if-then rules, setting point*