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论文

# 牛舍饲养环境温度控制系统的研制及应用

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**摘要:**

基于AT24C16 单片机嵌入式温度检测控制系统中关键部分的软件设计,采用通用的单片机C语言编写,主要包括嵌入式系统的初始化和检测程序。温度控制采用偏差控制法,其原理是先求出实测温度与所需温度的偏差值,再获得偏差值处理控制信号,以调节温度控制装置的加热功率,实现其对牛舍温度的控制。试验结果表明:7～9月份牛舍有无温度控制系统控制温度,肉牛的采食量与日增重差异显著。

**关键词:** 牛舍 饲养环境 温度控制系统

## Development and Application of Rearing and EnvironmentControl System of Cattle Pen

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Abstract:

This study is mainly aimed at the software design of the key parts in the temperature detection control system based on AT24C16 single chip computer embedded system. The design, which mainly includes embedded system initializationand its detecting program, is written in general purpose C language of singlechip computer. Temperature control uses the method of deviation control. The principle of deviation control is first to evaluate the deviation value of practicaltemperature and needed temperature, and then to process the deviation value in order to obtain the control signal which will be used to regulate the heating power of temperature regulation equipment. As a result, the temperature of cattle pen is realized. The results of this experiment show that whether there is temperature control system in July, August and September or not, the intake of beef cattle and the daily gain are significantly different.

Keywords: cattle pen rearing environment temperature control system

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