计算机工程与应用 2009 45 (25): 238-239 ISSN: 1002-8331 CN: 11-2127/TP

工程与应用

ARIMA模型在农产品价格预测中的应用

刘 峰[1,2]，王儒敬[1]，李传席[1,2]

1.中国科学院 合肥智能机械研究所，合肥 230031
2.中国科学技术大学 自动化系，合肥 230027

收稿日期 2008-5-7 修回日期 2008-7-25 网络版发布日期 2009-9-8 接受日期

摘要 利用农产品价格时间序列的当前值和过去值准确预报未来值，将有利于正确引导农产品流通和农业生产，实现农产品区域供求平衡，并为政府和农户提供结构调整的依据。针对农产品价格这一重要问题，以白菜月价格数据为例，构建非平稳时间序列ARIMA（*p*，*d*，*q*）模型并预测白菜未来的月价格。结果表明ARIMA（0，1，1）模型能很好地模拟并预测白菜月价格趋势，为农产品市场信息的准确预测提供重要方法。

关键词 农产品价格 时间序列 自回归移动平均模型 价格趋势

分类号 TP311

Application of ARIMA model in forecasting agricultural product price

LIU Feng[1,2]，WANG Ru-jing[1]，LI Chuan-xi[1,2]

1.Institute of Intelligent Machines，Chinese Academy of Sciences，Hefei 230031，China
2.Department of Automation，University of Science and Technology of China，Hefei 230027，China

Abstract

The forecast of future values of a time series based on the current and past values of the prices of agricultural products is helpful to guide agricultural products circulation and production，balance the supply and demand in different regions and provide the basis for agricultural restructuring by the government and farmers.To address this important issue，this paper introduces the non-stationary time series model ARIMA（*p*，*d*，*q*） built on monthly prices of cabbage and attempts to forecast the price in the coming months.The result proves that ARIMA（0，1，1） can correctly simulate and forecast the price trend of cabbage，providing an important method for the accurate forecast of agricultural product market information.

Key words prices of agricultural products time series Autoregressive Integrated Moving Average Model（ARIMA） price trend

DOI: 10.3778/j.issn.1002-8331.2009.25.073

通讯作者 刘 峰 fengl@mail.ustc.edu.cn