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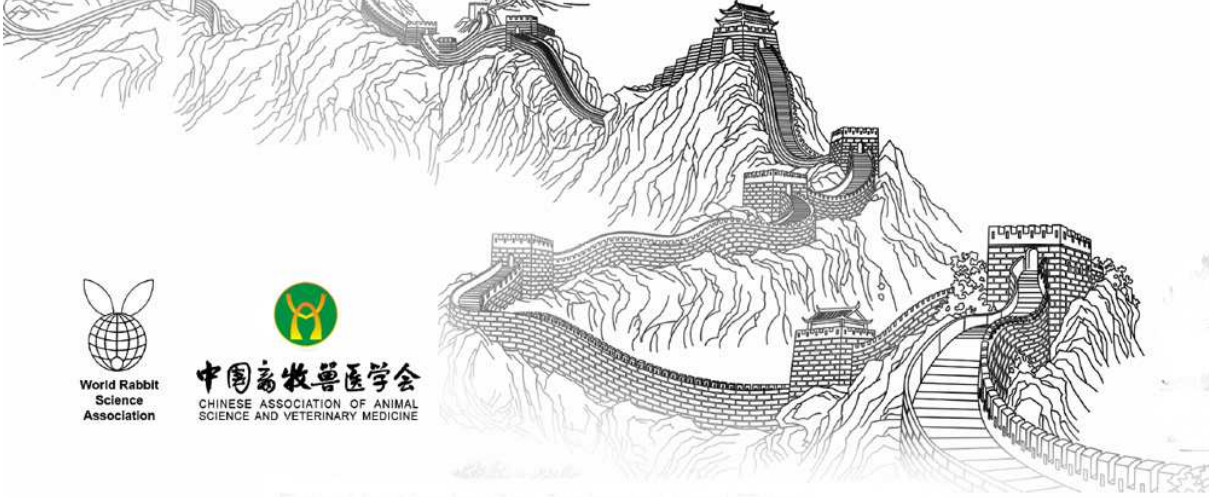

World Rabbit Science Association

中国畜牧兽医学会

CHINESE ASSOCIATION OF ANIMAL SCIENCE AND VETERINARY MEDICINE

FORECASTING THE PRICE TREND OF RABBIT COARSE WOOL BY MEANS OF TECHNICAL ANALYSIS INDICATORS

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ABSTRACT

This paper describes the definitions and practical applications of MACD, RSI and BOLL indicator. On this basis, the numeric values of these indicators are calculated, using the weekly data of rabbit coarse wool. Then, this paper draws pictures of these technical indicators and forecasts the price trend of rabbit coarse wool by using these three kinds of technical indicators respectively. Finally, in order to enhance the effectiveness, the comprehensive analysis of these three indicators is carried on.

Key words: the price of rabbit coarse wool, MACD, RSI, BOLL

INTRODUCTION

Technical analysis, which can be divided into index analysis and morphological analysis, is used to predict the future trend of the market price changes. Technical analysis starts from K line analysis, and K line was originally used to predict the price trend of rise before extended to stock and other securities market. Therefore, the paper adopts the method of technical analysis indicators to predict the trend of agricultural prices has certain feasibility. The data of the paper is accumulated by the technology system of rabbit industry since 2011 and is on a weekly basis, so the sensitive of technical indicators maybe decrease. However, considering the entity industry adjust slower than the virtual economy, using weekly data to forecast also has certain rationality.

The Utilization of MACD to Forecast the Price Trend of Rabbit Coarse Wool

MACD (Moving Average Convergence and Divergence) is based on the Moving Average longer-term indicators, and often used in the stock market to predict price movements. This indicator, which smoothens the short-term moving average (commonly 12 days) and long-term (commonly 26 days) of the closing price, is a kind of tracking trend index. MACD is composed by DIF and DEA.
Calculation method of MACD is as follows: EMA12 = last week EMA12 $\times$ 11/13 + price of this week $\times$ 2/13; EMA26 = last week EMA26 $\times$ 25/27 + price of this week $\times$ 2/27; DIF= EMA12 - EMA26; DEA=last week DEA $\times$ 8/10 + this week DIF $\times$ 2/10; MACD= DIF-DEA.
The basic usage of MACD is as follows: (1) Golden cross law: DIF breaks through DEA from down to up is a buying signal; (2) Death cross law: DIF breaks through DEA from up to down is a selling signal; (3) MACD changes from negative to positive, then market will change from a bear market to a bull market and vice versa; (4) Both DIF and DEA are negative means a bear market and DIF breakthrough DEA from up to down is a selling signal, vice versa; (5) DEA deviates from the price line is an inversion signal.

As is shown in figure 1, at the end of September 2012, DIF broke through DEA from down to up, forming a golden cross, suggested that the price was rising. Both DIF and DEA were positive until March 2013, DIF broke through DEA from up to down, forming a death cross at that time, the price inversed and began to fall. The MACD continued to be negative from then on, and the price line was trending downward. This trend ended in June 2013, when DIF inversed and the absolute value of MACD decreased. In late August 2013, both DIF and DEA rose dramatically and stimulated the rising of price. In the middle of November 2013, DIF broke through DEA from up to down, forming a death cross and the price fell dramatically. DIF and DEA fell in the meantime. In February 2014, DIF line inversed in the low post as the price line stopped declining and showed an upward tendency. In March 2014, DIF broke through DEA from down to up, forming a golden cross, a rising market began after a month of slight shock adjustment. In July 2014, DIF broke through DEA from up to down, forming a death cross. The price line sustained downward trend until the end of August 2015, when DIF broke through DEA from down to up and formed a golden cross at a relatively low. The price has been risen for a certain extent since then and this really is expected to last for a period of time.

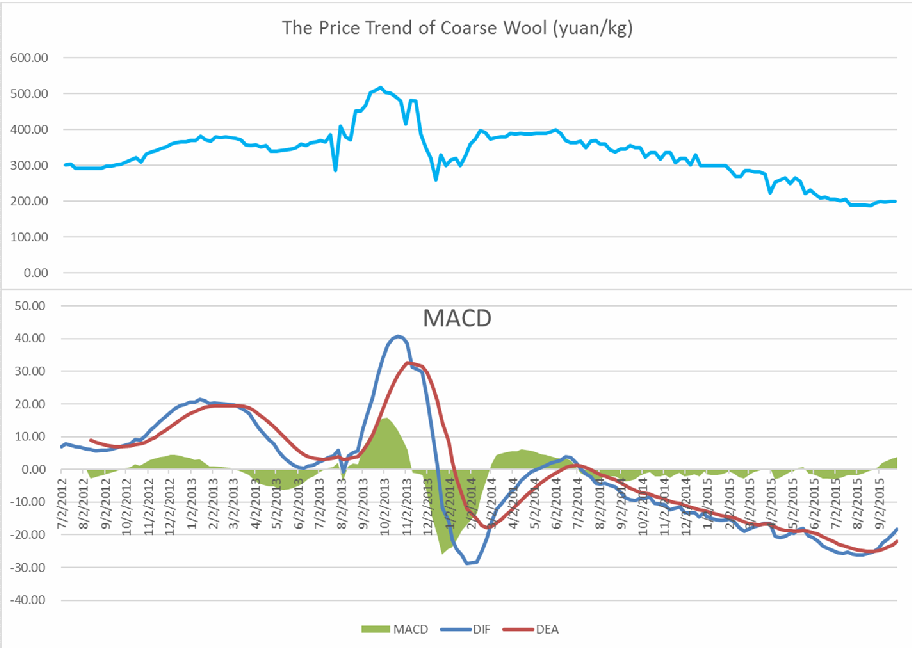

Figure 1: The price trend and MACD

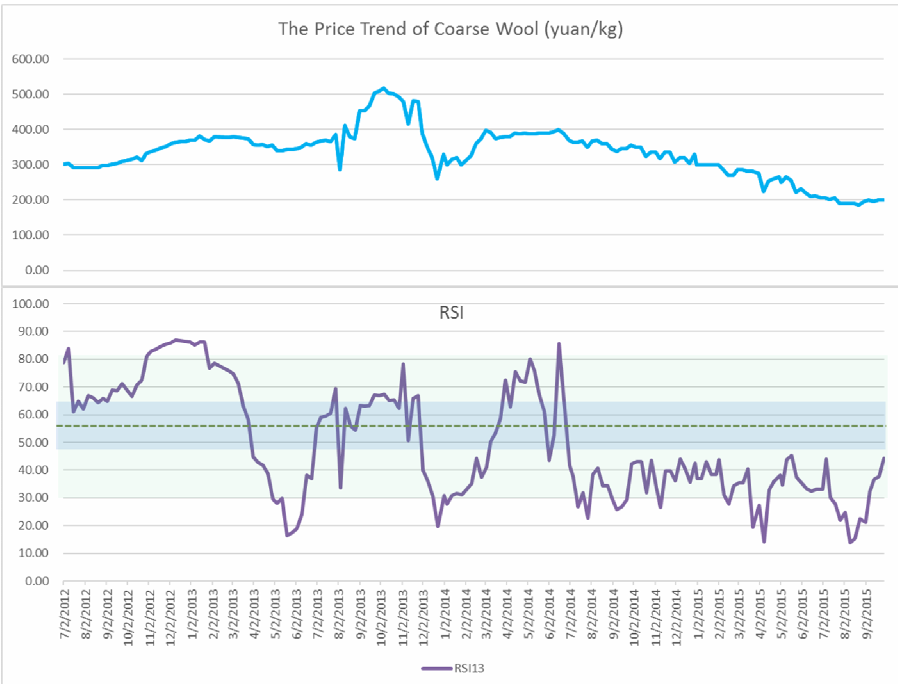

Figure 2: The price trend and RSI

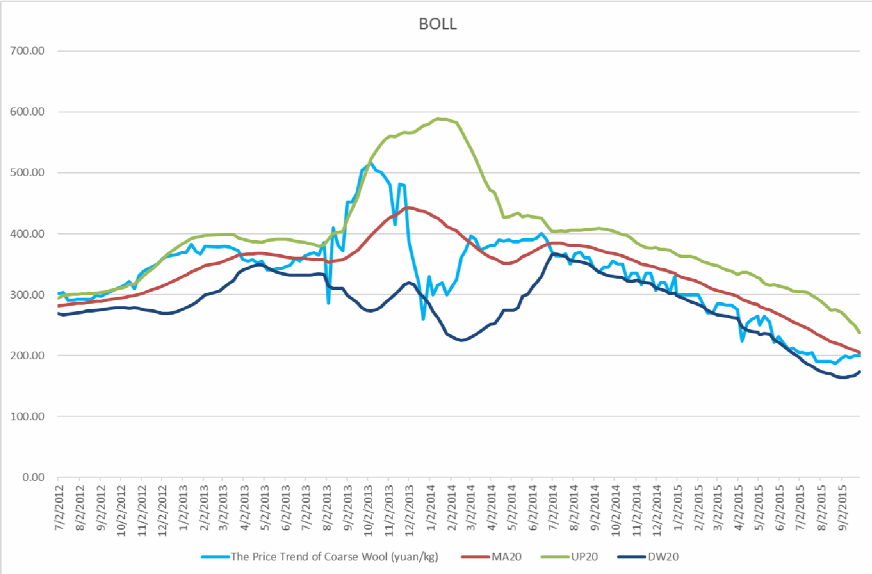

Figure 3: The price trend and BOLL

The Utilization of RSI to Forecast the Price Trend of Rabbit Coarse Wool

RSI (Relative Strength Index) takes the average value of a certain price rise and fall as a measure of power of supply and demand, and as a basis to predict the future price changes. Short-term RSI is more susceptible and long-term RSI is more stable, so the paper chooses relatively long-term RSI (13 weeks) in order to react long-term price form.

Calculation method of RSI is as follows: RSI = the average value of price rise in 13 weeks÷(the average value of price rise in 13 weeks + the average value of price fall in 13 weeks)×100.

The basic usage of MACD is as follows: (1) Estimating overbought and oversold zone according to the RSI value; (2) Studying and judging according to the shape of RSI curve. (3) Keeping track of deviation according to RSI and the price line. The deviation is divided into top deviation and bottom deviation.

As is shown in figure 2, in early July 2012, RSI was more than 80 and in overbought area, showing that rally would end and the price would fall. From August 2012 to the end of October, RSI shocked in the 60 to 80 range and the price started a gently rising trend. From November 2012 to the end of January 2013, RSI was in the oversold area and the rise of price slightly increased. Started from February 2013, RSI fell sharply. In April 2013, RSI fell through the market strength dividing line and the price fell continuously. The price line stopped declining and showed an upward tendency as RSI fell to oversold area in May 2013. From then on, both RSI and the price line were in uptrend. In December 2013, RSI fell through the market strength dividing line again and the price started declining dramatically until January 2014.From April 2014 to July, RSI fluctuated considerably above the dividing line, while the price line was in a relatively steady state. From July 2014 to August 2015, RSI fluctuated continuously below the dividing line. The market was obviously weak and the price line sustained a downward trend. In August 2015, RSI fell below 20 and in oversold area for a short while before a sharp rise, suggesting a rising tendency of the price. Both RSI and the price line were on the rise in August 2015 and September, and RSI began to return to the dividing line. The rise of price will persist in the near future.

The Utilization of BOLL to Forecast the Price Trend of Rabbit Coarse Wool

BOLL indicator, which is composed of a up line、a down line and a mean line, is to reveal the short-term volatility intensity of price and to predict the market trend. BOLL is especially appropriate for timing the market.

Calculation method of BOLL is as follows: mean line value = the mean value of price in 20 weeks; up line value = mean line value + 2 times the standard deviation; down line value = mean line value - 2 times the standard deviation.

The basic usage of BOLL is as follows: (1) The price line breaks through the up line from down to up is a buying signal; (2) The price line breaks through the mean line from down to up is a buying signal; (3) The price fluctuates between the mean line and the up line represent a bull market and vice versa; (4) The price line breaks through the mean line from up to down after running between the mean line and the up line for a period of time is a selling signal.

As is shown in figure 3, from July 2012 to October, the gap between the up line and the down line continued to narrow and the price had remained between the two lines, indicating a rising tendency of the price. In October 2012, the price line fell through the up line and the gap between the up line and the down line was quite narrow, forming a rising market. In April 2013, the price inversed and fell through the mean line from up to down, while the gap between the up line and the down line narrowing. A month later, the price fell through the down line and before a sharp rise, suggesting that the price would rise. The price line rose through the mean line in July 2013 and rose through the up line in August 2013, and then fluctuated between the mean line and the up line. In the early September 2013, the price, showing a strong momentum, rose through the up line and sustained rising. From October 2013 to December, the price line fluctuated dramatically and remained a downward tendency. On the end of October 2013, the price fell through the down line and inversed in January 2014. The price started rising and rose through the mean line in March 2014. In July 2014, the price fell through the mean line from up to down and the gap between the up line and the down line narrowed quickly. The price continued to decline and remained between the up line and the mean line until March 2015, while the gap between the up line and the down line remained to be narrow. At the end of September 2015, the price started to inverse while the gap between the up line and the down line becoming narrower. It is observed that the rise of price will persist in the near future.

The Comprehensive Analysis of the Three Technical Indicators

The change of MACD indicator usually lag behind the change of price, but the accuracy ofMACD on showing long-term price movements is high (Nie, 2008). In contrast, the feature of RSI isresponsive to price changes, so it is suit for short-term operation. But RSI will fail when prices have unilateral continuous variation (Liu, 2008). So it is indispensable to combine these two indicators. Considering that both MACD and RSI will fail when prices continue to fluctuate, BOLL is needed to determine the end time of prices adjustment (Wu 2013). Therefore, the comprehensive analysis of the three indicators is of great importance.

MACD formed a golden cross in October 2012 and RSI shocked in the 60 to 80 range. With regard to BOLL, the price line fell through the up line and the gap between the up line and the down line was quite narrow, so the upward tendency of price was determined. In March 2013, MACD formed a death cross while RSI fell to oversold area, so the short-term downward tendency of price was explicit. In July 2013, MACD formed a golden cross and RSI indicated that the price was still under adjustment. The price in BOLL performed steadily between the up line and the down line, so the signal of upward tendency was not clear. In December 2013, MACD formed a death cross in the high post, and RSI was close to the overbought zone. The price line in BOLL fell through the up line, so the downward tendency of price was determined. In July 2014, MACD formed a death cross while RSI rose to overbought area, and the gap between the up line and the down line narrowed quickly in BOLL. Sothere was a high possibility that the price was going to decline. In September 2015, MACD formed a golden cross while RSI fell to oversold area and the price line was going to rise through the mean line from down to up, therefore, the upward tendency of price was determined and the price would on the rise in the long term.

REFERENCES

Liu Libin, 2008. How to Judge Price Tendency by RSI Indicator . Financial Planner. (09): 52-53.

Nie Shuyun 2008. Defection of Application of MACD Indicator and the Means of Redress.China Township Enterprises Accounting.(03): 31.

Wu Can 2013. Research and Application on the Stock Market Bollinger Bands Indicator Analysis Methods. Science Mosaic. 5 241-245.

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Forecasting the Price Trend of Rabbit Coarse Wool by Means of Technical Analysis Indicators

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1 The message

Using the technical analysis method of securities forecast the future price of rabbit product

Forecasting the price of rabbit coarse wool would increase in the near future of Sept.

2 Introduction

Forecast the future price change on the market to guide the rabbit product production

3 Methods

3.1 MACD(moving average of convergence and divergence)

3.2 RSI (relative strength index)

3.3 BOLL (Bollinger Bands)

4 Results

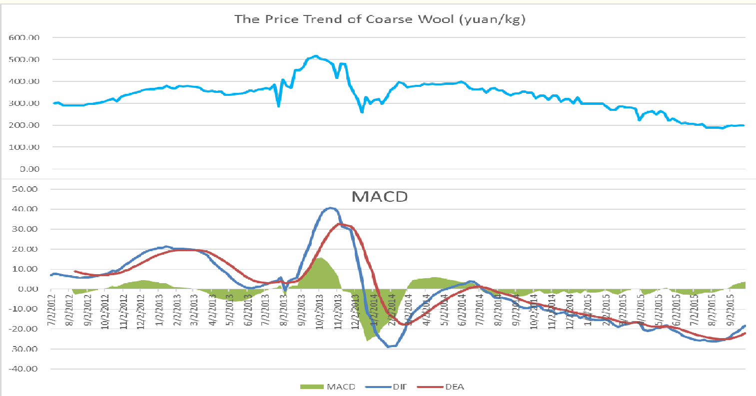

Figure 1 The price trend and MACD

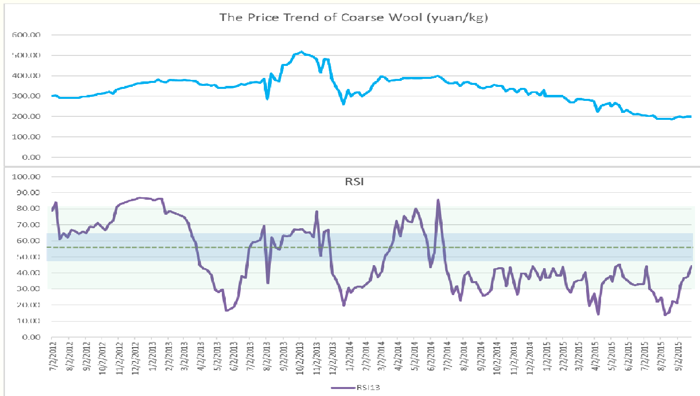

Figure 2 The price trend and RSI

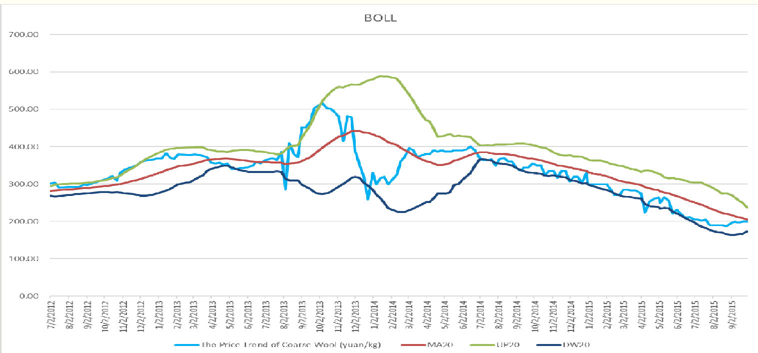

Figure 3 The price trend and BOLL

5 Conclusions

The rise of price will persist in the near future.

6 Test of the conclusion