

FORECASTING OF AGRICULTURAL PRODUCTS INCLUDED IN THE CONSUMER BASKET

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Abstract. *The applications are a great solution for estimating the production of many cultivated crops. In addition, early season forecasts for major field crops are prepared right in the apps. Application programs must make several requests to obtain the basic data needed to perform this task. These surveys will consist of producer interviews and objective site visits using sophisticated survey sampling and statistical methodology. Large-scale field surveys are used to identify pre-screened subsampling populations for yield studies. This article describes the survey and sampling methods, as well as the data collection procedures.*

Keywords. *Yield, forecast, estimate, regression, outlier.*

ПРОГНОЗИРОВАНИЕ СЕЛЬСКОХОЗЯЙСТВЕННОЙ ПРОДУКЦИИ, ВХОДЯЩЕЙ В ПОТРЕБИТЕЛЬСКУЮ КОРЗИНУ

Аннотация. *Приложения являются отличным решением для оценки производства многих культурных культур. Кроме того, прямо в приложениях готовятся прогнозы на начало сезона по основным полевым культурам. Прикладные программы должны сделать несколько запросов, чтобы получить основные данные, необходимые для выполнения этой задачи. Эти обследования будут состоять из интервью с производителями и объективных посещений объектов с использованием сложной выборки и статистической методологии. Крупномасштабные полевые исследования используются для выявления предварительно отобранных подвыборок популяций для изучения урожайности. В этой статье описаны методы обследования и выборки, а также процедуры сбора данных.*

Ключевые слова. *Доходность, прогноз, оценка, регрессия, выброс.*

INTRODUCTION

Ensuring food quality and safety is an integral part of food production. The most important and in some aspects the most important and important in the food production process is the set of measures aimed at quality control and prediction. In modern production conditions, product quality is the most important component of enterprise efficiency and profitability. Forecasting is the process of forming a probabilistic view of the state of economic processes and events at a certain point in the future and alternative ways of achieving them. Any forecast has its own characteristics:

- Prediction accuracy - estimation of the confidence interval of the forecast for a certain confidence probability of realization (if the forecast has a probabilistic character);
- Prediction reliability - assessment of the probability of forecasting for a certain confidence interval (in cases where the forecast has a probabilistic character);
- Forecast error - the actual deviation of the forecast from the actual position of the forecast object.

MATERIALS AND METHODS

If it is not possible to give probability estimates of the forecast, the correctness of the forecast and its reliability are determined by qualitative indicators rather than quantitatively, or

are determined by limits without indicating the probability of the predicted value falling within these limits. In the process of forecasting, many methods can be used to obtain a forecast, each of which has its own characteristics. A validation method is used to select the best predictive model or forecasting method. Validation in forecasting is the process of determining the correctness, appropriateness, reliability of a model or forecasting method for a described phenomenon or object. Forecasting is based on statistical, probabilistic, empirical and philosophical principles.

If, as a result of the forecast, a high demand for any product is expected, then based on the forecast values of prices and the volume of demand, the enterprise develops and calculates a plan for the production of this product in the appropriate volume. Determines the amount and source of necessary investments, creates organizational structures for the implementation of the developed plan, sets up production and monitors its exact compliance with the plan. If the forecast turns out to be wrong and the price of demand for the product is lower than the forecast, then the product will not be sold and the work of the enterprise in this direction will be useless.

RESULTS

Choosing a forecasting method should be based on the following forecasting principles:

- 1) the principle of consistency, which implies a comprehensive study of the object from the point of view of a single system of relations between events and factors
- 2) the principle of natural uniqueness, which requires a careful study of the features of the object of prediction that differ from other objects.
- 3) the principle of optimality of costs, which consists in the desire to analyze and forecast with the minimum expenditure of resources.

The main forecasting methods include: statistical methods; expert evaluations (for example, Delphi method, Foresight method); modeling methods; intuitive.

The methods of forecasting, as well as the areas in which a person is engaged in forecasting, are diverse. Human has always been interested in knowing the future - himself, his loved ones, the state, the economy, predicting the weather, determining how currency rates will change in the near future, etc. but predicting the situation is not only interesting, but also important because human behavior depends on predicting the future.

DISCUSSION

Forecasting at various stages of production is currently carried out mainly by the method of expert estimates, which leads to the need to increase the number of employees in proportion to the increase in production volume, labor costs and production costs. The development and implementation of computer systems for forecasting and quality control will positively solve the current situation. At the same time, forecasting tasks come to the fore, their solution significantly improves product quality and reduces the percentage of defects. The tasks of forecasting and production control are complicated by the multifactorial nature of the models and the polyvariance of the characteristics that make up the descriptive system of quality analysis and prediction algorithms.

CONCLUSION

An important stage of modeling is the validation of the results, or in other words, the comparison of the calculated results with the actual results. Some parameters cannot be taken into account in mathematical models (for example, temperature changes during storage), so in most models only four "barrier" factors are taken into account at the same time.

Thus, the development of forecasts in the process of production management allows the enterprise to:

- 1) planning and management of production with a limited shelf life;
- 2) rational use of enterprise resources;
- 3) increase the efficiency and effectiveness of the use of production facilities;
- 4) increase product quality and safety;
- 5) improvement of environmental safety;
- 6) meeting the demands of consumers;
- 7) analysis and optimization of the entire enterprise

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