比较优势
与农业结构优化

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of Agricultural Products and Optimization
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摘　要

目前，我国农业和农村经济发展已经进入了一个新的历史阶段。新阶段出现了一些新的矛盾和问题：农产品总量出现阶段性过剩；农业生产结构性矛盾突出，优质农产品相对不足；农产品科技含量低，加工程度不高；农业生产的区域优势不明显；农业和农村经济与整个国民经济的发展不协调。解决上述问题的关键，就是进行农业和农村经济结构战略性调整，这是新阶段的中心任务。那么，在当前我国处于全面建设小康社会的关键时期，农业结构调整，更是肩负着重要的历史使命。而且，随着全球经济一体化进程的加快，农产品贸易日益显示出自由化的特征。中国加入WTO，农业发展面临前所未有的发展机遇，也面临巨大的挑战。面对国际国内两个市场，中国农产品要想在激烈的市场竞争中取胜，就必须充分发挥比较优势，不断提高产品市场竞争力。因此，各地应该充分认清农产品比较优势，在此基础上积极进行农业结构调整，从而促进农业结构向合理化和高级化方向发展。

本书以比较优势理论为依据，细致深入地分析了黑龙江省农产品的生产比较优势。研究以黑龙江省主要种植业产品和饲养业产品为考察对象，利用国内资源成本系数法和综合优势指数法，从全国和省内两个层次，对黑龙江省农产品比较优势的品种差异和地区差异进行分析。在比较优势分析的基础上，结合黑龙江省实际，如农产品市场供求状况、农业结构状况、自然资源状况、政策条件等，提出了黑龙江省农业结构优化的具体方向，进行了生产布局规划，并对数学模型在农业结构优化中的应用进行了积极的探索和实践，建立了黑龙江省农业结构优化的模型，通过预

测为农业结构优化提供具体的数量参考。最后，阐述了黑龙江省农业结构优化的基本原则，并提出了具体的政策建议。本研究实证性和针对性较强，希望为推进黑龙江省农业结构优化的进程提供有益的借鉴和参考，从而促进农业和农村经济的全面发展。

全书共分9章：

第1章作为绪论，主要阐述了研究的背景和意义、国内外研究现状、主要研究内容与方法及可能的创新和不足之处，并对国内外相关研究现状进行简短评述，确定研究起点。

第2章是农业比较优势与农业结构优化基本理论研究。在对相关理论问题进行研究的基础上，进一步论证了农业比较优势与农业结构优化的关系，为研究奠定理论基础。

第3章对农产品比较优势进行实证分析。这一部分是全书的重点也是难点，研究从全省和省内各地区两个层次展开，通过数理统计和实证分析的方法，分析了黑龙江省20种农产品的品种差异和地区差异，有助于全面把握农产品的生产比较优势现状和发展趋势，为农业结构优化方向提供科学依据。

第4章分析优势农产品的市场供求状况。主要是在世界和全国的大背景下，通过近年的数据比较，对黑龙江省农产品的市场供求状况进行分析，总结出其市场特点；并站在全国及世界的角度对优势农产品市场供求形势进行预测和展望，有利于确定各优势农产品的市场发展空间。

第5章对农业结构演变及现状分析。首先将农业结构演进状况进行了国内外比较，找出有益的启示和借鉴；然后在回顾历史、分析现状的基础上，深入分析了黑龙江省农业结构的主要问题及其形成原因；并进一步阐述了农业结构状况对农业和农村及国民经济发展的影响，为提出农业结构优化的方向和建议提供参考。

第6章是基于比较优势的农业结构优化的方向与区域布局。这一部分是全书的重点，主要是对农业结构优化问题进行定性分析。在上文比较优势品种差异和地区差异分析的基础上，结合市

场供求状况、结构现状、粮食安全状况，以及黑龙江省实际的资源及政策环境等情况，提出结构优化的重点方向，并对主要农产品生产进行了区域布局，构建相应的产业带，以利于专业化生产。

第7章是农业结构优化模型的建立与应用。主要是在定性分析的基础上，引入线性规划模型，对农业结构优化进行定量分析。通过数学模型的建立和应用，可以为农业结构优化提供具体的数量参考。

第8章是农业结构优化的原则及政策建议。在第6、7章农业结构优化定性和定量分析的基础上，提出优化农业结构必须坚持的基本原则，并进一步提出优化农业结构的具体保障措施。

第9章是结论。对全书进行了总结，概括了本书主要研究成果，并对下一步研究进行了展望。

Abstract

At present, agriculture and rural economy of our country have already entered a new historical stage. Some new contradictions and problems have appeared at the new stage: gross quantity of agricultural products presents the phased surplus; structural contradiction of agricultural production is conspicuous, high-quality agricultural products are relatively insufficient; scientific and technological content of agricultural products are low, the processing degree is not high; regional advantage of agricultural production is not obvious; development of agriculture, rural economy and the whole national economy is incongruity.

The key point to solve above-mentioned problems is to carry out strategic adjustment of structure of agriculture and rural economy. This is the central task at new stage. Nowadays, our country is in the key period of building the well-to-do society in an all-round way. Adjustment of agricultural structure undertakes the more important historical mission. And with the quickening of process of global economy integration, agricultural products trade demonstrates the characteristic of liberalization day by day. With China's accession to WTO, agricultural development faces the unprecedented opportunity. It also faces the enormous challenge. In the face of two markets home and abroad, in order to win of keen competition, Chinese agricultural products must give full play to the comparative advantage, accordingly improving the market competitiveness of products constantly. So, all re-

gions should realize the comparative advantage of agricultural products fully and clearly and adjust agricultural structure actively on the basis of it. Thus, it can promote agricultural structure to develop in the rational and advanced direction.

Based on comparative advantage theory, the book analyzed the production comparative advantage of agricultural products in Heilongjiang Province carefully and deeply. The investigation objects included the main planting products and livestock products of Heilongjiang Province. Utilizing the methods of domestic resource cost coefficient (DRCC) and aggregated advantage index (AAI), the book analyzed the variety difference and regional disparity of comparative advantages of agricultural products in Heilongjiang Province from national and provincial levels. On the basis of analyses of comparative advantage, combining with reality, for instance market supply and demand situation of agricultural products, agricultural structure situation, natural resources state, policy terms, etc. , the book put forward concrete directions in which agricultural structure of Heilongjiang Province optimizes and gave the layout of agriculture production. Further more, positive exploration and practice were carried on about the application of mathematics model in optimization of agricultural structure. And the book set up an optimal model of agricultural structure. It can offer the concrete quantity consultation for the optimization of agricultural structure through predicting. Finally, the book elaborated the basic principles of optimizing agricultural structure of Heilongjiang Province and put forward the concrete policy recommendations.

The study has relatively strong positivism and pertinence. We expect it can offer helpful references for advancing the process of agricultural structure optimization, and promote the full development of

rural economy.

This book can be summarized as follows:

Chapter I Introduction. The background and meanings of this subject was explained. Domestic and foreign documents were summarized and trends of relevant research were analyzed. It also explained the source and main research contents and methods. At last, it offered some possible innovations and deficiencies.

Chapter II Study on the Basic Theory of Agricultural Comparative Advantage and Agricultural Structure Optimization. On the basis of research on the relevant theoretical problems, the book demonstrated the relation of agricultural comparative advantage and agricultural structure optimization further. This established a theory fundamental key for the full book.

Chapter III Analyses on Comparative Advantage of Agricultural Products of Heilongjiang Province. This part is focal point and difficult point of the book. Through a large number of data calculation and positive analyses, it contributed to holding the status quo and development trends of production comparative advantage of agricultural products in Heilongjiang Province.

Chapter IV Analyses on Market Supply and Demand of Advantageous AgriculturalProducts of Heilongjiang Province. It was mainly under the great background of world and nation, analyzing the market supply and demand situation of agricultural products that have comparative advantages in Heilongjiang Province. And the trend and prospect of market demand were forecast. It was helpful to finding out the market development space of every advantageous agricultural product.

Chapter V Analyses on Historical Evolution and Status quo of Agricultural Structure of Heilongjiang Province. The part analyzed

the historical evolution, existing problems and generating reasons of agricultural structure. It also discussed the influences on agriculture, rural and national economy. The analyses can offer references for the directions and suggestions of optimizing agricultural structure which were put forward in the following chapters.

Chapter Ⅵ Directions of Optimizing Agricultural Structure of Heilongjiang Province Based on Comparative Advantage and Production Layout. This part is very important of full text. It was mainly on the foundation of analyses of foregoing paragraphs, comparative advantage, market supply and demand, current situation of agriculture structure, and combining with real resources and policy environment, etc. of Heilongjiang Province, putting forward the key optimizing directions and giving the production layout of the district. It is propitious to realize specialization production through constructing corresponding industrial zones.

Chapter Ⅶ Establishment and Application of Optimal Model of Agricultural Structure of Heilongjiang Province. On the basis of qualitative analysis of above paragraph, the book introduced linear programming model. It can offer the concrete quantity consultation through the setting-up and using of the mathematics model.

Chapter Ⅷ Basic Principals and Policy Suggestions on Optimization of Agricultural Structure of Heilongjiang Province. On the basis of the sixth and seventh part, it put forward basic principals which must be insisted on and guarantee measures that optimize agricultural structure of Heilongjiang Province.

Chapter Ⅸ Conclusions. It is the summarization of the full book. It summed up the main research results of the book, and looked forward to the research on the next step.

The Probable innovations of this book lie in:

(1) On the title, combining agricultural comparative advantage and agricultural structure optimization organically, and demonstrating the relation of them. Meanwhile, arranging agricultural production according to the comparative advantage, and putting forward directions and tasks that optimize the agricultural structure of Heilongjiang Province, which have strong practicability and Pertinence.

(2) On the definition of concept, explaining the intension of agricultural comparative advantage for the first time. Pointing out the agricultural comparative advantage include such several levels as the resource natural endowment, production, processing and trade, etc. Analyzing the intension of the agricultural structure scientifically, dividing the agricultural structure into horizontal and vertical levels, and pointing out the broadly-defined agricultural structure still includes the overall arrangement of industrial structure among the areas, which can offer thinking for studying the current situation of provincial agricultural structure. Analyzing the intension of agricultural structure optimization scientifically, pointing out the optimization includes rationalization and advancement, and explaining the relation between structural adjustment and structure optimization.

(3) With mathematical statistics method, from two aspects of international and domestic markets, quantitatively analyzing the comparative advantage of agricultural products of Heilongjiang Province carefully and deeply, which have initiatives. And, observing the comparative advantage of some agricultural products of Heilongjiang Province for many years, which reflect the dynamic change of comparative advantage.

(4) On research range, breaking through the past study limitation which mainly concentrated on the average national level or between provinces about comparative advantage of agricultural products.

This book has not merely analyzed at provincial level, but also analyzed the difference between every area inside the province. This can offer scientific basis for rational regional division and structural adjustment.

(5) On the research contents, breaking through the past limitation that only pointed out the direction of the agricultural structural adjustment and optimization. This book not only pointed out the optimization directions but also planned scientifically the distribution of agricultural products of every area inside the province. And, on the basis of analyzing such limiting factors as resources and market demand, etc. , constructing the agricultural structure optimization model, which can offer references for making the concrete quantity scheme further.

(6) On the research approach, offering references for the application of the linear programming method in agriculture's economic field. While calculating the DRCC, perfecting some national economic evaluation parameters further, which have stressed the difference of every area and improved the accuracy of results to a certain extent. While analyzing the AAI, introducing IAI on the basis of SAI and PAI, which enable the comparative advantage have a more realistic meaning.

Although some progresses have been made on the theoretical and empirical studies in this book, there are still some unresolved problems need to be addressed in future studies:

(1) While calculating the comparative advantage of agricultural products, limited by the materials, some results are not the best accurate. First, while calculating DRCC, some national economic evaluation parameters use the macroscopic data, which do not reflect the differences between every province best. Second, while calculating

IAI, because *cost income data compilation of agricultural products* only counts the important agricultural products and mainly planting area, some varieties' IAI are unable to calculate out.

In the future, can trying to set up synthetic comparative advantage models of agricultural products. Considering each influence factor in an all-round way, which includes output, scale, income, technology, cost, risk, etc.. Calculating comparative advantage of agricultural products more overall and more accurately. Meanwhile, expanding the study of comparative advantage from the field of production to processing further.

(2) While analyzing the market supply and demand of agricultural products of Heilongjiang Province, limited by space, it is impossible to analyze every variety in detail attending to each and every aspect of a matter, but just reflecting to the supply and demand state on the macroscopic. If possible, afterwards, we will analyze it more deeply, carefully and assigning by variety. Considering influence from imports, exports, stock and price, and analyzing from the balance of supply and demand in order to determine the concrete development space.

(3) In the optimal model of agricultural structure, restricted by data materials, some restraints being difficult to determine, which will influence the accuracy of results to a great extent. In the future, the optimization models and relevant auxiliary models need to be substantiated and perfected further on the basis of collecting data materials extensively.

Key words: comparative advantage; adjustment of agricultural structure; structural optimization.

目 录

第1章 绪 论

1.1 研究背景和意义

当前，我国农业和农村经济发展已经进入了一个新的历史阶段。这个阶段的特征是：随着农业综合生产能力的提高，主要农产品供给实现由长期短缺向供求基本平衡、丰年有余的历史性转变；随着农产品市场化程度提高，农业发展由受资源约束转变为受资源和市场双重约束；随着人民生活水平的提高，农业发展由解决温饱转向在保持总量平衡的基础上更加注重质量和效益；随着我国工业化、城镇化进程的加快和对外开放的不断扩大，农业和农村经济与国民经济乃至世界经济的关系更加密切（杜青林，2003）。农业发展进入新阶段，是我国经济社会发展进程中的历史性跨越，既为农业和农村经济发展创造了新的条件和机遇，也出现了一些新的矛盾和问题：一是农产品供给总量快速增长，而需求增长缓慢，农产品总量出现阶段性过剩；二是农业生产结构性矛盾突出，优质农产品相对不足；三是农产品科技含量低，加工程度不高，出口创汇能力不强；四是农业生产的区域优势不明显；五是农业和农村经济与整个国民经济的发展不协调。为解决这些新矛盾和新问题，必须进行农业和农村经济结构战略性调整，这是新阶段的中心任务。