



Agriculture High-Quality Development, New Stage of Agricultural Development

Zhongsheng Guo^{1,2*}

¹Northwestern A and F University, Yangling, China

²Institute of Soil and Water Conservation, CAS and MWR, Yangling, China

***Corresponding Author:** Zhongsheng Guo, Northwestern A and F University and Institute of Soil and Water Conservation, CAS and MWR, Yangling, China.

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Zhongsheng Guo.

Abstract

Agricultural development has gone a long time. We have gone through Low level development stage or primitive agriculture, Level improvement stage and now entered high-quality development new stage. The theoretical foundations of Agriculture high-quality development are natural resources use limit by plants, Vegetation carrying capacity and the critical period of plant resources relation regulation and the methods of Agriculture High-quality development is to select excellent tree species or varieties, take appropriate initial plant density and take effective measures or method to ensure plant grow well and make plant grow well and get maximum yield and benefit to realize sustainable use of nature resource and agricultural high-quality development to meet people's needs for a better life and food security and heathy.

Keywords: Agriculture; Development; Agriculture High-Quality Development: Natural Resources Use Limit by Plants; Vegetation Carrying Capacity; Critical Period of Plant Resources Relation Regulation

Introduction

Agricultural development has gone through a long process. There are different kind of agriculture concepts such as ecological agriculture [1], organic agriculture [2], smart agriculture and data agriculture and so on. Organic agricultural practices respond to and offer alternatives to the health and environmental problems related to conventional technologies and practices of production and embrace many alternative ideals such as alternative distribution and retailing networks and the counter-cultural wholefoods movement [2].

Study method

In order to solve the question of soil and vegetation degradation and crop failure in the modern agriculture and ensure plant grow well and to meet people's needs for a better life and food se-

curity and heathy, Author reviewed a lot of papers and analyze the whole stage of Agriculture development according to the efficiency of resource utilization by plants based on the innovation study [3-6], the whole process of agricultural development can be divided into three stages: Low level development stage or primitive agriculture, Level improvement stage and high-quality development new stage. The now stage of Agriculture development is Agriculture High-quality development. In order to produce more better and health food and service to meet the people's needs for a better life and crop type, yield and quality, author put forward the theoretical foundations and methods of Agriculture high-quality development [7-9].

Results

Agricultural development has gone a long time. According to the efficiency of resources use, the whole process of agricultural development can be divided into three stages: Low level development stage or primitive agriculture, Level improvement stage and high-quality development new stage. That is the Low-level development stage or primitive agriculture, the Level improvement stage and Agriculture High-quality development [10].

Low level agriculture development stage

Low level development stage is the development stage of primitive agriculture. At this stage, people pick up wild fruits and rely on nature for a living because science and technology are under development and people labour productivity are low. People must live on nature. Today in some African primitive tribe, you can see this kind of Low-level agriculture development. However, with the economic and society development, this kind of Low-level agriculture development will disappear.

Level improvement stage

At the Level improvement stage, people start to select or cultivate better plant species, weeding, producing and applying fertilizer and irrigating, if there are water resources, to increase food kinds, improving quality and amount of food. The turning point from the low level of development to the Level improvement is plant domestication and animal introduction domestication, the development of gathering economy to planting economy. There are some events such as overuse chemical fertilizer and the over dose application of pesticides and so on, which cause crops failure and resources waste happens, which is not good for Agriculture High-quality development but easily cause environment and healthy problem. In most of farmland, you can see this kind of agriculture development. Level improvement stage is a transition stage from Low level agriculture development stage to agriculture high-quality development. With the economic and society development, this kind of agriculture development will be developing into Agriculture high-quality development.

Agriculture high-quality development

Since 2017, Agriculture development had entered high-quality development. At the new stage of high-quality development, people must take effective measures or method to make plant grow well and get the maximum yield and benefit and to meet the people's increasing needs for a better life and crop types, yields and quality. To carrying out high-quality development, we must overcome the overuse chemical fertilizer and the over dose application of pesticides and so on in the production process to ensure sustainable use of nature resources and agriculture high yield and benefit.

Theory foundations of Agriculture high-quality development

Theory foundations of Agriculture high-quality development are natural resources use limit by plants, Vegetation carrying capacity and the critical period of plant resources relation regulation.

Natural resources use limit by plants

To carry out sustainable use of natural resources and Agriculture high quality production, we must use the natural resources in sustainable way. The natural resources use limit by plants is the controlling limit plants use natural resources, expressed by indicator plant and can be divided into space natural resources use limit by plants, soil water resources use limit by plants and soil nutrient resources use limit by plants. For example, the natural resources use limit by plants in water-limited region is soil water resources use limit by plants. The natural resources use limit by plants changes with plant species and location [11-14]. For example, natural resources use limit by plants in water-limited region is the limit of soil water resources use limit by plants, which is the soil water resources in the maximum infiltration when soil water content is equal to wilting coefficient. The indicator plant for original vegetation is dominate species, especially constructive species, the uppermost dominant species, which is native to the local region because for a long time they have developed a good relationship with the local condition. The indicator plant for non-Native vegetation is goal or cultivated plant species.

Vegetation carrying capacity

The vegetation carrying capacity is the ability of nature or land resources to carry vegetation in given time and space, expressed by the quality or plant density of indicator plant in plant community. The vegetation carrying capacity is the function of plant species, time and location [5,6]. For example, in water-limited region, vegetation carrying capacity is soil water vegetation carrying capacity, which is the ability of soil water nature resources to carry vegetation, which changes with plant species, times and location [5,6,8,9]. For example, the vegetation carrying capacity in water-limited region is soil water vegetation carrying capacity, which is the ability of soil water resources to carry vegetation in given time and space because soil water is the most important factor to influence plant growth, fruit quality, yield and benefit. Plant resources relationship is very harmony and plant grow well and bear fruit but the goods and service cannot meet people's need in the stage of primitive agriculture, much of original vegetation has been changed into non-native plantation such as Saskatoon berries, red plum apricot and corn in the semiarid region, China. some plant such as Saskatoon berries, grow and develop well, suitable for local climate, easy to develop. But another plant, such as corn and red plum apricot, they are not suited to the local climate and need to regulate plant resource relationships.

The critical period of plant resources relation regulation

Along with plant grow, plant canopy and root grow great, plant use more resources. Plant resources relation changes with time. When the resources plant use is equal to natural resources use limit by plants, plant resources relation enters the critical period of plant resources relation regulation. The ending time of the critical period of plant resources relation regulation is the ineffective time of plant resources relation regulation such as fruit nature or the ending time of fruit stopping expanding. The critical period of plant resources relation regulation is the most important period in the whole process of plant growth and yield and benefit cultivation, which can be expressed by the amount of available natural resources in canopy or root zone. The vegetation carrying capacity in the critical period of plant resources relation regulation decides the quality, maximum yield and benefit [7-9].

Methods of sustainable use of nature resource and agricultural high-quality development

Because the carrying capacity in the critical period of plant resources relation regulation decides the maximum yield and benefit, we must take the theories of resources use limit by plants, vegetation carrying capacity and the critical period of plant resources relation regulation as a guild, select excellent tree species or varieties, take appropriate initial plant density and take effective measures to regulate the plant resources relation regulation and ensure plant grow well and get the cultivated goal. If the plant density exceeds the vegetation capacity, the plant resources relation should be regulated based on vegetation carrying capacity, especially the vegetation carrying capacity in the critical period of plant resources relation regulation, otherwise the further increase plant use natural resources will lead overuse of natural resources because available natural resources is more than natural resources used by plant, which will lead to the decline of vegetation and the decline of grain yield and quality [7-9].

Conclusion

Agricultural development has gone through a long process, and now now entered new stage of high-quality development stage. Theory foundations of Agriculture high-quality development is Natural resources use limit by plants, vegetation carrying capacity and critical period of plant resources relation regulation. Methods of Agricultural high-quality development is to select excellent tree species or varieties, take appropriate initial plant density and take effective measures to ensure plant grow well and get the cultivated goal.

Because of the large agricultural area and the increasing population, which is more than 8.2 billion at present, different regions have different climate condition and crops suitable for growth, so it is necessary to strengthen the agricultural high-quality development research in different regions to select excellent tree species or varieties according to the local weather condition and market need, take appropriate initial plant density, appropriate initial plant density is equal to or more than vegetation carrying capacity, determining resources use limit by plants, vegetation carrying

capacity, the critical period of plant resources relation regulation to regulate the plant resources relation, especially in the critical period of plant resources relation regulation to make plant grow well and get maximum yield and benefit to realize sustainable use of nature resource and agricultural high-quality development to meet people's needs for a better life and food security and healthy.

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