



The New Stage of Agriculture Development, High-Quality Development of Agriculture

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Abstract

Agricultural development has gone through a long process, and now enters new stage of Agriculture development. Because primitive agriculture and Level improvement stage cannot produce better and health food and benefit to meet the people's increasing needs for a better life and healthy food, to solve these questions and promote agriculture healthy development and produce more heathy food, after a couple of years research, the results showed that 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 agriculture high-quality development, which is to take effective measures or methods, including Internet, smart equipment and intelligent machine to make land produce more quality and health food to meet the people's increasing needs for a better life and food.

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Introduction

Agricultural development has gone through a long process. There are different kind of agriculture concepts such as ecological agriculture, organic agriculture, smart agriculture and data agriculture and so on [1,2]. 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 alterna-

tive distribution and retailing networks and the counter-cultural wholefoods movement.

Study Method

In order to solve the question of soil and vegetation degradation and crop failure and ensure the direction of Agriculture development and establish the new method to promote Agricultural development in the

new era, based on more than ten year's innovate study, Author reviews a lot of papers and find the new stage of Agriculture development according to the efficiency of resource utilization by plants based on the innovation study, 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 direction of Agriculture development is Agriculture High-quality development [3-12]. Only in this way, land can produce more better and health food and service to meet the people's needs for a better life and crop type, yield and quality.

Results

Agricultural Development Stage

According to the efficiency of resource utilization by plants, 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.

Low Level Agriculture Development Stage

At Low level development stage or primitive agriculture, people pick up wild fruits and rely on nature for a living because science and technology are underdevelopment 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 applicating 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

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 develop into Agriculture high-quality development.

Agriculture High-Quality Development

Now, Agriculture development has entered high-quality development. At the new stage of high-quality development, people must take effective measures or method to get the maximum yield and benefit and produce more better and health food and service 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

Natural Resources Use Limit by Plants

To carry out sustainable use of natural resources and Agriculture high quality development, we must use the natural resources in sustainable way. The natural resources are limit, so, the natural resources that plants use are limited. The limit is resources use limit by plants, which is the controlling limit plants use natural resources, expressed by indicator plant. 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. The natural resources use limit by plants changes with plant species and location [12,13]. The natural resources use limit by plants including space natural resources use limit by plants in soil water and nutrient rich regions; soil water resources use limit by plants in water-limited regions and soil nutrient resources use limit by plants in soil nutrient-limited regions. 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.

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 [14]. The natural resources are limit, so, the vegetation carrying capacity is limit. For example, vegetation carrying capacity in water-limited region 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 [12,14]. 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, a lot 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 the ending time of fruit expanding. The critical period of plant resources relation regulation is the most important period in the whole pro-

cess of plant growth and yield and benefit cultivation, which is 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.

Methods of 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 or methods to ensure plant grow well and get the cultivated goal, maximum yield and benefit. If the plant density exceeds the carrying capacity in the critical period of plant resources relation regulation, 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 [3,4,7,8,12] [14-17].

Conclusion

Agricultural development has gone through a long process, and now enters the new stage of high-quality development. 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 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 has exceeded 8.2 billion at present, different regions have different climate and crops suitable for growth, so it is necessary to strengthen the agricultural high-quality development research in dif-

ferent regions to determining of excellent tree species or varieties, appropriate initial plant density, resources use limit by plants, vegetation carrying capacity, the critical period of plant resources relation regulation to regulate the plant resources relation and get maximum yield and benefit to realize sustainable use of nature resource and agricultural high-quality development and meet people's needs for a better life and crop types, yields and quality in different regions [18,40].

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Additional Information

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