Developing Red Dates to Promote Xinjiang Agricultural Innovation

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Abstract—This paper illustrates the biological traits of red jujubes and the natural and economic situation of Xinjiang, China, introduces the development of red dates industry in Xinjiang under the condition of the above mentioned two aspects, and finally summarizes the enlightenment of Xinxiang’s developing red jujube’s industry upon industry development.

Keywords—Red Dates, Promote, Agricultural Innovation.

I. INTRODUCTION

During recent years, Xinjiang eastern and southern districts give full play to the features of such a peculiar variety of tree as red jujube. Trough planting red date and developing red jujube industry, the disadvantages of natural resources in the two districts, during which it is lack of rain and dry, high temperature and barren land, have turned into economic advantages. The agricultural structure existing thousands of years long in Xinjiang has been changed bringing out the economic and biological benefits long expected and explored by Xinjiang people.

II. BIOLOGICAL FEATURES OF RED DATE

A. The Feature of Early Fructification with High Yield

One of the advantages of red jujubes is its early fructification and long economic life span. Date tree has such features of that year differentiation, many differentiations, large amount of flowers and long flowering period that it has much potential of high yield and extraordinary reliability. Jujube tree can flower and bear fruits at that very year and its economic life span can amount to thousands of years. If it is managed properly, the individual plant planted at that very year can bear fresh fruits 1-2 kg/plant and 25 kg/plant at the six year with remarkable economic benefits.

B. The Feature of Enjoying Light

Jujube tree is a variety of tree enjoying light. Light sufficient, the three will be healthy and strong with high productivity and good quality. Sufficient sunlight is the peculiar advantage of developing jujube trees in Xinjiang, especially the surroundings around the Tarim Basin where there is little rain, much evaporation, extremely dry air, big temperature difference between day and night with more than 3000 hours sunlight the whole year, 3500°C≥10°C accumulated temperature, which are beneficial to the nutrition accumulation of jujube fruit with good coloring and high content of sugar and superior quality.

C. Red Jujube and Its Features of Cold-resistance and Barren Resistance

Jujube tree has high capability of adapting to the field. Regardless of sandy, clayey or gravel soil, jujube tree can grow with strong drought-resistance and extensive management resistance planting in much of China.

D. Jujube tree is the best variety of tree interplanting of trees and crops

Jujube tree has such growth habits like bud late, early deciduous, short growth period, little branch leaves, leak previous to light and wind, late growth climax of roots. By this nature, jujube tree is one of the varieties of trees interplanting of trees and crops. Xinjiang jujube tree generally sprouts and unfolds leaves between mid-April and mid-May, which provides adequate sunlight conditions for intercrop wheat to grow during the green up period. When the length of jujube buds is 1-2cm, wheat is with the period of jointing, earring and flowering. After the maturation of wheat, jujube tree will enter the peak of blooming.

III. XINJIANG ECONOMIC AND NATURAL SITUATION

A. Natural Condition of Xinjiang

Xinjiang Uyghur Autonomous Region, or Xin, located in the northwestern China, with an area of 166 million square kilometers, about the size of 1/6, is one of China’s largest provinces and autonomous regions. Xinxiang’s topography is nicknamed as “three mountains with two basins, mountains and basins are arranged alternately. Altai Mountain in the north and Kunlun Mountain in the south, Tianshan Mountain in the middle dividing Xinjiang into two halves with Tarim Basin in the south and Junggar Basin in the north. Habitably the south of Tianshan Mountain is named Nanjiang, and the north of Tianshan Mountain is named Beijiang. Tarim Basin, one of China’s largest basins, is located in the middle of ...
Tianshan Mountain and Kunlun Mountain, with an area of 53 million square kilometers. Taklamakan Desert is located in the middle of the basin with an area of 33 million square kilometers, which is China’s largest and the world’s second largest flow desert. Xinjiang belongs to typical temperate continental dry climate with an average yearly natural rainfall of 155 millimeters. The total area of oasis is about 5% of the whole region with typical oasis biological feature. Because Xinjiang is located at the heart of Euro-Asian Continent, the climate is dry and water resource is influenced by seasons; spatiotemporal distribution is extremely unparallel; Surface water evaporation is large. Therefore, water resources in Southern Xinjiang are seriously inadequate.

B. Xinjiang Economic Situation

In 2010, the GDP of Xinjiang amounted to 5418.81 billion yuan, an increase of 1141.76 billion yuan over last year and the first time to break through 5000 billion yuan. The first industry added value is 1078.61 billion yuan. The second industry added value is 2533.69 billion yuan. The third industry added value is 1806.51 billion yuan. The ratio of the three industries is 19.9 to 46.8 to 33.3. The urban per capita disposable income is 13644 yuan and the net per capita income of rural residents is 4643 yuan, 34% of the urban per capita disposable income is 13644 yuan and the net per capita income of rural residents is 4643 yuan, 34% of the urban per capita disposable income. The total population of Xinjiang in 2009 amounts to 215863 thousand people and the population in the countryside is 1.5 times over that the town's population.

IV. THE GENERAL SITUATION OF THE RED JUJUBE INDUSTRIAL DEVELOPMENT IN XINJIANG

A. The Current Situation of Red Jujube Industry in Xinjiang

There is 2000 years history for planting red jujubes in Xinjiang, especially in Hami Prefecture with a long-term focus. Up to 1986, there are only 280 mu red jujube trees in Hami city, the main planting place for Hami Chinese Dates. It’s until 1973 that red jujube trees are tried out in other regions. In 1985 large area introduction of planting and in 2005 began the comprehensive promotion. In 2007 the big land planting and in 2008 grafting and in 2009 the cultivating area for Xinjiang red jujube amounts to 4810.8 thousand mu, about 21.38% of the whole country; the production 289.0 thousand ton, about 8.63% of the whole country and the total output value is 25.84 billion yuan. Chinese Dates industry development experts generally agreed that the ten years’planting of red jujube in Xinjiang has broken through the planting history of 3000 years red jujube main production area. The world red jujube is mainly planted in China and the Chinese red dates are mainly planted in Xinjiang thanks to the peculiar geography and climate and will become the world jujube production and industry base.

B. The Economic Benefits of Red Jujube Industry

The total output value of Xinjiang red jujube is 25.84 billion yuan in 2009, 2% of the total output value of farming, forestry, animal husbandry and fishery which is 1297.62 billion yuan. The income from planting jujube accounts for 5%-80% of the jujube planting farmers’ income. The typical red jujube industrial development region is in Ruoqiang county,Bazhou, Xinjiang, which began comprehensively implementing red jujube industrial strategy. After 9 years’ efforts, the red jujube planting area in the whole county reaches 16000 thousand plants in 140 thousand mu currently. With the coming of fruits thriving period, the income from planting red jujube accounts for more than 80% of local farmers’ income. The farmers’ net per capita income has increased from 2216 yuan in 2001 to 11592 yuan in 2009, with an increase of over 4000 yuan and the increased value is the first of all the counties and cities in Xinjiang.

C. The Biological Benefits of Jujube Industry

Most areas of Xinjiang eastern and southern parts are deserts and Gobi deserts with extremely harsh environments and extremely vulnerable ecosystem. The planting of jujube trees conserves the water resources and stabilize the sandy soil and thus further protects and improves the vulnerable local oasis ecological environment. For instance, Ruoqiang County, located in southeastern Xinjiang, the eastern part of Taklamakan Desert, has only 0.02% cultivated land. County forest coverage rate reached from 0.56% in 2000 starting jujube planting to 1.01% now. Township oasis forest coverage rate increased from 27% in 2000 to 83% now. The average annual rainfall reached 31.2 millimeters; the humidity of atmosphere added 5% to 18%, and the wind speed decreased 20% or so. Hot and dry and strong windy days decreased gradually and the sandy and dusty days decreased to 102 days in one year. The network pattern of farming, forestry has been formed and the urban green up construction has a qualitative leap and the county ecological environment has been improved remarkably.

V. IMPLICATIONS OF XINXIANG’S DEVELOPING RED JUJUBE UPON INDUSTRIAL DEVELOPMENT

A. Innovation--the Everlasting Force of Industrial Development

The Development of Xinjiang red jujube industry fully demonstrated that the development of one industry will enter the robust period only by means of innovation and it is only via innovation that one region can keep virtuous sustainable development.

B. Developing Industry Adjusted to the Natural Feature of Industrial Carrier

Planting and developing red jujube in Xinjiang fully takes advantage of the biological characteristic of red jujube for the purpose of planting rapidly and extended to vast areas in Xinjiang and improving its quality markedly. Currently Xinjiang red jujube has become the representative of world superior jujubes and created remarkable economic and
ecological benefits.

C. Turning Disadvantages into Advantages by Developing Industry

The development of Xinjiang jujube industry fully demonstrated the under certain conditions the disadvantaged resources can be turned into advantages. What it counts lies in developing scientifically and taking measures in accordance with the local conditions.

D. Many Benefits from Developing Jujube Industry

There are many pressing actual issues like a large population, low income, harsh natural environment and vulnerable ecosystem. The development of jujube industry is right in accordance with current and future requirements in Xinjiang creating remarkable economic benefits, increasing farmers’ income and improving the vulnerable ecological environment.

REFERENCES


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