

Introduction and Selection of Fine Plant Species and Varieties

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ABSTRACT

Since 2017, China development was changed from high-speed development into high-quality development, so, agriculture development had entered the new stage of agriculture high-quality development. To carry out the high-quality development of Agriculture, we must select fine plant species and varieties, and take the suitable initial planting density and effective measure and methods to ensure the plant grow well and get the maximum yield and beneficial result. However, there are few reports on the method of Introduction and selection of better plant species. In this paper, we take the semiarid loess hilly region, China as an example, to introduce the method of Selection of better economic plant species.

Keywords: Agriculture high-quality development; plant species and varieties; Estimation method; perennial plant; a year plant pepper

1. Introduction

To enrich the seed resources in this area, increasing income and improving living condition, since 2017, China development was changed from high-speed development into high-quality development, so, agriculture development had entered the new stage, agriculture high-quality development. There are few kinds and varieties of fruit trees especially the middle and early maturing fruit trees which are suitable for the local ecological conditions of dry early and cold in the Semiarid regions China. We obtained Fruit tree seed introduction test was carried out in 1983 and promote agriculture high-quality development.

2. Materials and Methods

2.1. Site description

This study was conducted at National Demonstration

area of high-quality red plum apricot, which is located at the Shanghuang Eco-experiment Station in the semiarid Loess hilly region (35°59'- 36°02' N, 106°26'- 106°30' E) in Guyuan, Ningxia Hui Autonomous Region of China, Institute of Soil and Water Conservation of Chinese Academy of Sciences, with the altitude of the station ranges from 1,534 m to 1,824 m. Precipitation here is absent in the periods from January to March and from October to December, and the rainfall from June to September makes up more than 70% of the annual precipitation. Mean rainfall measured between 1983 and 2001 was 415.6 mm with a maximum of 635 mm in 1984 and a minimum of 260 mm in 1991, see (Figure 1). The frost-free season is 152 days. The Huangmian soil having developed directly from the loess parent materials, consists mainly of loamy porous loess (Calcaric Cambisol, FAO1988) with wide distribution in the semiarid hilly region of the Loess Plateau. When I found the influence

of insect (*Carposina sasakii* Matsumura) on the quality of red plum apricot in 2008, I select the high efficiency cyhalothrin to control the harm of food worms¹.

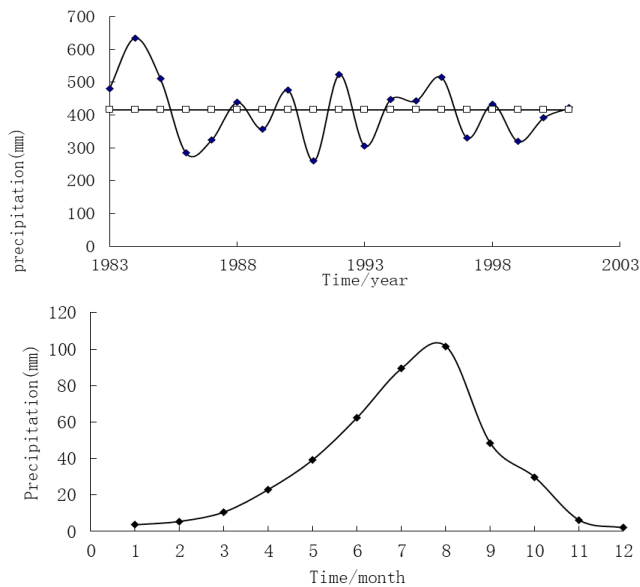


Figure 1: The change of precipitation with year (Graph above) and season (the picture below) at the Shanghuang Eco-experiment Station in the semiarid Loess hilly region, China.



Figure 2: Flowers and fruit.

3. Results

3.1. The introduction and selection of fruit species

From 1997 to 1991, Shi and Guo introduced 77 varieties of fruit tree species, such as apple, pear, grape, peach, plum, walnut, date and mountain plant from Japan, Shaanxi Fruit Tree Institute and Northwest Agricultural University, Planted in Shanghuang, Guojiawan and other experimental orchards in the semiarid loess hilly regions. After a couple years of investigation, comparison and analyses, the result showing that red plum apricot is a good economic tree and promotion since 1995². Since 2003, the local government fast promote the development of Red Plum Apricot because the apricot is rich in juice, soluble solids content 51 (14.3%), potassium (410.8 mg per 100 g), selenium and Vc (8.3 mg per 100 g). The potassium 52 content of red plum apricot is higher than that of apple (*Malus domestica*), pear (*Pyrus*), peach 53 (*Amygdalus persica*) and grape (*Vitis vinifera*). After a couple of years study from 1987 to 1991 in 54 Shanghuang Eco-experimental Station, red plum apricot is selected and popularization because red 55 plum apricot fruit is mature early, and fruit is larger, and quality is high, and production is stable 56^{1,2}.

3.2. High quality production method of red plum apricot

First, we must expand tree pits or build high-level terraces to ensure all precipitation infiltration in place, and block incoming water from the slopes. According to local disaster weather forecasts, during the Spring Festival flowering and young fruit period (late March to low April or early May), adopt anti-freeze or covering measures such as rapid spraying brassica to reduce or even eliminate the harm of low temperature frost; Before and after May 20, spray 2000 times the high efficiency cyhalothrin to control the harm of food worms; If long-term severe drought occurs in the critical period of plant water relationship regulation and the conservation density exceeds the soil water vegetation carrying capacity, the plant water relationship in the critical period of plant water relationship regulation will be regulated according to the soil water vegetation carrying capacity, and then the vegetative growth and reproductive growth relationship will be re-regulated according to the relationship between the maximum leaf amount and high-quality fruit of the carrying capacity. Obtain maximum yield and economic benefits. Since the establishment of the national high-quality red plum apricot demonstration base in Ningxia Guyuan Experimental Station in the semi-arid Loess Hills in 2017, the research, demonstration and promotion of high-quality production methods of red plum apricot have been accelerated (Guo 2022)³.

4. Conclusion

Now, China development have entered high-quality development, so, agriculture development has entered the new stage, agriculture high-quality development. The high-quality development of agriculture is to take some measures and methods to make the land produce the maximum output and services to meet people's yearning for a better life and the needs of agricultural production services^{3,4}. However, because overuse of fertilizer, overdose application pesticide and introduction of un-native plant species or varieties, initial planting density too high more or too smaller than vegetation carrying capacity in the critical period of plant water relation regulation^{3,5}, exotic plant species or varieties changed the plant water relationship, which result in soil degradation and crop failure or waste of soil resources, which are unfavorable for the sustainable utilization of soil resources and crops high-quality production. Therefore, it is necessary to adjust the plant resources relationship and obtain the maximum yield and services to realize the sustainable utilization of soil water resources by plants and crops high-quality management. There is a universally accepted method of comparison for selection of better plant species.

5. Expectation

Because the farming area is large in which the climate and soil condition is different, we must introduce many possible suitable plant species to plant in the same place at different climate and soil condition and compare the quality, yield and benefit and then select the best plant species to meet the market and farmer need and get the maximum yield and benefits to match the need of high-quality development and promote productivity new quality development.

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7. References

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