

How to Promote the Badamu Industry in Shache County Xinjiang with Experiences Drawn from American California

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Abstract. Xinjiang *Amygdalus Communis L.* (Badamu) is a kind of precious nut in the world, which has a long growing history in southern Xinjiang along the Yeerqing and kashigeer rivers. Shache county is the main producing area. Owing to a big lag in growing technique, process and marketing behind those of the advanced countries, economic gains are low and insufficient. This thesis makes a contrast between the growing the marketing models of Shache and of California, points out the problems in Shache, and presents some suggestions on the healthy development of the Badanmu industry in Xinjiang.

Keywords. Shache of Xinjiang; Badanmu (*Xinjiang Amygdalus Communis L.*); industrialization; growing; marketing; suggestions

Badamu (*Amygdalus Communis L.*) in China is generally distributed in the irrigation region of Kashgar and Yeerqing Rivers in Kashgar, Xinjiang Uygur Autonomous Region. Among the regions, Shache County is its main producing area. As the largest Badamu production base and main producing area in China, Badamu producing has been identified as the core forest and fruit industry in Shache County in recent years. Referring to the advanced development experience of Badamu industry in California and combining with existing plant and operation status and problems in Shache County, a number of countermeasures and suggestions are proposed in this paper for the healthy industrialization development of Badamu in Shache.

1 Successful experience of badamu industrialization development in California, USA

Currently, the annual output of Badamu is 600000-700000 tons in California, which accounts for more than 80% of the total global output and the Californian Badamu exports to more than 90 countries in the world. Badamu industry is the most profitable and most valued forest and fruit industry type in USA. With the real personal inspect in the cultivation fields, deep studies from English materials as well as research of existing plantation and operation status in the Southern Xinjiang Region, I hereby summarized the characteristics of the Badamu standardization and industrialization in California as following:

1.1 Industrialized producing of Badamu sapling and standardized technology of planting

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Badamu sapling producing in USA has been totally completed in factories which a very few manpower is involved. Peach saplings are generally selected as the rootstock for planting in fields and spray irrigation facilities are installed between the saplings. Instead of planting peach pit densely in China Southern Xinjiang region, the planting specifications have been taken in California are 80 cm between rows and 20 cm between saplings. Although the sapling quantity per mu is less than what in Southern Xinjiang Region, but benefiting from sufficient ventilation, watering and sunshine, the peach saplings are actually much stronger than in Southern Xinjiangs'. In the middle of year, stems and branches can become stronger by proper trim and height control. (Meanwhile, peach saplings in Southern Xinjiang region have never been trimmed as in California, they are generally growing randomly and slender.)

Like the same processing way in Southern Xinjiang in the second year after sprouting, implementation of grafting will be done to the peach saplings by professional grafting technicians with manual techniques. To keep from direct sunshine and insect pests, all grafting cuts will be bagged immediately with the tags of variety information. (Because of random planting and slender characteristics, bagging to every single peach saplings are impossible in Southern Xinjiang region.)

Then as same as in Xinjiang, with one year growing, commercial sale of peach saplings will be formally allowed. After the complex processes like cleaning, disinfecting and bagging in the modern factories, price of Badamu saplings can be reached to 5 USD per plant, which is much more expensive than in the Southern Xinjiang (The price is 2 to 3 RMB in Southern Xinjiang).

When get out of the breeding factories, the Badamu saplings will be transported directly by forklifts to the plantations for next-step planting. The planting is a standardized, mechanized and large-scale process. Average distance between the Badamu saplings is 3 or 4 meter and spray irrigation facilities are installed underneath. Average distance between rows is 6-8 meters in order to facilitate mechanical operation. In California, the biggest difference with Southern Xinjiang region is to interplant the alfalfa underneath the saplings instead of wheat, corn or marigold. Alfalfa would be plowed periodically every year as the green manure to saplings, this is the main reason of high output in California.

1.2 Advanced professional and socialized service system

Under the support by national promotion and the mature market mechanism, Badamu plating in California has formed a very advanced socialized service system. Being a unified service organization, the Almond Board of California is a Non-Governmental Organization which affiliates to the Department of Agriculture of America. This Board is responsible for establishing policies and coordinating the activities of Badamu producing, processing and sale etc. Members of the Board are including five farmers and five processors. This Board will collect 1% from the sales as the membership fees for unified branding, propaganda service.

Right now, The Almond Board of California has absorbed more than 100 manufactures and 6000 plantation owners. The covering plantation area has reached to 280000 hectors in total, average output has reached to 2000LB per hector. If the average price was 2.8 USD per LB, fruit core was 3.5 USD per LB. So, the annual output was 60000 to 70000 tons, then the total sales will be astonishing 3 to 4.5 trillion USD per year.

Due to the advanced and socialized service system, owners in California are capable to operate their plantations with no worries and the consequent huge economic benefits are ensured.

1.3 Systematic Variety and Standardized Commodities

At present, there are more than 20 Badamu varieties in California, but each variety has its unique industry standards.

In terms of product and commodity classification, there are very strict unified standards in USA (see above diagram 1). Future more, in order to satisfy customer's demands, customers are capable to set up more strict product and commodity standards via mutual negotiation except above general

standards. Benefiting from the strict standards, the prices of Badamu industry in California remain stable. Additionally, it has a large market share in the world with high competitiveness in the global markets.

Those experiences in California are very important to the commercialization of Badamu industry in Shache County.

2 Badamu industry development status and existing problems in Shache County

2.1 Industry scale and output value

In 1960s, the state-owned Second Forest Station in Shache County firstly set up the Badamu Variety Converge Plantation and five outstanding varieties were selected and promoted to plant throughout the whole County. The following large-scale planting practices formally started in 1980s. In recent years, the Shache County has significantly enhanced their capital and technique investment in Badamu sapling breeding, planting and managing. Those endeavors have greatly boosted the total planting areas from 500000 mus in 2005 to 850000 mus in 2012 in Shache. Meanwhile, the annual output has not only rocketed from 1152 tons in 2005 to 19400 tons in 2012, but farmer income has increased by 476 RMB per person. At the same time, due to successfully carrying out a series of promotions like Shache Badamu Picking Festival, Badamu Flower Festival, Badamu Industry Forum, Badamu industry in the county has developed significantly. Despite all that achievement, we still have to aware of that the key economic indicators such as total output, planting scale, and commoditization rate still remain huge gap with USA and other developed countries.

In the aspect of industrialized operations, Shache County started to pay more attention to promotions and marketing in the past two decades. In 1994, Shache Badamu was awarded the golden medal in the National Forest Product Expo in Beijing. In 1999, it was awarded as the gold prize in Kunming World Horticulture Expo. In 2000, Shache County was named as National Excellent Economic Forest-Homeland of Badamu by the Department of Forest of China. In July, 2007, Shache Badamu was successfully passed the audit of Geographic Symbol Protection Product identification by National Bureau of Quality Inspection and was claimed to start the Geographic Symbol Product Protection since Sep 6th, 2007. In 2010, taking the advantages of new around national oriented assistance and being encouraged to participate in the Expos by Shanghai Municipality, Shache Badamu has become well-known in China and it attracted a lot of attention from consumers and entrepreneurs.

2.2 Major problems in industrialized development

2.2.1 Standardized planting system of Badamu has formed but degree of standardized produce still remain low level.

First, the Badamu industrialization planting standard system has been introduced in Shache County successfully. The System, which completed in August 2009, introduces scientific, advanced, practical and strong maneuverable guidelines to farmers. And it also provides strict regulations in Badamu sapling, quality, breeding procedure, planting procedure, produce procedure, pest control and safe use of pesticides.

Second, Shache Badamu industrial standard system is still not perfect and has not been effectively implemented yet. During the field survey, author found that most local farmers in Shache County are lack of enough attention and techniques in term of scientific fertilization, thinning, trimming, anti-pest and pollination. Undoubtedly, this deficiency degrades the quality of Badamu products.

Third, the varieties of Shache Badamu are too much, this disadvantage also stagnated the further development the Badamu classification and planting. Since lack of specialized criteria and indication

to distinguish maturity and picking time, it is easy to mix the late-mature type from the early-mature type. And the local farmers are used to picking all type of Badamu fruits at same time by mistake. This maloperation not only leads to a poor quality and low output of product, but impacts and limits its market competitiveness and price.

Forth, Southern Xinjiang is actually located in a rural poverty region which heavily relies on the national subsidies. Food is the first priority to the local residents. This reality decides that farmers have to interplant in their fields. Because of the scattered farmers and massive interplant scale of economic plants, output of Badamu has been greatly restricted. This existing scattered and unorganized produce model does not adapt to modern mechanized operation and unified marketing any more. Excessive interplant consumes too much fertilizer in soil, and makes it hard to support the regular growth of Badamu plants. But I am afraid to say this phenomenon will still remain for a long period.

2.2.2 Serious lack of techniques strength and technical service system has not totally formed yet

Firstly, number of professional technicians is small and relevant fruit industry service system has not formed yet.

Secondly, in Shache County, scientific and cultural quality of farmers are very low, they are basically not able to meet the needs of modern industrial planting. Through the field survey, I found that some farmers do not know the knowledge of times, volume and best position of applying fertilizer, some plants even chopped to death by mistakes.

So, lack of techniques has become a significant bottleneck and it greatly restricts the prompt development of Shache Badamu industry.

2.2.3 Lack of deep-process and degree of socialized and industrialized operation are low

First, except few costal and Northern Xinjiang enterprises in China, there are generally no enterprises involve in the Badamu deep-processing in Shache County. Furthermore, even the existing involved deep-process enterprises, their raw materials are imported from California. Badamu deep-process industry is heavily missed in Shache County.

Second, degree of organized produce of Badamu is very low. In Shache County, there are no any special rural cooperatives yet except few rural brokers (they are basically dried fruit shop owner). Organizations of rural brokers are also mostly loose and random, their capabilities of converging farmers are low. Their role of bridging market, leading enterprises and farmers are also very limited.

3 Countermeasure and suggestion of development to Badamu industrialized development in Shache County

3.1 Establish specific development planning and goals

Firstly, establish specific and practical development planning on Badamu Planting areas and output. The government of the Shache County has set up an initial planning which is expecting to enhance to Badamu plant area to 1000000 mus by the end of the twelfth-five-year planning in China. Except to increase plant area, it is also important to set up the goal of increasing output from 30 kilos to 80 kilos per mu. If the planning area can be reached and the price still remain the existing level, then Badamu industry is expected to be the economy pillar of Shache County.

Secondly, set up produce and development objective responsibility. To ensure Badamu industry development in order and successfully complete the set goals by county government, a detailed development objective responsibility policy should be established to strengthen the importance of developing Badamu industry in Shache. This policy ought to play an important role in assessing local governmental official performance and to ensure the support of Badamu industry development in

terms of organization and manpower.

3.2 Set up professional and socialized service system

First, establish Shache County Badamu industry Association, and government needs to provide more backup with capitals, policies and techniques. The main responsibilities of this proposed association should include establishing industrial development planning, unifying brand strategy, implementing unified product acquisition, setting up plantation samples, developing modern processing industry, connecting professional social service agencies etc.

At the same time, for better support of planting Badamu, establishment of specialized and socialized service enterprises or agencies in Shache County should be greatly encouraged by government.

Second, set up Shache Badamu research institute and take the responsibilities of research breeding, cultivation and variety improvement of Badamu. The institute is expected to provide technical support for prompt development of Shache Badamu industry in the way of hiring external experts, raising local technicians, summarizing experiences, introducing advanced techniques.

Third, strive to develop apiculture industry to make sure the harvest of both agriculture and apiculture. Badamu industry cannot develop healthily without the assistance of bees. Recently, Shache County has enhanced the support degree to bee-raising industry in the last few years. By some effective measures such as using the national poverty fund and assistance capital from Shanghai, enhancing the plant area of oilseed rapes, the total scale of bees has reached to 40000 boxes in Shache County in 2012. This practice not only increased the output of Badamu but solved the problems of releasing bees in the period of flowering. This excellent case of intergrowth is worthy to keep on in the region.

Four, enhance fruit logistics system construction. On the one hand, base on the principle of move out and invite in, enterprise representatives, rural brokers and base cadres are suggested to go out for professional training as well as invite external experts for technique lecture and knowledge transfer. On the other hand, enhance and support the construction of specialized and commoditized Badamu produce base and rural cooperatives for unified collecting, processing and sale.

3.3 Promote the standardized management of Badamu breeding and planting

Firstly, implement the species selection. The selected fine species should to be supported by providing governmental subsidy and gradually weep out the inferior ones. Meanwhile, Shache County should strengthen the intensive produce of sapling in factories. Badamu association is expected to establish unified standard of variety, sapling and product. In case of configuring Badamu variety in the stripping field, I suggest that there are better not exceed four species to avoid the difficulties of collecting mixed species and prevent negative impact of sapling quality

Secondly, promote standardized planting model for higher output. Referring to California's advanced approach, we should establish Badamu high output manuals to guide farmers and technicians in Badamu planting. On the one hand, considering the grow situation of Badamu sapling, a standardized transplant criteria should be set up to prevent any possible false operation. On the other hand, interplant of the economic crops should be decreased gradually and modern breeding methods such as dropping irrigation, applying organic fertilizer should be adopted.

Thirdly, strengthen technical training on Badamu planting. The suggested training measure could include inviting technical experts to extend the technical groups and holding specialized meetings especially in winter to lecture and demonstrate the techniques of planting Badamu to the technicians and responsible government officials

Four, enhance the supervision degree of management. On the one hand, we should strengthen the supervision of technical management of Badamu in all involved periodic phases. On the other hand, scientific picking and collecting methods should be promoted just in accordance with different varieties characteristics. When picking and collecting fruit, governments and the associations should

prevent farmers sell Badamu plant instead of its fruits. Fruit picking by hands instead of by sticks should be promoted.

3.4 Increase investment attraction and introduce leading Badamu deep process enterprises

First, introduce deep processing enterprises to the region. Shache County ought to try its best to attract qualified deep processing enterprises settled in the producing area by inviting investment and providing preferential policies. In addition, adequate raw material supply should be guaranteed by increasing Badamu output. Furthermore, in order to meet domestic and even international demands, the government should enlarge and diversify the development Shache Badamu industry to the directions of Badamu dairy, Badamu oil produce, Badamu pharmacy etc.

Secondly, attract social capital to develop Badamu industry. I suggest to set up the Badamu Industry Development Special Fund by using the assistance capital from Shanghai and raised capital from society. Since Shache County has the similar geographic nature with California, we can take full advantage of it in attracting supportive capital and techniques.

3.5 Increase promotion and shape the brand of Shache Badamu

In the main producing areas, basic knowledge transfer and technical education including Badamu planting history, development strategy, planting management should be carried out in the way of discussion, knowledge contest, knowledge quiz and propaganda till a positive atmosphere is formed. And successful promotion measures such as holding all sort of festivals and contests should be insisted.

In Chinese domestic market, Shache Badamu is always recognized as American Almond instead of its original name. Consumers generally know little about it. Therefore, effective measures such as speed up the registration pace of relative certificates, enhance the cognition degree and increase market competitiveness should be taken to boost Shache Badamu to be a well known brand in the world.

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