



*Hippophae rhamnoides* L., subsp. *sinensis* is mainly distributed throughout north, northwest, and southwest China. The fruit is rich in juice and oil and has currently more than hundred products and, because of its extraordinary tolerance to adverse circumstance, more than 330,000 hectares of new plantations have been established on the wastelands of China.



*Hippophae tibetana* is a dwarf species with a height of 10-40 cm, It is usually seen at high altitudes in the Himalayan mountains (above 3,500 m). Big, juicy fruits are often collected by Tibetan herdsmen and sometimes they are also used for medicine.





*Hippophae rhamnoides* L., subsp. *yunnanensis*, in appearance, is similar to *H. rham.* L. subsp. *sinensis* but it is mainly distributed in the area between South-west Sichuan and South-east Tibet and in North-west Yunnan as well. Because these areas are far from the cities and rather inaccessible, this subspecies has not been brought into use.



*Hippophae salicifolia* is the most promising species and is found in the southern Himalayan mountains from Kashmir to Bhutan, at altitudes of between 1,500-3,800 m. Its fruit contains more vitamins than other species. It is thorny, so is often harvested by hands or left to animals.





*Hippophae neurocarpa* is only found in the Qinghai - Tibetan Plateau of China at altitudes ranging from 2,800 to 4,300m. Its fruit is quite different from other types because it is characterised by a dark-grey colour, has little juice, and is small in size. The pulp and the seed, however, are rich in oil.



*Hippophae rhamnoides* L., subsp. *gyantsensis* grows on terraces and river banks at altitudes from 3,200 to 3,800m along the Yalu Tsangpo River in Tibet and Sikkim. The fruit has ridges on the surface and has less juice which indicates that this subspecies can resist drought.





It is estimated that seabuckthorn fruit can be used for making various products such as soft/hard/powdered drinks, jams, sweets, cosmetics, and medicines (more than a 100 products).



Seabuckthorn fruit is rich in flavones and is effective for treating cardiovascular diseases. A drug named Seabuckthorn Flavones Tablet was produced by the Pharmaceutical Factory of the West China Medical University, Chengdu, China.



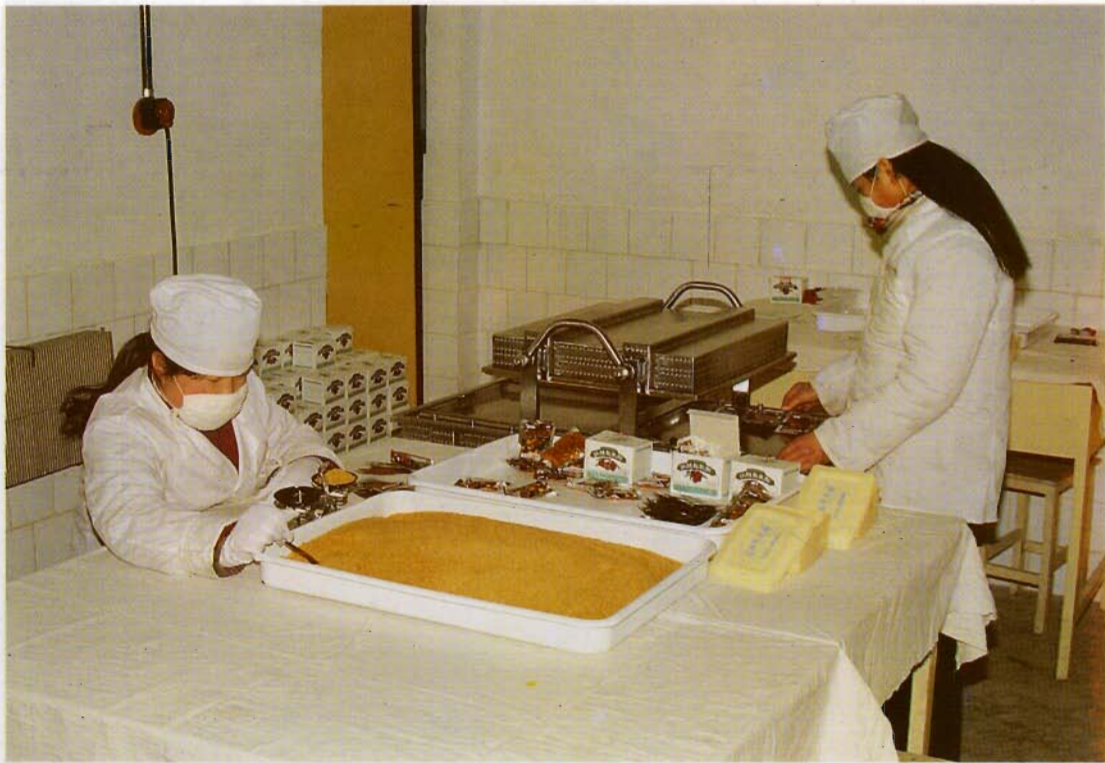


Seabuckthorn raw juice has to be condensed to transport it to the terminal processing factories. In this picture, the workers of Xiaojin Seabuckthorn Beverage Factory, Western Sichuan, China, are operating the condensing machine.



Seabuckthorn oil refining workshop, Qin Yong Seabuckthorn Corporation, Shaanxi, China. Seabuckthorn oil is considered the most significant material for medicines.





Women workers (farmers) are packing Seabuckthorn Dried Emulsion that can be used for the treatment of coronary diseases, stenocardia, and to reduce blood fat and blood pressure.



Seabuckthorn bushes are either male or female. To procure more female plants, hardwood cutting technology is used to propagate seedlings. This is a one-year old hardwood cutting nursery (Zhang Zhixiang).





One-year old hardwood cutting seedlings (Zhang Zhixiang).



Seabuckthorn plantation established with hardwood cuttings. After two years the plants, which are only 60-100 cm high, begin to bear fruit.





The Loess Plateau is in the arid zone of the upper and middle reaches of the Huanghe River, China. With rugged topography and sparse vegetation, the fertile topsoil is washed away during monsoon. Each year there is a decrease of 0.2-1 cm in thickness. Due to soil erosion, the movement and undercutting increasingly infringes upon arable land. The control of soil erosion is the most urgent task in the region. The picture was taken in Lishin County, Shanxi Province (Huanghe River Conservancy Commission, China).



Stabilisation of mountain slopes is always a common problem in the mountain areas. Only those plants that are capable of fixing nitrogen, are good soil binders, provide good surface cover, and are significant as fodder, food, fuelwood, and even as medicinal plants would be advantageous for farmers. Seabuckthorn is just that kind of plant (Li Ming).





Air-seeding of seabuckthorn has proved to be a very promising method for afforestation. High speed, effectiveness, wider range, and low cost have emerged as advantages of this method (Liang Yimin).



After 3-5 years of air-seeding, the bare mountain slopes are covered with seabuckthorn bushes. Sometimes other species, for example milk vetch (*Astragalus adsurgens*), are mixed with seabuckthorn by strip air-seeding as used in the Loess Plateau, China (Cong Xinhai).





Because of its high quality biomass, seabuckthorn is a favourite green energy plant. Each hectare of six-year old artificial seabuckthorn forest can produce 18 tons of fuelwood.



When poplar or pine trees were mixed with seabuckthorn, both grew better than single pure stands. This is owing to the particular contribution made by seabuckthorn in increasing the moisture of the soil and thereby improving the soil fertility.





Once a seabuckthorn plant settles down in the soil, it can form dense bushwood in a short period through rapid multiplication of turions. This picture was taken in the gully area of the Loess Plateau, China. Seabuckthorn can even grow on slopes which have more than a 40° inclination (Li Ming).



The arenaceous land area of Inner Mongolia, China, where the weather is dry, cold, and windy, is considered to be an uncontrolled area. Many plant species fail to survive but seabuckthorn grows well there (Ao Fu).



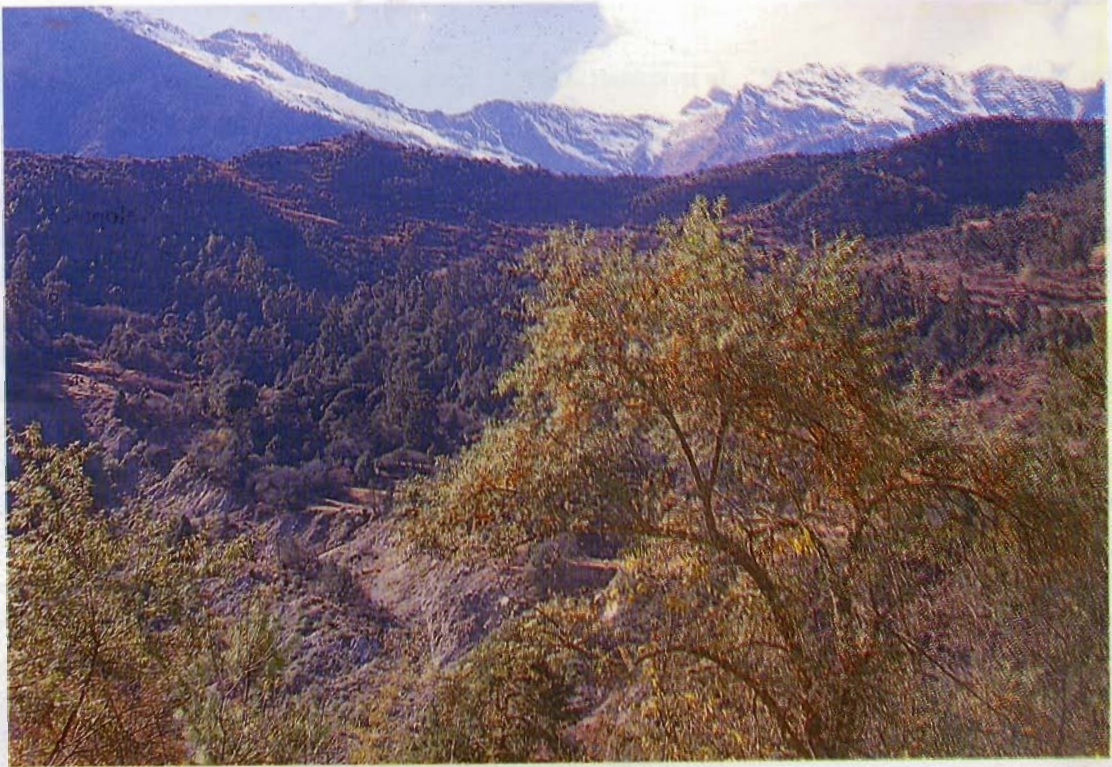


A symbiotic mycorrhizal fungus, which is identified as *Flankia*, has been found on seabuckthorn roots. This symbiosis makes seabuckthorn form root nodules that can fix atmospheric nitrogen.

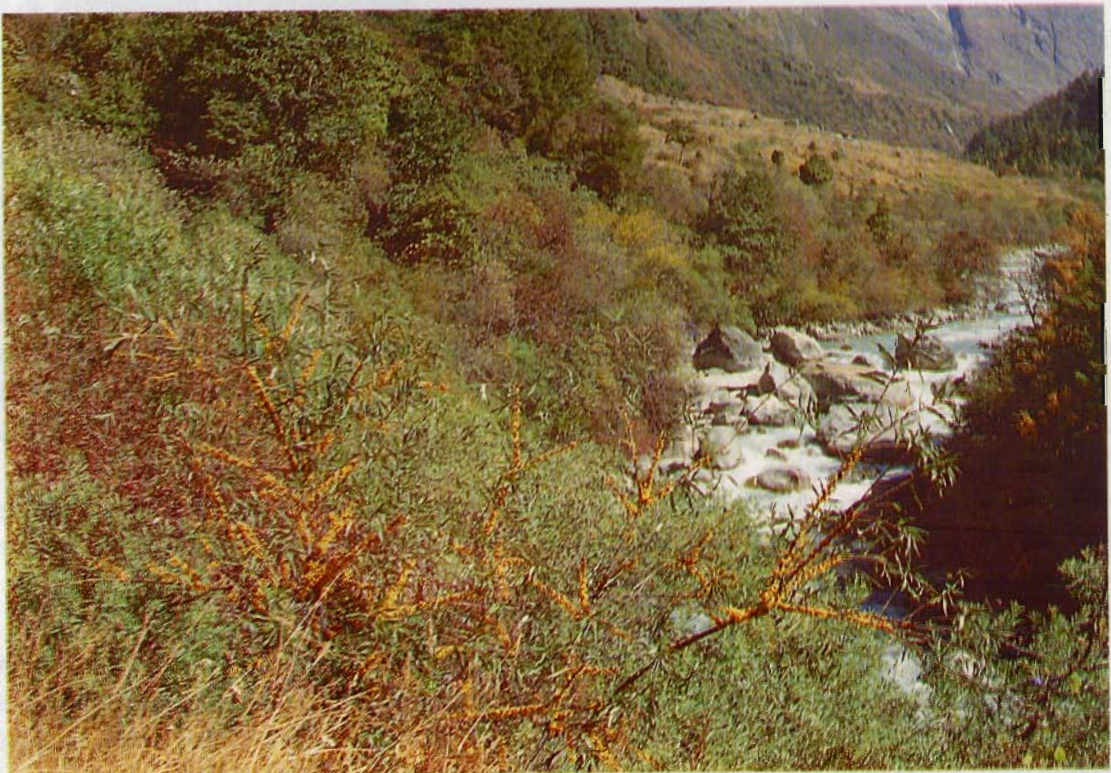


Usually, the ripe seabuckthorn fruit cling on to the branches for several months, and this enables many animals and birds to survive through winter. For example, the famous rare bird *Crossoptilon mantchuricum* is found to live on seabuckthorn fruit, which accounts for 35.4% of its food during winter.





Although most natural seabuckthorn forests are found along river banks, they can still grow well on the slopes of mountains if the rainfall is more than 400 mm. This photograph was taken from the edge of a coniferous forest in Southern Tibet.



The Hindu Kush-Himalayan Region is very rich in seabuckthorn resources which, in most cases, are not yet harnessed. In the near future, people will find that this plant can bring about multiple benefits in their daily lives. This is the Langtang Area of Nepal.