

Alfalfa in China & Central Asia

Nan Liu¹, Yingjun Zhang^{1*}, Dawei Xu²

The paper provides an overview on the alfalfa situation in China and five countries from Central Asia in terms of cultivated area, varieties, forage yields, and main uses. It supplies more details about the situation of alfalfa industry in China.

China: from 2012, the government of China has launched a series of policies to promote the development of alfalfa industry, and the alfalfa planting area and production are significantly increase. In 2021, the alfalfa planting area is more than 3 million ha, and mainly distributed in northern China, but only 0.45 million ha of this area is used for commercial products. At the same time, alfalfa imports are huge with 1.78 million tons of alfalfa hay and 55,000 tons of alfalfa meal and other products imported in 2021, mainly from the United States (over 80%), Spain, South Africa and other places. Cultivars: many alfalfa varieties are dormancy and semi-dormancy types, in order to adapt to the low temperature. Uses: Mainly used for dairy cow, cattle, hay, silage and seed production. Yields: the alfalfa yield is different due to climatic characteristics of different regions, it can be cut 3-5 times a year, with the hay yield 6-15 t/ha. The development of alfalfa industry is closely related to local natural conditions, infrastructure, policy support and other factors, and there is a big gap in the technique application of alfalfa production in different regions.

Kazakhstan: alfalfa is cultivated in dry farming conditions in the foothill zone in the southern and southeastern regions, with the area of 18035 ha. Cultivars: all alfalfa varieties cultivated in Kazakhstan belong to two tetraploid species of *M. sativa* L. and *M. varia* Mart., varieties of *M. sativa* L. are cultivated in the southern, southeastern, and western parts of Kazakhstan, and varieties of *M. varia* Mart.-in the northern part of the republic due to their increased winter hardiness. Yields: the temperature resources in irrigation in the south are sufficient for obtaining up to 5-6 mows with a total hay yield of 25 t/ha, in the southeast-four mows (15 t/ha), and in the northern part-two mows (6 t/ha).

Kyrgyzstan: the present production of alfalfa for feed in Kyrgyzstan is about 4637 ha. Cultivars: 8 alfalfa varieties approved for use in Kyrgyzstan from 1991 to 2017. Yields: the average hay yield is about 12 t/ha, it can be mowed 4-5 times each year.

Tajikistan: Alfalfa is the main forage crop in both irrigated and rainfed (mountain areas) conditions in Tajikistan, with the plant area 27001 ha. Cultivars: there is high demand among farmers to get good quality seeds of salt-tolerant alfalfa. Yields: alfalfa can be given 5-8 cuts per year; total hay production will be 5-9 t/ha.

Turkmenistan: Turkmenistan has a total 1.7 million ha agricultural irrigated land area, and the alfalfa plant area is 15553 ha. Yields: the productive life span of a typical alfalfa stand is three years in Turkmenistan (with seven annual cuttings), the yield estimates for alfalfa are 15 t/ha air-dried.

Uzbekistan: alfalfa is an important fodder crop in Uzbekistan and is always irrigated, and the alfalfa plant area is 125252 ha. Yields: the average irrigated alfalfa yields in Uzbekistan are between 35 and 40 t/ha (fresh yield), obtained from about 4 cuts, converting these values into 8t dry matter yield.

¹College of Grassland Science and Technology, China Agricultural University, Beijing, China; ²Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences, Beijing, China

*Corresponding author: zhangyj@cau.edu.cn