

**PARASITIC WEED *OROBANCHE CUMANA* INFESTATION ESPECIALLY ON  
CONFECTIONARY SUNFLOWER  
IN THE NORTHWEST REGIONS OF CHINA**

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**Abstract**

Sunflower (*Helianthus annuus*) is an important oil crop in China, covering 21 provinces (regions), including Inner Mongolia, Jilin, Heilongjiang, Xinjiang and Shanxi etc. In 2015, the total cultivated area under sunflower was about one million hectares with a 1.4 million tons yield. The dominant sunflower production region is Inner Mongolia, which accounts for 52.3% of China's entire sunflower production with 50% area under sunflower cultivation. In Inner Mongolia, Northern slope of the Mount Yinshan area is known for producing high quality confectionary sunflower. In recent years, due to the increasing demand in domestic and international market, the profit of sunflower cultivation increases rapidly. On the other hand, with the popularization and promotion of hybrid sunflower, the international exchange and flow of key sunflower germplasm in China is frequent, resulting in the introduction and spread of different physiological races of sunflower broomrape (*Orobanche cumana*) in China. Especially, in the northern slope of the Mount Yinshan, due to permeable soil type and wind erosion damages which make this district best option for propagation of *O. cumana* seeds. The survey of Ulanqab in 2015 showed that more than 80% of sunflower fields of Siziwang Banner had different levels of *O. cumana* infestation, which reduced yield up to 50%, even total failure was also observed in some fields. In Wuchuan county of Hohhot, 60-70% of sunflower broomrape infestation was emerged while seriously affected fields lost 50-70% or no yield in 2016. Farming and Animal Husbandry Bureau of Siziwang Banner reported 90% sunflower cultivation area of the Da Heihe village is under the threat of heavy *O. cumana* infestation, causing about 3.5 million US dollars loss in 2017. In addition, huge seed bank of *O. cumana* in the fields of some non-host crops like potato, rapeseed and maize also exists. Once sunflower is planned to be grown in these farmlands, the potential damage of sunflower due to broomrape infection will be huge.

**Keywords:** sunflower, *Orobanche cumana*, parasitism, infestation, Inner Mongolia