

**CONTROL OF SUNFLOWER BROOMRAPE
WITH BIOCONTROL AGENTS AND TRAPPING METHOD
IN INNER MONGOLIA, CHINA**

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Abstract

Sunflower broomrape (*Orobanche cumana*) is a severe disease limiting the sunflower production worldwide. Recently, Sunflower broomrape has become a severe problem in Inner Mongolia region of China. In 2015-2017, biocontrol field experiments were conducted in Xixiaozhao, Bayannaouer city, Inner Mongolia. After sunflower seeds were treated with biocontrol agent F1 (*Fusarium* sp.), compared with control (91.3%, 69.1) and glyphosate treatment (90.2%, 65.8), both parasitic rate (51.7%) and disease index (47.7) of *O. cumana* were decreased dramatically. SFJJ-1, another biocontrol agent, was used with a dosage of either 10 kg or 20 kg per 667m², and the disease index was decreased significantly in both treatments. To perform trapping method in sunflower field, a large number of sunflower seeds were planted in the field at least 20 days before the planting date. After sunflower seedling emergence, the soil was turned over and sunflower seedlings were ploughed into soil, then, sunflower seeds plant again. This method could reduce the parasitic rate (81.3%) and disease index (38.8) of *O. cumana*, and the control efficiency was 58.3%. Overall, our study provides several potential measures to control sunflower broomrape in the future.

Keywords: *Orobanche cumana*, sunflower, biocontrol, trapping method