

FEDERAL NOXIOUS WEED LIST

Orobanche aegyptiaca Pers (*Phelipanche aegyptiaca* (Pers.) Pomel)

Common name: Egyptian broomrape

Damage

The genus *Orobanche* has approximately 150 species, all commonly called broomrape (Musselman, 1994). They cause reductions in crop yield, adversely affect crop quality, and result in loss of cultivated land due to reduced crop alternatives (Scher and Walters, 2010). *Orobanche aegyptiaca* infects roughly 30 broadleaf crops, including many economically important crops, such as bell pepper, cabbage, carrot, celery, eggplant, melons, potato, tomato, sunflower, and various legumes (CAB International, 2014). There are reports of 50% yield reduction of watermelon (Panchenko, 1974). The symptoms produced by *O.*

aegyptiaca are comparable to those of other *Orobanche* species; symptoms are not very distinctive but there may be some yellowing and necrosis of the foliage, general weakening of the plant and reduced fruit production (CAB International, 2014). The presence of broomrape in a field may force farmers to plant a less economical, non-host crop or to leave the field fallow (Nandula, 1998). The presence of broomrape in a shipment or production area can be a trade issue as many countries list non-native *Orobanche* as a quarantine pest.

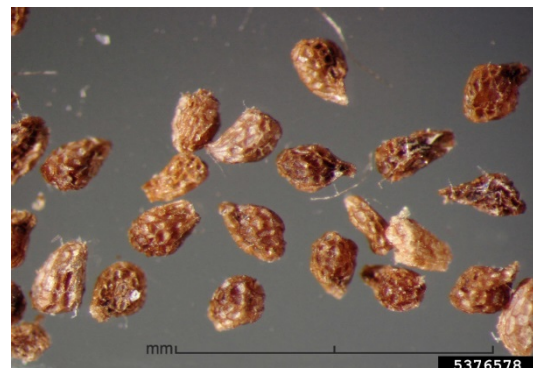


Occurrence

O. aegyptiaca is recorded as a 'serious' or 'principal' weed in Afghanistan, Kuwait, Saudi Arabia, Israel, Jordan and Italy. It is a major problem in at least 10 other countries of the Middle East and eastern Europe (Holm et al., 1991).

Biology

All *Orobanche* species are obligate parasites; they lack chlorophyll, thus cannot synthesize their own food. They typically grow to about 30 cm (1 ft.) tall. They germinate in response to host root exudates and the seedling must contact a host root immediately after germinating to survive. Some species may produce flowers within a week of emergence from the soil (Scher and Walters, 2010), with viable seeds appearing within a few days. Stems are yellow to straw-colored and leaves are small triangular flaps. Above ground stems appear from February to April, with the first flowers appearing about three days after the plant emerges. These flowers have 2 petals on the upper lip and 3 petals below. Colors can range from creamy-white to bright blue to violet. Seed pods contain numerous, tiny (0.3-0.4



mm), dust-like seeds. As seeds mature, they turn from tan to brown to very dark. In the absence of a germination stimulus, they can lie dormant in the soil for over 30 years (Anon., 2014).



APHIS Regulation

The Federal Noxious Weed Act of 1974 was put into regulation in November of 1976. At that time, APHIS added five *Orobanche* species to the Federal Noxious Weed list. In addition, parasitic plants are considered plant pests, and may be regulated under 7 CFR 330 whether or not they are listed Federal Noxious Weeds. The rest of the genus *Orobanche* (other than species native or widespread in the U.S.) was regulated June 3, 1983, because the genus reduces vigor of dicots by extracting nutrients. We based the listings on recommendations from the Technical Committee to Evaluate Noxious Weeds, composed of representatives from the USDA: Agricultural Research Service; Animal & Plant Health Inspection Service; Agricultural Marketing Service; as well as the Weed Science Society of America. *Orobanche* spp. were added to the Federal Seed list (7 CFR 361.6) effective August 11, 1995.

Sources:

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Photo Credit

USDA APHIS PPQ Archive, 2014. USDA APHIS PPQ. Bugwood.org (plants 0686008; 0686009 Dr. Reuven Jacobsohn, Agricultural Research Organization; 5376578 seeds Julia Scher, USDA APHIS PPQ)