

Taraxacum officinale
Dandelion
Asteraceae

Taraxacum officinale is a perennial with milky juice and a basal rosette. The leaves are oblanceolate, pinnatifid or lobed, and are sparsely hairy below and on the midribs. Leaves are 1-10 cm wide and 6-40 cm long and the flowering stem is leafless, 5-50 cm long, either smooth or with long hairs. Flowers are yellow and flowering heads are first erect, becoming reflected as flowers age. Reproduction is sexual, and the gray-brown seeds (3-4 mm long) are wind dispersed. Depending on the location, this species may flower at any time of the year. *T. officinale* is native to Eurasia, but is now widely spread in lawns, pastures, and noncroplands throughout much of North America.

Welham and Setter (1998) compared size dependent reproductive effort in two dandelion populations in British Columbia, Canada. One study population occupied a 5 year old alfalfa (*Medicago* sp.) field, an environment subject to regular disturbance but characterized by a low density of other plants. The second population consisted of plants from undisturbed sites where the density of neighboring grasses was high. The authors found six-fold variation in reproductive effort on the disturbed site, and four-fold on the undisturbed site; with much of this variation attributable to a size-dependent relationship between reproductive effort and vegetative mass. Reproductive effort in both populations increased linearly with vegetative mass, but the slope for the population in the alfalfa field was significantly higher. In contrast, proportional reproductive effort showed a curvilinear increase for the alfalfa field but was linear and negative for the undisturbed population. Major differences in reproductive morphology were also observed for the two populations; larger plants on the alfalfa field had longer average scape lengths, produced more flower heads per plant, had greater seed production, and had a lower ration of seed mass per pappus area. The authors suggest that the observed differences in reproductive morphology facilitate colonization of open areas following disturbance.

Different control methods are suggested depending on the habitat of concern. Dandelions inhabited lawns can be cut off well below the crown using a sharp cutting tool, and repeated treatment might be necessary. Chemical control may be obtained by applying 2,4-D in the spring or early summer. In croplands, fall or spring tillage will destroy existing plants and normally cultivations and herbicides used to control broadleaf weeds will control this weed in row crops. Metribuzin and teracil will control this weed in alfalfa and 2,4-D gives control on small grains. In pastures and noncropland spraying with 2,4-D during the spring is recommended for control (U.S. Department of Interior, 1985).

In a study to determine the effect of residues from major crops on weed growth (as an alternative to herbicides), it was found that dandelion germination and root growth were substantially reduced by 1% extracts of lentil and canola residues. However, this weed usually germinates in the spring and summer and the toxins from the plant residues will likely dissipate before dandelion germination occurs. In addition, dandelion seeds that were exposed to residue extracts then placed in water germinated normally (Moyer and

Huang 1997). A different study (Smart et al. 1997) found that dandelions experienced a 47% reduction in leaf area when applied with the herbicide trifluralin. Blackshaw and Lindwall (1995) suggested that a combination of tillage and herbicide treatment is a practical weed management strategy that preserves soil water at a reasonable cost; the weeds they investigated in their study include *T. officinale*.

Literature cited:

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Smart, J.R., D.J. Makus, and R.J. Coleman. 1996. Trifluralin used for weed control in coriander, dill, and dandelion. *HortScience* 31: 757.

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