Iris pseudacorus 简体中文 正體中文

System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Liliopsida	Liliales	Iridaceae

Common name yellow-flag iris (English), fleur-de-lis (French), iris jaune (French), yellow flag (English), water flag (English), pale-yellow iris (English), yellow water iris (English), yellow iris (English)

Synonym
Iris acoriformis , Boreau
Iris acoroides , Spach
Iris bastardii , Boreau
Iris curtopetala , F. Delaroche
Iris flava , Tornab.
Iris lutea , Lam.
Iris paludosa , Pers.
Iris pseudacorus , L. var. *parviflora* Bastard
Iris sativa , Mill.

Similar species *Iris versicolor*

Summary Iris pseudacorus is a perennial monocot forb that forms dense stands of robust plants. It thrives in temperate climates and can grow in water up to 25cm deep. It is a fast-growing and fast-spreading invasive plant that can out-compete other wetland plants, forming almost impenetrable thickets. Iris pseudacorus is poisonous to grazing animals and caution should be used if pulling out this plant as it causes skin irritations. It has typically been introduced as an ornamental, but has also been used in erosion control and for making dyes and fibre.

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Species Description
Sutherland (1990) describes *I. pseudacorus* as \"an erect glabrous perennial, 40-150cm tall. The rhizome is 1-4cm in diameter, with roots usually 10-20cm long but up to 30cm. The leaves, which number about 10 per ramet, are rather glaucous, 50-100cm x 10-30mm, with raised midrib, coming to a fine point. They are broad, ensiform, about equaling the often-branched compressed terete scape. the spathes have broadly scarious margins towards the top and are 5-10 flowered. The pedicels are about as long as the ovary. The flowers are 8-10cm in diameter, yellow, varying from a pale shade to almost orange. The outer perianth segments are variable in form, shortly clawed, often purple-veined with an orange spot near the base; the inner perianth segments are spathulate, smaller than the outer; the tube is short. The style branches are yellow. The capsules are 4-8cm, elliptic, apiculate; the seeds are dark brown, smooth and very variable in size. the seeds are closely packed in three rows and the majority are disc-like in form, whilst the terminal seeds in each loculus are more or less plano-conves and often larger; this is to some extent true also of those seeds which, although not terminal, are adjacent to ovules that have failed to develop. There are two rows in each of the three compartments of the fruit and all begin to enlarge after fertilization. If most of the ovules in each of the two rows mature as seeds, the seeds are closely packed, overlap each other and are irregularly wedge-shaped; however, if the ovules in only one of the rows become seeds, whilst those of the other row fail, the seeds assume a disc like form (Guppy 1912, in Sutherland 1990).\"

Notes
Tu (2003) states that, \"*I. pseudacorus* does not provide food for native animals and contains large amounts of glycosides that are poisonous to grazing animals (IPANE 2001, in Tu 2003). All parts of the plant are poisonous, especially the rhizomes. Symptoms of *I. pseudacorus* poisoning include moderate to severe bouts of abdominal pain, gastroenteritis, nausea, vomiting, diarrhea, spasms, staggering, and paralysis (Forsyth 1976 in Sutherland 1990; Jacono 2001, in Tu 2003). Birds do not consume any part of *I. pseudacorus*, nor are they known to disperse of the seeds (IPANE 2001; Thomas 1980, in Tu 2003).\"

Lifecycle Stages
In the North American region *I. pseudacorus* dies back during winter. During spring long leaves and flower stalks re-grow from the rhizomes and flowering occurs by late spring or early summer. The rhizomes spread to form dense stands (The King County Noxious Weed Program, Undated).

Habitat Description
Sutherland (1990) reports that in it native range, \"*I. pseudacorus* is present in coastal regions mainly near the arid southern limit and towards its northern limit in Scandinavia. The restriction to relatively low altitudes and coastal sties in Scandinavia suggests that it is intolerant of low temperatures.\" The author goes on to state that, \"*I. pseudacorus* usually grows in sites with a continuously high soil-water content but the soil does not need to be submerged and the plant is capable of growth in dry sandy soil (Dykes 1974, in Sutherland 1990). It is present on peats as well as on permanently submerged organic and inorganic soils at the edges of ponds, lakes and rivers. This species is less frequent in areas of chalk, but occurs in fens, on chalk and in fen woodland.\"

Reproduction
Lamote *et al.* (2002) state that, \"*I. pseudacorus* grows as clones that spread radially and become fragmented as they develop. The thick rhizome tends to prevent much intertwining of adjacent genets but frequently two or three genets may lie on top of each other. Rhizomes branch as a consequence of flowering, and repeated flowering results in a patchy distribution. If the plant remains vegetative it shows a more linear clonal growth. Colonization of new sites occurs mainly be rhizomes, which become fragmented and are transported downstream during winter flood. Seeds float for a long time and can be washed into existing vegetation on the higher shoreline during high water levels (Coops and Van Der Velde, 1995). However, establishment of seedlings is reported to be rare in the field and clonal propagation is generally assumed to be much more frequent than sexual reproduction.\"
The King County Noxious Weed Program (Undated) points out that, \"Up to several hundred flowering plants may be connected rhizomatously. The flowers are pollinated by bumblebees and long-tongued flies. Seed germination is not light dependent, and plants need temperatures above 15 C to germinate, but are most successful at a range of 20 to 30 C. Germination is increased by scarification, and submerged seeds will not germinate.\"

Nutrition
I. pseudacorus rhizomes can tolerate long periods of anoxia (low soil oxygen). *I. pseudacorus* grows well in soils with high acidity with a pH range of 3.6 to 7.7. It has a high nitrogen requirement (Ramey, 2001).

General Impacts
Tu (2003) states that, \"Once established, *I. pseudacorus*'s thick tuberous rhizomes can tolerate both prolonged anoxic and/or drought conditions, and its rhizomes and seeds can be transported downstream for further spread (Sutherland 1990; Jacono 2001, in Tu 2003). The rhizome mat can prevent the germination and seedling growth of other plant species. The mat also creates improved habitat for *I. pseudacorus* by compacting soil and elevating the topography, therefore creating a habitat that is drier and with increased rates of siltation and sedimentation. Along the eastern seaboard, *I. pseudacorus* often invades open marsh areas, where it can form dense stands.
Ramey (2001) reports that, \"*I. pseudacorus* is a fast-growing and fast-spreading invasive plant that can out compete other wetland plants, forming almost impenetrable thickets, in much the same was as cat-tails.\" IPANE (2001) states that, \"In its native habitat, this plant is not widely grazed because of the glycosides it contains, making it poisonous to grazing animals. Caution should be used if pulling out this plant, for it can cause skin irritation.\"

Management Info
The key to successful and cost-effective control of *I. pseudacorus* is to prevent new infestations or to begin control efforts while populations are still small and manageable. With early intervention the potential for successful management is high. An integrated approach with close monitoring for any re-growth from seeds or re-sprouts or any new populations followed by restoration appears to be an effective method with the best results (Tu, 2003).
Mechanical: Tu (2003) states that, \"Manual or mechanical methods that remove the entire *I. pseudacorus* rhizome mass can successfully control small, isolated patches. These methods, however, are very time consuming and labor-intensive, since even small rhizome fragments can resprout. Additionally, digging disturbs the soil, may fragment rhizomes, and promote germination of *I. pseudacorus* and other undesirable species from the soil seed bank (Jacono 2001, in Tu 2003). Pulling or cutting *I. pseudacorus* plants may provide adequate control, but only if it is repeated every year for several years to weaken and eventually kill the plant. Dead-heading (removing the flowers and/or fruits) from plants every year can prevent seed development and seed dispersal, but will not kill those plants (Crawford 2000, in Tu 2003).\" Ramey (2001) states that, \"Once an infestation, with its extensive rhizomes, has taken hold, machines and possibly fire are the only possibilities for management.\"
Chemical: Tu (2003) reports that, \"*I. pseudacorus* can be effectively controlled by herbicides. Since it usually grows in or adjacent to water, an aquatic-labeled herbicide and adjuvant must be used. Glyphosate (for example, tradenames Rodeo®, Aquamaster® or Glypro®) applied in a 25% solution (13% a.i.) using a dripless wick/wiper applicator, or applied in a 5 to 8% solution if sprayed, when used with the appropriate non-ionic surfactant adjuvant, can effectively kill *I. pseudacorus* (R. McClain, pers. comm.). The timing and choice of application technique will determine control efficacy and should work to minimize off-target effects. *I. pseudacorus* can be controlled by either directly applying the herbicide to foliage, or by immediately applying herbicide to freshly cut leaf and stem surfaces. Herbicides can be directly applied to *I. pseudacorus* foliage or cut stems by a dripless wick system or using a backpack sprayer. Be sure to always take appropriate precautions and wear suitable clothing and equipment, and follow all instructions on the herbicide label. Use a dye in the herbicide mix so you can watch for accidental contact or spill of the herbicide.\" Ramey (2001) reports that, \"*I. pseudacorus* is susceptible to many registered herbicides, but is resistant to terbutryne.\"

Pathway
Ramey (2001) states that *I. pseudacorus* continues to be sold through garden and plant dealers and over the Internet. It was brought to North America as an ornamental.Ramey (2001) states that *I. pseudacorus* has been used in erosion control.

Principal source: Ramey, 2001. *Iris pseudacorus* L.
IPANE, 2001*Iris pseudacorus*

Compiler: National Biological Information Infrastructure (NBII) & IUCN/SSC Invasive Species Specialist Group (ISSG)

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ALIEN RANGE

[10] CANADA
[45] UNITED STATES

[2] NEW ZEALAND

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