Melilotus alba 简体中文 正體中文

System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Fabales	Fabaceae

Common name

nostrzyk bialy (Polish), white melilot (English), honey clover (English), melilioto-branco (Portuguese), hierba orejera (Spanish), donnik belyi (Russian), Weißer steinklee (German), mielga (Spanish), hubam clover (English), hubam (English), white sweetclover (English), melilot blanc (Catalan, France), Bokharaklee (German), heuin jeon dong ssa ri (Korean), bai hua cao mu xi (Chinese), hvit steinkløver (Norwegian), mielcón (Spanish), trébol de olor blanco (Spanish, Argentina, Mexico), trébol oloroso (Spanish), Vit sötväppling (Swedish), valkomesikkä (Finnish), melilot (English), white millet (English), tree clover (English), meliloto blanco (Spanish), honey-lotus (English), bokhara-clover (English, Australia, New Zealand), meliloto bianco (Italian), Shirobana shinagawa hagi (Japanese), Melilotos (Greek), Weisser honigklee (German), mélilot blanc (French), almengó blanc (Catalan, Spain), fehér somkóró (Hungarian), hvid stenkløver (Dutch)

Synonym

Melilotus albus , Medik
Melilotus albus , var. *annuus* H.S. Coe
Melilotus leucanthus , W.D.J. Koch ex DC.
Melilotus officinalis , subsp. *albus* (Medik.) H. Ohashi and Tateishi
Melilotus alba , Desr.
Melilotus alba , L.

Similar species

Melilotus officinales

Summary

Native to Asia, Europe, and northern Africa, Melilotus alba (commonly known as white sweet clover) was introduced to the United States and first recorded in 1739.

view this species on IUCN Red List

Species Description

Melilotus alba is a biennial herb with pea-like flowers attached to small stalks of elongated stems (Cole, 1990). It is monocarpic, sweet scented, and has trifoliate leaves (Ekhardt, 1987). The leaves are alternate in arrangement and are 12.7-50.8mm (.5-2 in) (ANHP, 2006). The flowers are perfect spike-like racemes (Ekhardt, undated). The flowers are about 3-6.3mm (ANHP, 2006). The seed is ovoid, leathery, and wrinkled. *M. alba* is somewhat dehiscent. The plant is erect, brached and has a glabrous stem. *M. alba* is 1-3m high. The corolla is 4-5mm long and the fruit is 3-4mm and reticulate. This particular plant fowers in June-July. Flowering shoots can reach up to 1m (Ekhardt, undated). According to Frame (undated), the \"seed pod has a reticulated, ridged coat which turns black with ripening and contains a single smooth kidney-shaped seed, about 2mm long, and brownish-yellow to brown.\"

Lifecycle Stages
Nearly all energy in the early part of the growing season is put into top-growth. In late summer, however, the tops grow very little, while the roots grow dramatically. This is the \"critical growth period\" when plants allocate most energy to root growth.\" In the second year, the taproot may reach 120cm in depth. Along with this are 1-10 ascending flowering stems from 1-2.6m (Uchytil 1992).

Uses
Young leaves of *Melilotus alba* have been used for tea, cooked greens, salads, and flavouring. Flowers can be pan roasted in order to make granola (LEC, 2005). *M. alba* is eaten by livestock. It is aslo grown for pasture and hay. White sweetclover is considered a good plant for soil restoration (Uchytil, 1992). Uchytil (1992) states that \"white sweet clover provides good cover for small mammals, waterfowl, quail, and ring-necked pheasant.\" *M. alba* is regarded as an important plant for honey production (Uchytil, 1992).

Habitat Description
Melilotus alba grows in full sun or partial shade, but cannot tolerate dense shade. It prefers calcareous, loamy soils (Cole, 1990) with a pH from 5-8 (ANHP, 2006). *M. alba* can be found on roadsides, abandoned fields, railways, pastures, open natural communities and prairies (Cole, 1990). This species grows poorly on acidic soils (Uchytil, 1992).

Reproduction
Melilotus alba has high self-fertility and cross fertility rates. It is pollinated by bees and wasps. Rainwater and runoff are the most important means of seed dispersal and the wind can carry the seeds several metres. Seed germination and seedling development occur during late March-April although sometimes it can last until fall (Ekhardt, 1987). *M. alba* requires at least 100 frost free days to reproduce (ANHP, 2006).

General Impacts
Natural grasslands are degraded by *Melilotus alba* with the overtopping and shading of native species. Courmarin is produced by *M. alba* which is toxic to animals (ANHP, 2006). *M. alba* if not cured thoroughly can cause hemorrhaging in cattle. These hemorrhages are less common in horse and sheep. It is also known that white sweetclover causes bloating in livestock animals (Uchytil, 1992).

Management Info
Physical:: Hand-pulling *Melilotus alba* is best done in the fall. In the spring the root crown must be removed when the ground is moist and before it begins to flower. Hand cutting stems just before flowering or on lower stems that dieback before flowering, usually does not resprout. Be sure to cut close to the ground (Cole, 1990). Prescribed burning is also used to contol white sweetclover (Uchytil, 1992). They must be burned in April of the first year which causes the seeds to germinate (Cole, 2006; DiTomaso *et al*, 2006). After the first burn seed germination is high (Uchytil, 1992) and there is a high density of *M. alba* (Curtis and Partch, 1948). In May of the second year when the plants are 1-2m high (Uchytil, 1992) they should be burned again which in turn kills emerging shoots before they seed. This procedure should be followed by two years of no burn (Cole, 1990).
Chemical: The herbicide 2, 4-D can be used to spot spray *M. Alba*. Herbicides are usually used for extremely disturbed sites (Cole,1990).
Biological: No biocontrol options have become available yet (Cole, 1990). Some considerations for biocontrol are the sweetclover weevil which damages the plant (Uchytil, 1992).

Pathway
M. alba is used for hay and pasture (Uchytil, 1992)

Principal source: Uchytil, Ronald J. 1992. *Melilotus alba*. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory [Producer].
Cole, M. 1990. Vegetation Management Guideline: White and Yellow Sweet Clover. Illinois Department of Conservation. 1(23).

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

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ALIEN RANGE

[2] AUSTRALIA
[9] CANADA
[1] NORTH AMERICA
[1] BRITISH ISLES
[1] MEXICO
[46] UNITED STATES

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Managment information

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Cole, M. 1990. Vegetation Management Guideline: White and Yellow Sweet Clover. Illinois Department of Conservation. 1(23).
Summary: This ariticle discusses the ecology of white and yellow sweetclover and also discusses ways to manage these plants.
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DiTomaso, J.M., M.L. Brooks. E.B. Allen. R. Minnich, P.M. Rice, G.B. Kyser. Control of Invasive Weeds with Prescribed Burning. *Weed Technology*. 20: 535-548.
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General information

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Summary: English:
The species list sheet for the Mexican information system on invasive species currently provides information related to Scientific names, family, group and common names, as well as habitat, status of invasion in Mexico, pathways of introduction and links to other specialised websites. Some of the higher risk species already have a direct link to the alert page. It is important to notice that these lists are constantly being updated, please refer to the main page (http://www.conabio.gob.mx/invasoras/index.php/Portada), under the section Novedades for information on updates.
Invasive species - Plants is available from: http://www.conabio.gob.mx/invasoras/index.php/Especies_invasoras_-_Plantas [Accessed 30 July 2008]
Spanish:
La lista de especies del Sistema de informaci□n sobre especies invasoras de m□xico cuenta actualmente con informaci□n aceca de nombre cient□fico, familia, grupo y nombre com□n, as□ como h□bitat, estado de la invasi□n en M□xico, rutas de introducci□n y ligas a otros sitios especializados. Algunas de las especies de mayor riesgo ya tienen una liga directa a la p□gina de alertas. Es importante resaltar que estas listas se encuentran en constante proceso de actualizaci□n, por favor consulte la portada (http://www.conabio.gob.mx/invasoras/index.php/Portada), en la secci□n novedades, para conocer los cambios.
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