**Acacia mearnsii** (black wattle)

**Evergreen tree, with dark-green bipinnate leaves and pale yellow spherical flower heads.**

**Scientific name:** *Acacia mearnsii* De Wild.

**Common names:** black wattle, Australian acacia, green wattle, tan wattle

**Family:** Fabaceae (*Leguminosae*)

**Status in Portugal:** invasive species (listed in the annex I of Decreto-Lei n° 565/99, 21 December)

**Risk Assessment score:** (in development)

**Synonymy:** *Acacia decurrens* var. *mollis* Lindl., *A. decurrens* var. *mollis* Willd., *A. mollissima* sensu auct, *A. mollissima* Willd., *Racosperma mearnsii* (De Wild.) Pedley

**Last update:** 30/06/2014

**How to recognise it**

Tree up to 10 m high; branches with superficial furrows; young, golden apexes due to the numerous golden coloured hairs.

**Leaves:** evergreen; dark green, finely pilose, bipinnate, 3-14 cm long, with 8-25 pinnae pairs, which in turn have 30-70 pairs of 1,5-4 x 0,5-0,8 mm leaflets; central rachis of the leaf with different sized glands that are irregularly distributed.

**Flowers:** pale yellow arranged in globular flower heads of 5-6 mm diameter.

**Fruits:** dark brown pods, compressed, ± straight, constricted between the seeds.

**Flowering:** March to May.

Pale yellow flowers arranged in globular flower heads
**Acacia mearnsii** (black wattle)

**Similar species**

*Acacia dealbata* (silver wattle) is similar but has greenish-grey leaves and the rachis presents glands at the junction of each pinnae pair; the flowers are of a brighter yellow and more precocious in the seasonal cycle.

**Characteristics that aid invasion**

It reproduces by seed; it produces many seeds that remain viable in the ground for more than 50 years. The seeds are dispersed by wind, animals, or water. Germination is stimulated by fire.

The species also propagates vegetatively, sprouting vigorously from stump and roots.

**ORIGIN AND DISTRIBUTION**

**Native distribution area**

Southeast Australia and Tasmania.

**Distribution in Portugal**

Mainland Portugal (Minho, Beira Litoral, Beira Baixa, Estremadura, Ribatejo, Alto Alentejo, Baixo Alentejo, Algarve), Madeira archipelago (island of Madeira).

**Other places where the species is invasive**

Europe (Spain, France, Turkey), South Africa, some regions in the USA, New Zealand.

**Introduction reasons**

For ornamental purposes and for tannin extraction.

**Preferential invasion environments**

Disturbed areas, watercourse banks and urban areas.

It occurs from 0 to 850 m a.s.l. and withstands frequent frosts.

**IMPACTS**

**Impacts on ecosystems**

It forms dense thickets inhibiting the development of native vegetation. In Portugal, it is not one of the most dispersed species, being known few (when compared with *A. dealbata*, *A. melanoxylon* or *A. longifolia*) situations where these levels of impact are verified.

It produces a lot of nitrogen-rich litter, which promotes soil change.

**Economic impacts**

It has potential expensive control methodologies.

**Natura 2000 network habitats more subject to impacts**

- Wooded dunes with *Pinus pinea* and/or *Pinus pinaster* (2270).
Controlling an invasive species demands a well-planned management, which includes the determination of the invaded area, identifying the causes of invasion, assessing the impacts, defining the intervention priorities, selecting the adequate control methodologies and their application. Afterwards it is fundamental to monitor the efficiency of the methodologies and recuperation of the intervened area as to perform, whenever necessary, the follow-up control.

The control methodologies used for *Acacia mearnsii* include:

**Physical control**

**Hand pulling:** preferential methodology for seedlings and small plants. When in more compacted substrates, pulling should be made during the rainy season as to facilitate the removal of the root system. It should be guaranteed that no main roots are left behind in the ground.

**Corte com brushcutter:** preferential methodology for plants resulting from the germination that are still very small. It should just be applied on warm days as long as the security conditions are respected.

**Physical + chemical control**

**Cut stump methodology:** preferential methodology for adult plants. Cut the trunk as close to the ground as possible and immediately (in the following seconds) apply herbicide (active substance: glyphosate) to the stump surface. Should latter on sprouting occur, these sprouts should be immediately eliminated through cutting, pulling or foliar application of herbicide (active substance: glyphosate); up to 25 to 50 cm high. Shoots of larger dimensions (from 2-3 cm Ø) may be ring-barked or else should be repeated the initial methodology (cut stump method).

**Chemical control**

**Foliar application of herbicide:** over recent sprouts (25-50 cm tall) or when high germination rates occur. Spray with herbicide (active substance: glyphosate) limiting as much as possible its application to the target species.

**Tree injection:** applied to adult plants. Apply the herbicide directly on the vascular system by drilling holes (with a drill) 10 cm deep around the trunk and in each hole immediately inject (in the following seconds) the herbicide (1 ml) with a squirt. The holes should be made at a height most comfortable to the operator, in a 45° angle (to avoid the herbicide’s runoff) and in intervals of 5-10 cm between them. The number of holes to make depends on the plant’s diameter.

**Biological control**

The weevil *Melanterius maculatus* Lea (Coleoptera: Curculionidae) has been used with success in South Africa. This species feeds off seeds of *A. mearnsii*, causing a reduction on the number of seeds in some areas, although the destruction level of the seeds in not yet very high.

The weevil *Dasineura rubiformis* Rübsaamen (Diptera: Cecidomyiidae) has been used with success in South Africa. This species forms galls on the floral buds of *A. mearnsii* inhibiting the formation of seeds.

These agents have not yet been tested in Portugal as to verify its safety relatively to native species, so its use has not yet constituted an alternative in our country.

**Prescribed fire**

It may be strategically used to favour germination of the seed bank, e.g., after the control of adult
individuals (with the adequate management of the resulting biomass) and the subsequent elimination of seedlings. This method provides an advantageous reduction of the seed bank, both by destroying part of the seeds and by stimulating the germination of the remainders.

For additional information, visite the webpage www.invasoras.pt and/or contact us at invader@uc.pt.

REFERENCES


