

Data Sheets on Quarantine Pests

Ambrosia artemisiifolia

IDENTITY

Name: *Ambrosia artemisiifolia* Linnaeus

Synonyms: *Ambrosia elatior* Linnaeus

Ambrosia elata Salisbury

Ambrosia paniculata Michaux

Taxonomic position: Angiosperms, Asteraceae

Common names: ambrosia, common ragweed, annual ragweed (English)

Beifussblättrige Ambrosie (German)

ambrosie à feuilles d'armoise, absinthe du Canada (French)

Bayer computer code: AMBEL

HOSTS

A. artemisiifolia can infest practically all field crops, meadows, pastures, orchards and vineyards, and also rangeland. However, it is commonest along waterways, roads, railways and in wasteland.

GEOGRAPHICAL DISTRIBUTION

A. artemisiifolia is native to North America and has spread from there to many other areas.

Europe: Austria, Belgium, Czechia, France, Germany, Hungary, Italy, Luxemburg, Moldova, Poland, Portugal, Romania, Russia (Krasnodar territory), Slovakia, Sweden, Switzerland, UK, Ukraine, former Yugoslavia (details to be confirmed)

Asia: Azerbaijan, Japan, Kazakhstan, Korea, Russia (Primorski territory)

North America: Canada, Mexico, USA

Central America & Caribbean: Cuba, Guadeloupe, Martinique

South America: Argentina, Bolivia, Chile, Paraguay, Peru, Uruguay

Oceania: Australia

BIOLOGY

A. artemisiifolia is an annual weed, reproducing by seeds. One plant may develop 30,000-40,000 seeds, and some specimens up to 80,000-100,000. Seeds remain viable for 5-14 years. On heavily infested plots, the population density can reach 500 plants per m². Seeds germinate in warm and well aerated soil.

DETECTION AND IDENTIFICATION

Morphology

Ambrosia is 20-180 cm tall. The stem is upright, angular and well branched. It superficially resembles the common European weed *Artemisia vulgaris*. The leaves are hairy, pinnatifid, 5-10 cm long. The root is vertical, reaching to a depth of 4 m. The inflorescence is compound, with male and female capitula separate. The yellow 5-25-flowered male capitula are borne in conspicuous long spikes at the tips of the shoots. The female capitula are 1-flowered, borne in inconspicuous clusters of 2-3 in the axils of the leaves or of the male inflorescence. The fruit is formed of a single seed remaining within the receptacle of the capitulum; it is obovate, 2-5 mm, with 1 large spine at the tip and 5 small spines around it.

MEANS OF MOVEMENT AND DISPERSAL

The fruits of ambrosia are dispersed by birds, by melting snow, by waterways and by strong winds. However, the most dangerous pathway is spread with agricultural seeds, forage and fodder.

PEST SIGNIFICANCE

Economic impact

Ambrosia competes strongly with crop plants for water and nutrients. It rapidly impoverishes the soil. It can seriously reduce yields of cereals and other field crops (e.g. sunflower), and causes problems in harvesting. Its presence greatly reduces the fodder quality of meadows and pastures (ambrosia is not palatable to livestock), and taints dairy products if cattle do feed on it. In addition, the pollen of *A. artemisiifolia* is strongly allergenic in man, causing serious 'hay fever' in infested areas. The plant also causes dermatitis on contact.

Control

A. artemisiifolia can be controlled in field crops by the usual weed control operations, including use of common herbicides. It poses more of a problem when it grows in wasteland, or along roadways or waterways.

Phytosanitary risk

A. artemisiifolia is an introduced exotic pest for the EPPO region. It is a serious weed mainly because of its prolific seed production. Once established in an area, even if relatively well controlled on agricultural land, this weed can build up large populations on wasteland, and along roadways and waterways. These are difficult to control and in particular give rise to human health problems (hay fever, dermatitis). In North America, where it is native, *A. artemisiifolia* is managed as part of the natural weed flora. It is, however, classed as a "noxious weed" in some states of Australia. In the EPPO region, it is already fairly widespread in western Europe, occurring more commonly in the warmer regions in the south. It is not generally regarded as a problem weed for agriculture in the countries concerned. In Russia, it is estimated that it could establish in areas up to approximately a latitude of 55°North (about the latitude of Moscow). As it is currently only present in Krasnodar Territory in the far south, there is still a large area of southern and central European Russia which remains uninfested. This weed appears of the list of quarantine pests of the Russian Federation and is subject to internal phytosanitary measures to prevent its spread. In the rest of the EPPO region, it is noteworthy that *A. artemisiifolia* is not apparently present in Armenia or Georgia, in Bulgaria, Turkey or other eastern Mediterranean countries, or in North Africa, and presents a risk to those areas. It is unlikely, on the other hand, that it would present a problem in those northern European countries where it has not yet been found.

PHYTOSANITARY MEASURES

The transportation of agricultural seeds, forage and fodder, infested with seeds of *Ambrosia artemisiifolia* into areas where this weed does not yet occur should be prohibited or restricted.

REFERENCES

Savotikov, Yu.F. & Smetnik, A.I. (1995) *Ambrosia artemisiifolia*. [*Manual of the pests, plant diseases and weeds of quarantine significance for the territory of the Russian Federation*], p. 195. Arnika, Nizhnii Novgorod (RU) (in Russian).

Tutin, T.G. *et al.* (1976) *Flora Europaea* (Vol. 4), p. 142. Cambridge University Press (GB).