

Mini data sheet on *Eragrostis curvula* (Poaceae)

A mini datasheet on *Eragrostis curvula* was published in September 2009 in the EPPO Reporting Service 2009/187 to draw countries attention to this potentially invasive species. In 2012, *E. curvula* was included in the **Observation List**.

Eragrostis curvula (Poaceae, common name African lovegrass) is a perennial plant native to Southern Africa. The species has been used for erosion control and is increasingly used for ornamental purposes. Within the EPPO region, it is present in some countries. Because this plant has shown invasive behaviour in Japan, the USA and Australia, the spread of this species could be usefully monitored in the EPPO region.

Geographic distribution

EPPO region: Belgium, France, Germany, Italy, Lebanon, Portugal (Madeira only), Spain, United Kingdom.

Asia: India, Japan, Lebanon, Myanmar.

Africa (native): Botswana, Kenya, Mozambique, Lesotho, Namibia, South Africa (Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, Northern Cape, Western Cape), Swaziland, Tanzania, Zambia, Zimbabwe.

North America: USA (Alabama, Arkansas, Arizona, California, Colorado, Delaware, Florida, Georgia, Hawaii, Illinois, Kansas, Kentucky, Louisiana, Massachusetts, Maryland, Missouri, Mississippi, North Carolina, New Jersey, New Mexico, New York, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Utah, Virginia, Washington, West Virginia), Puerto Rico.

South America: Colombia.

Oceania: Australia (Australian Capital territory, New South Wales, Northern Territory, Queensland, Tasmania, Victoria, Western Australia), New Zealand.

Note: The species is reported from the Canary Islands (ES) and Northern Africa, but no further details could be found. Although exotic in North America, the species is not regulated. In Australia, the species is regulated in all states, except in Queensland and Northern Territory. Invasive monospecific populations have been observed in Cataluña, between Seu d'Urgell and Puigcerdà. In France, the species is newly reported in Leucate on a roadside (in the Aude department) (Conservatoire Botanique National Méditerranéen de Porquerolles, pers. comm. 2009).

Morphology

E. curvula is a densely tufted perennial grass growing up to 1.2 m high. It has a fibrous root system which mainly develops in the top 50 cm of soil. It has many long and hanging, rigid leaves of varying length (20-40 cm long and 3-5 mm wide), which are bright green to blue green. Leaves are hairless or with soft hairs, the ligule consists of a hairy rim 1 mm long. Leaves are tough to break and have distinctive parallel veins. Inflorescences are narrow panicles up to 30 cm long. The yellow brown seeds are 0.5-1 mm long.

Biology and ecology

E. curvula is mainly a summer growing plant, however it has the ability to grow at any time of the year provided moisture and temperature conditions are appropriate. Growth is reported to begin in the spring when minimum temperatures exceed 10°C. *E. curvula* reproduces by seeds, producing thousands at a time. The species is reported to be drought and frost tolerant and to grow well in hot and dry locations in full sun. It can also grow in moist soils if they are well drained. It tolerates high soil salinity levels and grazing, but cannot grow on wet soils and does not tolerate standing water. In Australia it seems to prefer acidic and light sandy soils. It is particularly dominant in low fertility soils, in dry conditions and when there is a lack of competitors. Seeds are spread by water and wind, and particularly along communication roads transported by machinery. It is also reported to be spread attached to the fur or hooves of animals. Cattle feeding on *E. curvula* have been shown to excrete viable seed up to 10 days after consumption.

In which habitats

E. curvula is mainly found in open habitats along road sides, railway lines, river banks, disturbed woodlands and other disturbed areas. It is also found in pastures. According to the Corine Land Cover nomenclature, the following habitats are invaded: pastures, and potentially natural grassland, road and rail networks and associated land, other artificial surfaces (wastelands).

Pathways

The species was introduced in 1927 in the USA for erosion control, and for similar purposes in Australia. The plant is increasingly used for ornamental purposes. The plant can enter new territories as a contaminant of soil and gravel (during road making) or of grain.

Impacts

In degraded pastures, *E. curvula* causes a reduction in preferred pasture species, being itself unpalatable, which reduces the quality of pastures. In Japan, the species has colonized floodplain habitats, and is reported to exert a strong negative influence on the development of riparian endemic plants and associated arthropods (grasshoppers). In Australia and the USA, the species forms dense monospecific stands up to 1.2 m high, threatening the regeneration of native species and posing a fire hazard during dry months.

Control

This species is difficult to control and an integrated management approach is required. Plants should be destroyed before they set seeds. Preventive measures consist of ensuring that fodder, stock, soil, vehicles and products purchased are free from seeds of *E. curvula*, and in avoiding disturbing soil (e. g. by ploughing) unless other competitors are sown in order to out-compete *E. curvula*. The plant can be controlled by digging out the root system in late winter or early spring. In Queensland, glyphosate and flupropanate have been used with good results in pastures and non-agricultural lands, while atrazine was used in grass seed crops. Considering that impacts are so far reported to be moderate, this plant species was not be added to the EPPO Alert List. Nevertheless, as *E. curvula* seems to exhibit aggressive behaviour in Spain, its spread within the EPPO region could be usefully monitored.

Sources

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