

## NOOGOORA BURR



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Photos 1, 3, 4&5: Peter Brooks. Photos 2&6: Ron Diver

(Continued overleaf)

# NOOGOORA BURR

Noogoora burr (*Xanthium* spp.) is one of the most serious and widespread weeds in the world. It is found mainly in areas with higher rainfall and a temperate climate. However it may persist in arid environments, mainly existing as seeds but taking advantage of occasional rainfall to reproduce. Noogoora burr is a declared plant (noxious weed) in Western Australia. It may not be brought into the state and any plants present must be destroyed by the landholder.

Four closely related species (Noogoora, Hunter, South American, and Californian burr) are generally referred to as Noogoora burr. They differ mainly in the size of the burr, the shape of the two terminal spines on each burr and the leaf shape. The form found in WA is *Xanthium occidentale* (Noogoora burr "proper"). Bathurst burr (*Xanthium spinosum*) is a related weed.

Noogoora burr is a native of the south of North America, Mexico and the Caribbean. It was first noticed on Noogoora station, Queensland in the 1870's. It was probably introduced as a contaminant of cotton seeds. It has since spread over much of Queensland and New South Wales. Other infestations occur in Victoria, South Australia, the Northern Territory and certain sections of the Kimberley in Western Australia. The total infested area of Australia exceeds two million hectares.

Noogoora burr is poisonous to stock at the seedling stage and the dry burrs may cause discomfort and injury, particularly to sheep. The weed's growth is sometimes so dense that cattle and sheep cannot get access to watering places. It is a major weed of irrigated soya beans, maize, sunflowers and cotton. Noogoora burr reduces production in crops and pasture by competing for moisture, nutrients and light.

However Noogoora burr is mainly an important weed because of the hooked spines on the burr which tangle in wool. Burr-infested wool fetches from five to 15 cents/kg less at auction than burr-free wool, due to the high cost of burr removal.

## Description

Noogoora burr stems grow normally up to 2.5 metres in height but occasionally reach four metres. Isolated plants have a branched stem, however plants growing in a clump are usually single stemmed. The stems lack spines, unlike Bathurst burr, but have a fine bristly covering. Stems are often arranged in a zig-zag manner and usually carry purplish blotches or streaks in young plants.

Noogoora burr has a deep taproot and an extensive root system.

The leaves are similar in shape to a grapevine leaf with prominent veins. They have minute bristles on both surfaces and jagged edges. The upper surface of the

leaf is dark green while the under surface is pale green.

The flowers are green and inconspicuous. Male flowers form in clusters at the end of branches, but soon drop off. Female flowers form on short stalks at the base of the leaf and at the ends of the main stem and side branches. The female flowers develop into green burrs which turn brown when ripe. The ripe burr is an elongated egg shape. It is woody, 10 to 20mm long and four to eight mm wide. The burr is densely covered with hooked spines and has large horn-like projections at the tip. Two seeds are produced in each burr. They are brown, four to eight mm long and flattened on one side.

## Life History

Noogoora burr is a summer growing annual plant. Germination occurs between August and December but can occur at any time of year under favourable conditions. In the Kimberleys it flowers in April/May. Ripe burrs begin to appear in June, continuing until the plants are killed by drought or cold.

## Ecology

Noogoora burr is found in a range of soil types, but frequently prefers flood-prone areas and is tolerant of waterlogging and saline soils. Growth is best on deep fertile soils in disturbed or open sites.

Once the plant is mature enough to flower, at least some viable seeds can be

produced from plant reserves of water and nutrients.

Closely spaced plants produce fewer burrs while widely spaced plants grow bigger and produce more. Hence partial control has little effect on the number of burrs produced.

One of the two seeds in each burr germinates at the first rains while the other remains dormant until inhibitors have been dissolved out by water. This helps the plant survive poor seasons. Seeds are eaten by parrots and rodents, but since a single plant may produce between 3,500 and 11,000 burrs, enough survive to produce new plants each season.

Noogoora burr is well adapted for spreading. The hooked spines on the burr tangle in wool and easily attach themselves to animals' coats. Burrs are retained by sheep and the tails of cattle and horses but many others are lost within a few days of contact with the plant. The infestations may also be spread by burrs floating on water.

**For further information on Noogoora burr contact the Agriculture Protection Board, Baron-Hay Court, South Perth 6151, telephone (09) 368 3472 or the nearest country office of the APB or the Department of Agriculture.**