



Photo by M. Fagg (APIL, ANBG)

Leucochrysum albicans

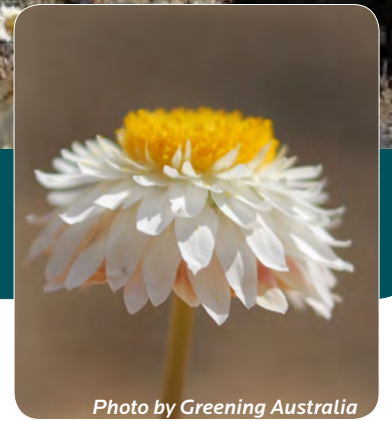


Photo by Greening Australia

Synonyms: *Helipterum albicans*, *Helichrysum albicans*

Common names: Hoary Sunray, Grassland Paper Daisy & Straw Daisy (*L. albicans* subsp. *albicans* var. *tricolor*), Alpine Sunray (*L. albicans* subsp. *alpinum*)

Family: Asteraceae

Similar species: *Rhodanthe anthemoides* (Chamomile Sunray), *Ammobium alatum* (Tall Ammobium)

Conservation status: *L. albicans* subsp. *albicans* var. *tricolor* is listed as **Endangered** under the Commonwealth Environment Protection and Biodiversity Conservation Act (1999), and under the Tasmanian Threatened Species Protection Act (1995) and as **Threatened** in the Victorian Flora and Fauna Guarantee Act (1988).

Description

Two subspecies of *L. albicans* have been described: subsp. *alpinum* and subsp. *albicans*. Within the latter there are three varieties: var. *albicans*, var. *buffaloensis* (restricted to Mount Buffalo in Victoria), and var. *tricolor*.

L. albicans is an erect tufted to mounding herb up to 50 cm high.

Roots: shallow, spreading, woody .

Stems: branched, woody near the base.

Leaves: generally narrow, linear, alternate, 2.5-10 cm long and 1-9 mm wide, greyish, covered in white felty hairs. They form a grass-like clump of foliage at the base of the stems.

Distribution



Map from Australia's Virtual Herbarium: <http://avh.chah.org.au/>

Ecology

Habit	Perennial herb.
Growth period	Dies down to rootstock after flowering.
Life expectancy	5-7 years
Habitat	Grasslands, eucalypt woodlands, open forests, alpine herbfields from peaty uplands to stony plains. Sometimes large numbers colonise disturbed sites. <i>L. albicans</i> subsp. <i>alpinum</i> and <i>L. albicans</i> subsp. <i>albicans</i> var. <i>buffaloensis</i> occur at higher altitudes.
Site tolerance	Full sun, dry sites, doesn't tolerate over-watering
Soil tolerance	Found on a wide range of soils including clays, clay loams, stony and gravelly soil and on well-drained soils.
Drought tolerance	Tolerant.
Frost tolerance	Hardy.
Fire tolerance	Optimal fire regimes are not known: it is thought that adult plants resprout after fire and seedlings germinate on bare ground.
Grazing tolerance	The unpalatability of this species is likely to protect it in heavily grazed areas.
Pests	Slugs, snails, aphids, caterpillars, Rutherglen bug and red-legged earth mites.

Reproduction

Flower heads

Solitary, 2-4 cm in diameter, with a yellow disc surrounded by papery bracts (either white or yellow) at the ends of slender leafless stalks.

Flowering occurs from late winter through to early autumn, with great variation between the different subspecies and varieties.

Bees and flies pollinate the plant.

Fruit: cypselas

Glabrous, warty, white to pale brown, 2-3 mm long, topped with a pappus of plumose bristles.

Seeds

Small, short-lived (minimum of a few months). They are dispersed by the wind and the species does not rely on a long-lived soil seed bank for germination.

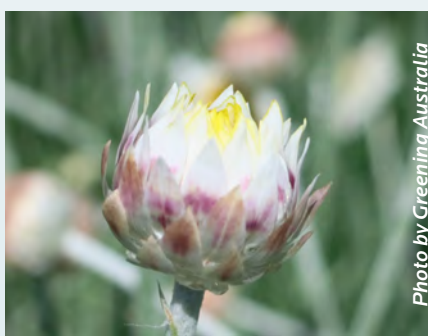


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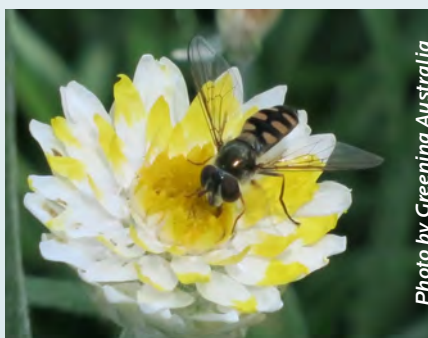


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Germination requirements

Pre-treatments improve germination but they are not essential. Peak germination occurs 7 to 20 days after sowing at 20°C, with a marked decline in germination success at lower temperatures. An after-ripening period of 12 months in ambient conditions might improve germination. In the wild, bare ground is required for germination.

Genetic seed viability

No chromosomal differences were detected for *Leucochrysum albicans*. It is recommended that large populations be used as the primary seed source to ensure that enough genetic diversity is held within the Seed Production Area to ensure viable seed is set.

How to grow the species in a Seed Production Area (SPA)

Seed collection and storage

The fruits must be collected when the yellow disc centres of the flowerheads loosen and are easily removed. Seeds can be collected by hand or with small portable vacuum cleaners into large paper bags, then allowed to dry.

The species is an obligate seeder. It relies heavily on seed production to regenerate its population for the following year, so it is important that at least 80 to 90% of the available seed is left *in situ* when collecting the seeds.

Based on germination tests done at the National Seed Bank, the seeds don't retain viability for a long time: 95% of 1-year-old seeds germinated versus only 5% of 7-year-old seeds. The seeds should be dried down to 5-6% moisture content and then be stored in a freezer for no more than 5 to 7 years to ensure the best viability and germinability rates.



Photo by Greening Australia

Propagation

L. albicans can be propagated from seed or cuttings. Cuttings will strike readily and take root in 3 to 4 weeks. Sow seeds in trays filled with potting mix in late autumn. The space between plants should be between 20 and 30 cm.

Growth at the SPA

Water the plants from spring to summer. All subspecies and varieties should be watered in well when first planted, then weekly by drip irrigation.

Mulching with inorganic material such as pebbles or stones is important to keep the roots cool during summer.

To encourage growth, the plants can be fertilised with slow-release fertiliser and seaweed fertiliser in spring. Seaweed fertiliser can also be combined with a water-soluble fertiliser and applied during establishment.

The species is used as an annual in the SPA. In winter, the plants start dying back and are removed.



Photo by Greening Australia

Conservation

L. albicans var. *tricolor* is still widely distributed and plants are numerous but the species has decreased in range and number due to degradation and loss of habitat for agriculture, infrastructure and urban development. The appropriate protection and management of the habitat of *L. albicans* var. *tricolor* will contribute to the conservation of the White Box- Yellow Box- Blakely's Red Gum grassy woodland, which is an Endangered Ecological Community, and the conservation of threatened plant and fauna species.

Uses

- **Horticulture:** ornamental plant for rockeries, cottage gardens, in containers, in mass plantings, in pots or hanging baskets. It is an easily-grown, though short-lived, garden specimen. It is ideal for filling in bare areas of the garden.
- **Floral art:** cut flowers can be used in fresh or dried floral arrangements. If the flower stem is picked at the right time of development of the flower-head, the whole structure (shape and colour) remains intact for long periods.
- **Wildlife value:** the coloured flowerheads attract the attention of insect pollinators (hover flies, small beetles, native bees).

References

Australian Daisy Study Group (1987), *Australian Daisies for Gardens and Floral Art*, Lothian.

Australian Daisy Study Group (2002). *Everlasting Daisies of Australia*. C.H. Jerram & Associates.

Peate, N., MacDonald, G., Talbot, A. (2006). *Grow what where*. Bloomings Books, Melbourne.

Internet links

Australian National Botanic Gardens: <http://www.anbg.gov.au/gnp/interns-2006/leucochrysum-albicans.html>

Australian Native Plants Society: <http://asgap.org.au/l-alb.html>

PlantNET-National Herbarium of New South Wales: <http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Leucochrysum~albicans>

Provincial Plants and Landscapes: http://plantsandlandscapes.com.au/prov_site/Leucochrysum_albicans

Photo source

Australian Plant Image Index (APII): <http://www.anbg.gov.au/photo/>

