



Mother of millions

Bryophyllum species

DECLARED CLASS 2



Mother of millions (*Bryophyllum* species) are escaped ornamental plants from Madagascar. Five species are commonly naturalised in Queensland; three of these are increasing over substantial areas.

Mother of millions is highly toxic to stock and because of its succulent features is well adapted to dry areas.

As the name suggests one plant can reproduce a new general from masses of embryoids (plantlets) that are formed on the leaf edges. This makes these plants hard to eradicate. Follow up controls are essential.

Description

Mother of millions are erect, smooth, fleshy succulent plants growing to one metre or more in height.

All species form tall flower spikes in winter with clusters of bell shaped flowers. Each species has a distinctive leaf-shape, but all produce small plantlets along the edges of the leaves. These plantlets drop readily, develop roots, and establish quickly to form a new colony.

Bryophyllum delagoense (common mother of millions, mission bells, Christmas bells) has grey-brown fleshy, tubular-like leaves with up to seven projections at the tip of each leaf. The flowers are orange-red and occur in a cluster at the top of a single stem. Seeds can germinate for some years.

Bryophyllum daigremontianum x *Bryophyllum delagoense* (hybrid or crossbred mother of millions) has similar flowers arranged in a branched cluster at the top of the stem. Its leaves are boat shaped with thick stalks and with notches all along the edges of the leaves.

Bryophyllum pinnatum (resurrection plant, live-leaf, green mother of millions) has yellow-green, oval, fleshy leaflets with wavy edges, up to five leaflets per leaf. Its flowers are yellowish-green, often tinged with pink, and occur in loose clusters on stalks growing at intervals along the upper portion of the stem.

Problem

These plants, and especially their flowers, are poisonous to stock and occasionally cause a significant number of cattle deaths. When cattle are under stress or in unusual conditions they are more likely to eat strange plants. Shifting cattle to new paddocks, moving stock through infested rubbish dumps and reduction of availability of feed due to flood or drought, can all contribute to poisoning. Since the plant flowers from May to October, during the dryer months of the year, the scarcity of feed may cause cattle to consume lethal amounts of mother of millions.

Poisoning symptoms

Poisoned cattle show signs of dullness, loss of appetite, diarrhoea and heart failure. Some cattle may drool saliva or dribble urine. There are two responses to poisoning; acute, where cattle die within a day, and chronic, where cattle may take up to five days to die. Some cattle may make a slow recovery if insufficient plant material was eaten.

Treatment of poisoned stock

Poisoned cattle must be treated within 24 hours of consuming the plant. The treatment is intense and needs to be given by a veterinarian or under his direction because of the drugs and materials used. The treatment is costly: for one adult cow, \$70 or more, plus veterinary fees.

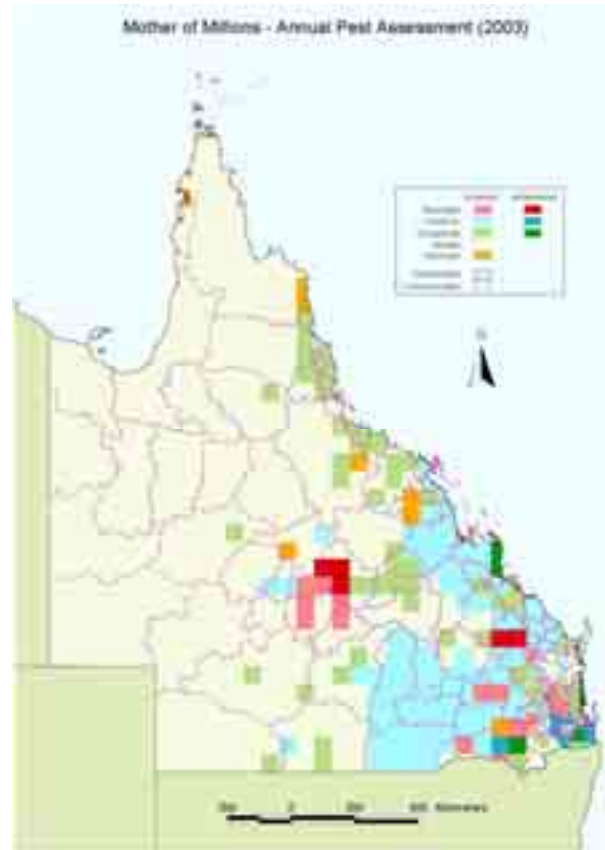
Distribution and habitat

These popular garden plants have escaped and spread in various areas of Queensland. They have become a problem in pasturelands in the central highlands around Clermont, Emerald, and Dingo and the Burnett, Moreton and Darling Downs scrub regions. The plants establish well in leaf litter or other debris on shallow soils in shady woodlands, and often grow on roadsides, along fence lines and around old rubbish dumps. They can spread from these areas, especially in flood and establish if pastures are run down. They are adapted to dry conditions and can survive long periods of drought with Crassulacean Acid Metabolism.

Management strategies

Prevention

Keep stock, especially hungry stock, away from infested areas until the plants are controlled.



Rehabilitation

Permanent control of *Bryophyllum* infested areas is best ensured by establishing more desirable plants in that location to compete successfully with future *Bryophyllum* seedlings and plantlets. This can be achieved best by soil preparation, replanting, fertilizing and using the area more productively than before control of *Bryophyllum*.

Ensure scattered infestations and small dumping areas on properties are regularly checked and cleaned up. Day-to-day hygiene management will help prevent establishment of these weeds.

Co-operative control upstream and downstream of problem areas will help prevent re-infestation from other areas.

Control

The spread of weeds threatens the sustainability of agriculture and other land uses. Weeds also devastate native plants and animals.

The best form of weed control is prevention. Always treat weed infestations when small; do not allow weeds to establish. Weed control is not cheap, but it is cheaper now than next year, or the year after. Proper planning ensures you get value for each dollar spent.

Look at your weed problem carefully. Can you realistically eradicate it? Or should you contain the weed to stop new infestations developing while you reduce existing ones? What are you required to do by legislation? How does weed control fit into your property plan? What can you do to restore areas and prevent re-establishment?

The best approach is usually to combine different methods. Control may include chemical, mechanical, fire and biological methods combined with land management changes. The control methods you choose should suit the specific weed and your particular situation.

Physical control

For small areas, pull up plants by hand; stack on a wood heap, and burn. Alternatively bag and dump in bin whose contents are buried at your councils refuse tip rather than recycling into mulch.

Fire control

When suitable, e.g. after grading firebreaks, burn infestations along with the accompanying debris on which *Bryophyllum* plants thrive. This is the most economical control, encourages grass competition and lessens the problem for years requiring only spot spraying with selective herbicides.

Herbicide control

Before using any herbicide always read the label carefully. All herbicides must be applied strictly in accordance with the directions on the label. Where addition of wetting agent is recommended always use a commercial wetting agent or surfactant.

Timing

Bryophyllum species may be controlled with herbicides at any time of the year, but infestations are easiest to see in winter when the plants are in flower. Treating infestations at this time of year also has the benefit of preventing new seeds from developing on common mother of millions.

Declaration details

Bryophyllum delagoense and *B. daigremontianum* x *B. delagoense* (Syn. *Bryophyllum tubiflorum* and *B. daigremontianum* x *B. tubiflorum*) are declared Class 2 plants under the *Land Protection (Pest and Stock Route Management) Act 2002*.

A **Class 2** pest is one that has already spread over substantial areas of Queensland, but its impact is so serious that we need to try and **control** it and avoid further spread onto properties that are still free of the pest. By law, all landholders must try to keep their land free of Class 2 pests and it is an offence to keep or sell these pests without a permit. A Local Government may serve a notice upon a landholder requiring control of declared pests.

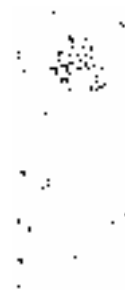
Further information

Further information is available from the vegetation management/weed control/environmental staff at your local government.

TABLE 1 – HERBICIDES REGISTERED FOR THE CONTROL OF MOTHER OF MILLIONS

Situation	Herbicide	Rate	Comments ¹
Pastures, non-crop land	2,4-D acid (AF300)	7 L/1000 L/water/ha 70 mL/10 L water	Overall spray handgun Overall spray knapsack
Pastures, rights-of-way, non-crop land, forests, non-agricultural land, commercial/industrial areas	picloram + triclopyr (eg. Grass-up, Grazon DS, Picker)	50 mL/10 L water	Overall spray knapsack Apply at flowering
Pastures, rights-of-way, non-crop land, forests, non-agricultural land, commercial/industrial areas	fluroxypyr	600 mL/100 L water + surfactant	Apply to seedlings and young plants before flowering

Note: 1. Thorough even coverage of leaves and plantlets is necessary.



Bryophyllum delagoense



Fact sheets are available from NRW service centres and the NRW Information Centre phone (07 3237 1435). Check our web site <www.nrw.qld.gov.au> to ensure you have the latest version of this fact sheet. The control methods referred to in this Pest Fact should be used in accordance with the restrictions (federal and state legislation and local government laws) directly or indirectly related to each control method. These restrictions may prevent the utilisation of one or more of the methods referred to, depending on individual circumstances. While every care is taken to ensure the accuracy of this information, the Department of Natural Resources and Water does not invite reliance upon it, nor accept responsibility for any loss or damage caused by actions based on it.

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