

Controlling Bellyache Bush Splatter Method



Bellyache bush (*Jatropha gossypifolia*) is a perennial weed growing typically up to 3 metres in height. Its leaves have 3-5 lobes with colour varying from completely green to red, purple and bronze. Flowers are maroon-purple with yellow centres and fruit are green turning brown with maturity.



In addition to the range of options discussed in the *Bellyache Bush (Jatropha gossypifolia) Management Manual (2009)* the splatter method has been researched and shown to be an effective and useful method of herbicide control.

The splatter method is the use of a low volume (minimal water), high concentration chemical mix applied in a coarse squirt to foliage. Only a small part of the plant need be directly contacted with chemical during application.



Flowers and immature fruit.

Chemicals and Rates:

The splatter method is approved under the minor use permit (PER13707). This allows for the use of chemicals containing 600 g/kg of metsulfuron-methyl as the only active constituent (e.g. Brush-Off®). For use with the splatter method the chemical needs to be mixed at a rate of 1 gram of product to 1 litre water. Research trials tested this using a penetrant containing the active constituent 1020 g/L polyether modified polysiloxane (e.g. Pulse®) at 2 mL per litre mix. **Application rate of the chemical mix is 4 mL per metre plant height.**

If the equipment is calibrated at 4 mL then apply the rate of 4 mL per metre plant height to the nearest metre. That is 1 squirt for a plant 1.3 metres high and 2 squirts for a plant 1.8 metres high.

Equipment suitable for use include gas or manual splatter guns or the like able to deliver a calibrated dose in a large droplet size. This mix has been found to be effective with, and equipment friendly for use through drench guns, vaccination guns and tree injection guns. Attachments, needle assemblies and devices to spread product should be removed if necessary so large droplets can be directed to the target plant.



An example of an applicator and backpack setup.

Advantages of the splatter method as per the minor use permit include:

- ✓ It is extremely effective at killing bellyache bush.
- ✓ Grasses are not affected by the treatment, providing competition for weed seedlings.
- ✓ A small backpack of chemical mix can cover a large area.
- ✓ Application can be fast – medium density infestations can be treated at a brisk walk.
- ✓ Hard to access plants can often be reached on foot.
- ✓ The mix is low odour.
- ✓ Both adult plants and seedlings below can potentially be controlled in one pass.
- ✓ Less active chemical is used per hectare.
- ✓ There is no withholding period for stock.



Just before treatment (8 December).

This plant was 1.2 metres high with a trunk 52 mm across. It was treated with 1 squirt of metsulfuron-methyl (600g/kg) at a rate of 1 gram per litre water plus penetrant.



After two weeks the plant is yellowing all over.



At two months the leaves and most of the stem is dead.



By six months this plant has expired.

When and How:

For a successful kill, the application needs to occur when bellyache bush is actively growing with fully developed leaves and good numbers of flowers. Often seed pods will also be present.

Spraying can be done at a brisk walk through scattered or medium size bellyache bush infestations. Squirt an arch of droplets to make contact with as many leaves as possible.

For a smaller plant of less than 1 metre in height choose the widest section of canopy and direct the 4 mL of solution from one side to the other across the middle.

Once the plant is too tall to squirt successfully over the top; apply half of the required solution from opposite sides of the plant with the last of each splatter going across the top of the visible canopy.

What to Expect:

Effects of application are first seen around one to two weeks after application with all treated plants showing some yellowing, with some possibly very yellow. Missed plants can easily be spotted and treated.

By two months after treatment there will be a mass brown out of the leaves with death of minor stems and secondary stems showing tissue breakdown. The trunk often looks healthy and shows no ill effects, however, within 12 months it too will die.

Spraying mature plants early in the wet season with the splatter method will also take out seedlings (two leaf stage) underneath. In effect taking out much of the next generation.

Following up on an area treated is an essential part of any control program. Missed plants can then be treated along with new plants germinating from the soil seed bank. However, it is important to only treat areas once per year with metsulfuron methyl (as per condition of permit). This will reduce the risk of building up plant resistance to the chemical.

Other chemicals can be used during the one year time frame for example a follow up application of a fluroxypyr based herbicide as a foliar spray. Mechanical control, hand removal or fire may also be considered for follow up control.

More Information:

Minor use permit (PER13707) can be viewed at <http://www.apvma.gov.au/permits/search.php>

Information on bellyache bush including the *Bellyache Bush (Jatropha gossypifolia) Management Manual (2009)*

<http://www.weeds.org.au/WoNS/bellyachebush>

Pestfact Sheet http://www.daff.qld.gov.au/documents/Biosecurity_EnvironmentalPests/IPA-Bellyache-Bush-PP45.pdf

Or contact your local weed or pest management agency.

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