ECOBLADE

Contents

Background

TMC enviro invested in EcoBlade technology in 2013 after identifying a need for a vegetation management option which significantly reduces chemical use, eliminates spray drift and ground soak, and reduces off-target impacts.

After purchasing the 1.8m machine, TMC enviro spent several months adapting a JCB telescopic loader to suit the EcoBlade. The final configuration has resulted in precision control that cannot be found anywhere else in Australia.

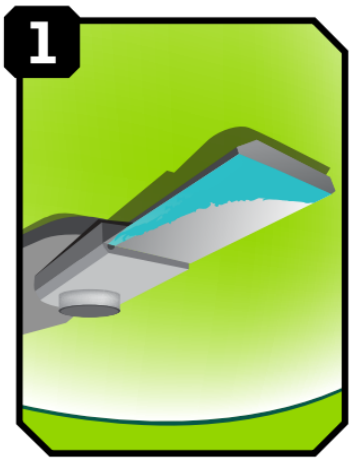
The EcoBlade can be used for the precision treatments of a wide range of weeds, from grasses and shrubs, to a selection of woody weeds such as Boxthorn and Gorse. Control of a range of environmental weeds such as Eucalypt regrowth is also easily achieved using the EcoBlade.

The Machine

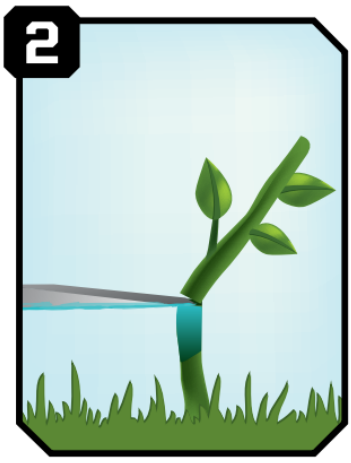
TMC enviro's Eco Blade is attached to our 7 tonne 4WD telescopic loader. The 7m telescopic boom allows greater access for hard to reach areas such as densely treed areas, slopes, and where target species are close to existing infrastructure. It also means larger target species can be treated in a controlled manner. The retro-fitted telescopic loader achieves the optimum hydraulic flow required to efficiently operate the EcoBlade at low revs, with minimal noise emissions. The EcoBlade is the machine of choice for sensitive areas such as embankments, roadsides, drainage lines, and areas of Cultural or Environmental significance.

Two 50L tanks are mounted onto a 1.8m VHD slasher deck. The tanks are protected by custom made cages that can be easily removed to access the tanks for filling or maintenance.

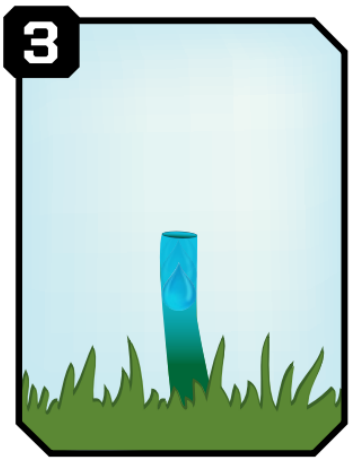
The Eco Blade is a specialist piece of machinery which uses revolutionary "Wet Blade" technology to simultaneously slash and apply herbicide to weeds in a single pass.



Proprietary WetBlade™ technology keeps the bottom of the blade wet with herbicide.



WetBlade™ presents herbicide precisely and only at the time of cut, eliminating drift and leaching.



Herbicide is absorbed and working before the plant has the opportunity to heal.

Benefits

- The precision technology results in a significant reduction in the amount of chemical needed as well as eliminating the chances of spray drift, overspray, and ground soak.
- Compared to traditional control programs, the all-in-one system significantly reduces labour and machinery costs, and increases operator safety.
- The Eco Blade can treat a wide range of weeds, from grasses to seedlings, and even woody weeds such as Gorse, Cape Broom, and Eucalypts.
- Treatment leaves no standing growth, and therefore no harbour for vertebrate pests, including rabbits and foxes.
- 97% reduction in the amount of chemical used when compared to hand spraying.

Trial Work

There is limited information on the effectiveness of the Eco Blade on Australian weeds, which lead TMC enviro to establish trial sites on a range of common weeds. Established sites include Gorse and Grass trials, with Boxthorn and Cape Broom sites identified and planned for 2015.

Gorse Trial Site - Ballan

A 10ha trial site was established in Ballan, in September 2014. The site was densely infested with large patches of Gorse, allowing for 15 trial plots to be established.

Plots were treated with Roundup and Tordon DS, at different output rates and using one, two or three passes. Roundup sites acting as control to compare against Tordon DS.

The Tordon rate was at 500ml/10L as recommended by DowAgro.

Sites

Site number	Chemical	Output Rate	Number of Passes
1	Roundup	250ml/min	3
2	Roundup	275mL/min	2
3	Roundup	310mL/min	3
4	Tordon DS	310mL/min	3
5	Tordon DS	310mL/min	3
6	Tordon DS	310mL/min	3
7	Tordon DS	310mL/min	2
8	Tordon DS	310mL/min	1
9	Tordon DS	250ml/min	3
10	Tordon DS	250ml/min	2
11	Tordon DS	250ml/min	1

Figure 1 - Location of sites

Results

September 2014

Results were immediate, with mature plants reduced to mulch after 1 pass, and fine mulch after 3 passes.

Figure 2 - Before treatment 11/9/2014

Figure 3 - After treatment 11/9/2014

November 2014

A site visit in November 2014 recorded some regrowth of Gorse in the Roundup sites, but no growth in the Tordon treatment sites. The Roundup sites were showing recovery of the grass, and Tordon sites showed no grass impact with growth around the mulched Gorse.

Figure 4 – Grass recovery around mulched Gorse patches in Site 4

Figure 5 - Grass impacted by Roundup in Site 2

January 2015

The site visit in January 2015 found the regrowth in the Roundup sites to still be present, and minimal regrowth occurring in the Tordon sites. Grass recovery was evident in all sites. Mulched Gorse appears to be acting as a growth suppressant around stems of the old plants.

Figure 6 - Site 7 showing regrowth of grass, no Gorse regrowth, and mulch layer

Figure 7 - Re-establishment of grass layer in Site 2 after Roundup treatment

Figure 8 - Seedling emerging in Site 1 after Roundup treatment

Figure 9 - Minimal seedling emergence in Site 4 after Tordon treatment

Monitoring

TMC enviro will continue to monitor the site into 2015 to determine the long-term control of Gorse.

TMC enviro aim to establish trial sites for a range of different weeds to determine the effectiveness of a range of other chemicals and site conditions. TMC enviro has a Cape Broom trial site planned for the EcoBlade in 2015, and are actively seeking a trial site to measure the effectiveness of the EcoBlade in controlling Eucalypt regrowth.