

# Marshall Tree Saw - a mechanical control option for prickly acacia

## The Marshall Tree Saw

The Marshall Tree Saw is an American-built mechanical device that is attached to a bobcat or loader for woody weed treatment. Although it is called a saw, it uses a shearing action, powered by two hydraulic rams, which cut through the stem of the plant. The device is also equipped with a sprayer which may be used to immediately treat the cut surface of the plant with a herbicide and diesel mixture.

Morrow Tree Removal Specialists is a company that is using the device for the control of prickly acacia, chinee apple, mesquite, parkinsonia and other woody weeds in north and western Queensland.



Figure 1. Marshall Tree Saw showing device mounted to a bobcat (left) treating prickly acacia (middle) and the sprayed cut surface of the stem (right).

## Field trials

Through Australian Government funding support, the Department of Agriculture and Fisheries, in conjunction with Southern Gulf NRM and Morrow Tree Removal Specialists, conducted field trials of the saw at a property in the Julia Creek area in May 2017. One hectare plots of prickly acacia of varying density were treated with a Kubota bobcat-mounted Marshall Tree Saw. Data was recorded of plant densities, treatment times and herbicide/diesel usage.

The treatment speed observed in the trials ranged from over 6 hectares per hour in low density (40 plants/ha) to about 0.5 hectares per hour in very high density (700

plants/ha). Based on trial observations, this method is best used to target plants above 1 metre in height as smaller plants may be difficult to see and slow treatment. Monitoring of the site is still required to assess plant death after wet season conditions.

Costs ranged from about \$40/ha to over \$400/ha based on a machinery contract rate of \$155/hr plus herbicide mix at \$2.75/L. Herbicide (Access™) and diesel mix usage varied from about 1 L/ha to about 46 L/ha depending on the density.

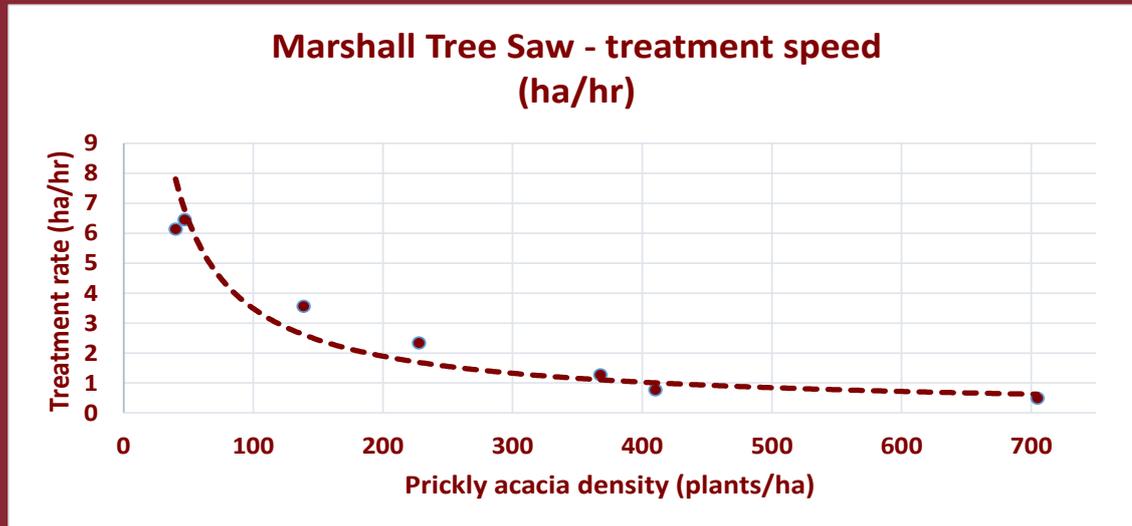


Figure 2. Field trial results showing treatment speed at varying densities.

## Optimal use

The Marshall Tree Saw provides an alternative option to the use of herbicides and other machinery control methods. It may be particularly useful for treatment along fence lines and clearing around water points where improved access is beneficial. As plants may be selectively treated, it may also be useful for areas where native vegetation needs to be protected. If used in proximity to native vegetation and/or watercourses, advice should be sought regarding legislative responsibilities from the Department of Natural Resources and Mines.

## Advantages

- Provides immediate treatment result
- Provides supplementary fodder from fallen trees (eg. prickly acacia).
- Improves stock access and mustering ease.
- May be used to treat weeds without damage to nearby native vegetation.
- Various other attachments may be used to complement Marshall Tree Saw use.

## Further information

Further information is available from SG NRM (call 1800 676 242 or visit <http://www.southerngulf.com.au/resources/fact-sheets/>) or from Biosecurity Queensland (call 13 25 23 or visit <http://bit.ly/2tZIGT9>). Specialist advice is also available from Morrow Tree Removal Specialists (<https://www.facebook.com/MorrowTreeRemoval/>).