

Camel Pitters

A potential tool for rehabilitation projects
WA's Southern Rangelands



There are areas in WA's Southern Rangelands which appear persistently bare and maybe the result of a variety of factors such as drought, historical degradation and/or in "high use" areas such as holding paddocks. Most pastoral land managers would prefer these areas had some plant cover to prevent degradation and also improve productivity. A variety of rangelands rehabilitation tools and techniques, including camel pitting, could be useful in the regeneration of these bare areas.

The importance of 'patches' in healthy rangelands



Rangeland country in good condition is able to trap and use the limited amounts of rainfall and nutrients available, to support plant growth. Well - functioning, good condition country is made up of a balanced pattern of "patch" (or run on) and "inter-patch" (or run off) areas. The "patch" areas are those where water, nutrients and dead plant matter accumulate and are often in depressions in the landscape and/or at the base of established plants. These "patches" provide the ingredients necessary for plants to germinate, establish and grow.

In bare, degraded areas, these "patches" are either absent or infrequent and thus the moisture and nutrients required to support plant establishment and growth cannot be retained. The aim of techniques such as camel pitting is to create a series of hollows in the landscape that trap water, nutrients, seed and other plant matter and thus allow these "patches" to re-establish.

What is a camel pitter and how does it work?

A camel pitter is an adjustable depth disked implement, with a seed box on top, usually towed behind a 4WD. Machines can come in one or two disk/seeding box configurations. Essentially a camel pitter creates a small depression in the ground and sows the seed at the same time.

The disks themselves have a section (approximately 1/8th) of the outer rim removed, to a depth of 80 mm (approx.) and replaced with steel "teeth". This allows the machine to create a discontinuous but regular series of linear hollows in the soil, while being towed. Soil removed from the hollows is thrown up in a small mound immediately adjacent to the hollow.

When used, the seeding box and mechanism places seed directly into the hollow created by the disk. Over time water, leaf litter and other organic matter/nutrients are trapped in the hollow and the surrounding soil eventually blows or slumps back in, covering the seed.



Where can a Camel Pitter be Useful?

Good results are most likely when the following site factors occur:

- **Treatment is on sandy to clay/loam soils**, without a hard crust on the surface. Heavy and/or poorly structured clays are harder for the machine to penetrate and tend to form a surface seal, preventing water from getting in and germinating seeds breaking out.
- **A moderate slope is present** – hollows created by the camel pitter trap slowly moving surface water. When the slope is too great, water rushes through or around the hollows. When land is too flat, surface flows of water are less likely to occur.
- The **site is adjacent to desirable plants** – camel pitting adjacent to already established areas of desirable plants means that a ready seed source is available to gradually blow or wash into the hollows. If no or few desirable plants are adjacent to the site, seed can be put through the seed box on the machine as it creates the hollows.



When Should Camel Pitting be Carried Out?

Best results are achieved when there is a good chance of effective rainfall falling within the next 3 months. In WA's Southern Rangelands, this means camel pitting is best carried out **after summer rainfall from mid-autumn to late winter**.



Management of sites treated with a Camel Pitter

It is **suggested that total grazing pressure be eliminated or minimised on treated areas for at least six months**.

This will allow plants to establish and be protected from grazing until they are large enough to resist local grazers and browsers. It will also avoid compaction on newly treated ground.

For treated areas, time-controlled grazing, the control of feral and native grazer/browser populations such as goats, rabbits and kangaroos and the use of temporary fencing such as portable yards may help achieve positive regeneration outcomes.

Further Information

- Disc Revegetation Seeder – Camel Pitter brochure from Kimseed at <http://www.kimseed.com.au/Seed%20Planting/Kimseed%20Camel%20Pitter%20Brochure.pdf>
- Rangelands NRM Factsheet – Camel Pitters: Operating Guidelines

The Regional Landcare Facilitator Program is an initiative of the Australian Government.