

## **Controlling Blackberry**

When Gippsland's first farmers cleared the open forests, there were no native brush species to stabilise gullies in the new landscape and erosion became severe. A German chap, the director of the Botanical Gardens in Melbourne, thought he had just the answer and, with the Victorian Governments blessing, imported the blackberry from Germany. Among the many types he imported, he eventually found several that liked Australia quite well. There are eight species in Australia (selected for their ability to grow prolifically within various regions) but in most areas only two or three true species are present. Over the next 40 or 50 years farmers throughout Eastern Australia propagated blackberries to stabilise their problem areas (and cultivate the fruit for jam). Less conscientious farmers were soon given ample assistance by birds.

### **Biology**

The blackberry is a biennial - it produces vegetative growth in the first year and flowers and bears fruit in the following year. As a seedling it is a poor competitor and needs a disturbed area relatively free from competition to establish. Once the crown and root system is established the plant produces long arching canes which root tip where they touch the soil to form daughter plants in the autumn. These first year canes have only a few single leaves and do not flower or produce fruit. The daughter plants, if left undisturbed, will form a new crown & root system, which will develop rapidly over winter and produce a mass of first year canes the following spring. At this stage, usually around December, the now second year canes on the mother plant will produce many big leaves, flower & produce fruit.

The ideal time to launch an attack on blackberry is in early summer when the second year canes are flowering (if plants are too moisture stressed for spraying at this time they won't be flowering). Spraying can still be effective though up until the first frost of late autumn.

The blackberry has several lines of defence; a waxy outer layer on the leaf makes it hard for herbicides to penetrate, very small leaf area, especially on first year canes and a crown which acts as a very effective filter to protect the roots from the herbicides we'd like to get down there. The last lines of defence are dormant root buds, which break their dormancy if the crown is killed and emerge from the depths, a year or two after you thought you'd done such a good job, to form a whole lot of new plants among the dead canes of the original.

Like bracken fern, blackberries should never be disturbed in any way prior to treatment, anything you do will only make them much harder to kill - this includes burning, slashing or spraying with the wrong product or at the wrong time of the year. If you do any of these you could be setting back an effective control program by two years.

Among the true species of blackberry in the area (large bushes with from 5 to 20 long canes per square metre) you will also notice smaller hybrid bushes, rarely larger than a tabletop with 60 to 80 low growing, spiny canes per square metre. These are the result of crossing between the true species and have poorly formed fruit with few seeds. They are unfortunately even more difficult to kill than their better-bred parents.

## **Herbicide Options**

Grazon Extra and Brush-Off are the main two herbicides used for blackberry control (Roundup is pretty ineffective although it can be useful if mixed with Brush-Off).

### **Grazon Extra**

Grazon Extra is the most popular - it's reliable and has a quick brown out (the bushes start browning-off within 5 to 7 days) so you get the satisfaction of seeing a very quick result and can follow up on areas that you may have missed. Grazon Extra is a mixture of three chemicals, the Garlon and Tordon which made up the old Grazon and now also aminopyralid – new herbicide chemistry from Dow Agrosience. It's Garlon that does the great brown out job on the canes but it cannot get through the crown to kill the roots. What about those dormant root buds then? That's where the Tordon and aminopyralid come in. They are soil residual herbicides that remain in the soil under the bush and knock off the root buds as their shoots come through the surface next season.

Because of its' soil residual, Grazon Extra is a bit forgiving in the timing of spraying. You should still wait until the bush has started flowering (usually December) but you can still spray through until April. Two to three weeks after any summer rain though is the ideal timing. (In a very dry summer many blackberries will not flower due to moisture stress and will be much more difficult to kill.) Use 350ml of Grazon Extra per 100lt of water under ideal conditions and 500ml under tougher conditions or on harder to kill blackberry. When spraying blackberries thorough coverage is critical - a bush 1m high and 3m in diameter will need about 2 lt. of spray mix, 2m high & 5m in diameter will need about 8lt and a big bush 3m high & 8m in diameter would need about 30lt of spray. I personally believe Grazon Extra is more effective than Brush-Off on harder to kill bushes and 350ml of the new Grazon Extra is proving more effective than 500ml/ha of the old Grazon formulation.

### **Brush-off**

Brush-off works by halting cell division in susceptible plants - as no new cells are formed plants literally die of old age as the existing cells die - slow, but very effective. Brush-off is also the only herbicide that can get through the blackberry crown to kill the dormant root buds. The crown is a very efficient herbicide filter however and to get enough Brush-off through quickly enough to kill all the root buds you have to have everything in your favour (i.e.: a large undamaged bush with lots of leaves under good growing conditions).

At 10 grams per 100 lt of water Brush-off is an extremely economical spray to use and under good conditions on big bushes I believe it is better than the old Grazon for long-term control of blackberries. Its' drawback however is a very slow brownout - up to 3 or 4 months for bushes to brown off & probably poorer control under difficult conditions. (For both Brush-off & Grazon Extra, sprayed bushes should remain undisturbed for at least 6 months while the herbicide completes its' job.) Always add 120ml/100lt of a good quality, 100% active wetting agent (not a household detergent) with Brush-off. Pulse penetrant can be a very valuable alternative to wetter if spraying under tough conditions or on hard to kill blackberries. Spray oil can also be used as an alternative to wetter & acts as a good marker as it leaves sprayed bushes with an oily appearance so you can see where you've been.

For both herbicides thorough coverage of the bush is very important – it's a lot cheaper to use more solution and do it right the first time than having re-spray everything again.

When spraying big bushes, the variable pattern guns will make the job much easier & more effective. A light trigger pull produces a fan spray for close work & heavier trigger pressure turns the pattern into a long jet to reach the centre of the bush.