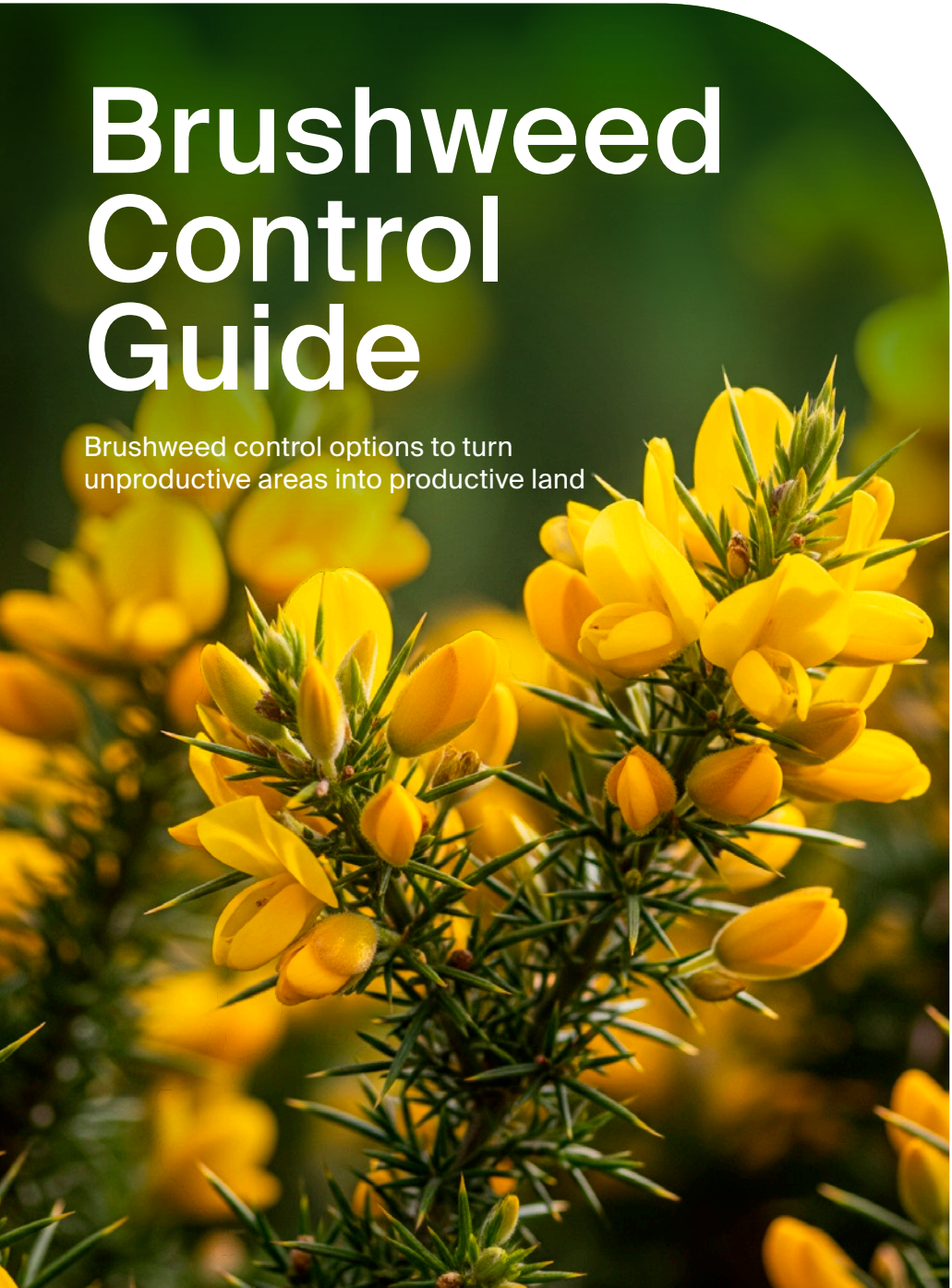
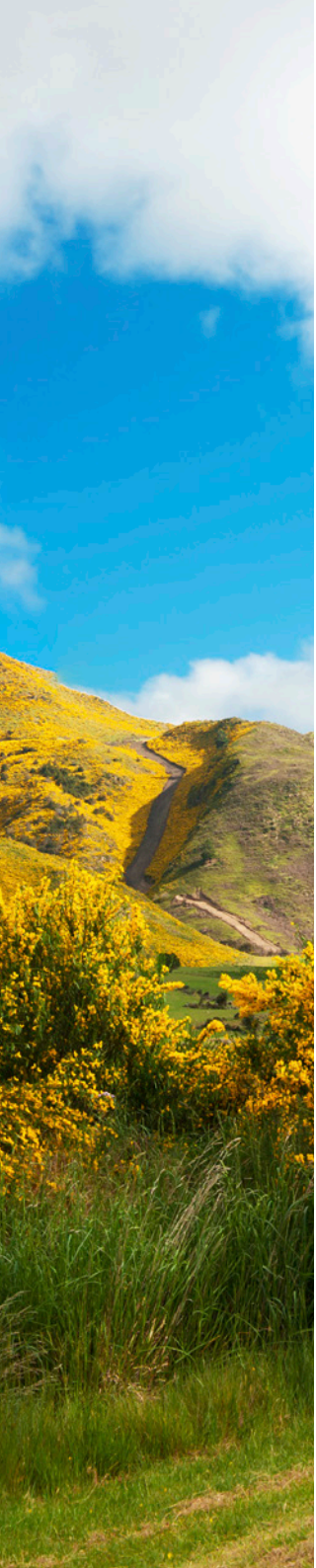
nufarm

Brushweed Control Guide

Brushweed control options to turn unproductive areas into productive land



Brushweed control options



Turn brushweed areas into productive land

Once you have identified that there is a problem with a particular type of brushweed, be it gorse, blackberry, Mānuka scrub, broom or bracken, there are quite a few decisions to make.

One of these is deciding which herbicide to use. Unfortunately, it's not as straight forward as simply selecting a herbicide and starting to spray. In most situations, a successful control programme needs to be properly planned. Factors that need to be taken into consideration include:

- Brushweed type
- Pasture usage
- Application method
- Farm type and management system
- Seasonal timing
- Topography and terrain.

The key question to ask yourself is: 'Where do I want to end up?'

For example, do you want to re-grass or crop soon after spraying, or do you want to keep what pasture may have been co-existing with the brushweed population?

It is important to evaluate these questions, as some products leave a soil residue, meaning you are unable to plant straight away. Some products are selective to grass and some products may only work well at certain times of the year.

Gorse is known to release a lot of nitrogen into the soil in the form of nitrates — research* shows this can range from 35 to 60kg N/ha. Along with making areas unproductive, gorse and other legume brushweeds also pose significant environmental concerns, making control an important priority.

** Reference: Nitrogen leaching from gorse – Final Report: G.N. Magesan, Hailong Wang (Feb 2008)*

Weed identification

The range of weed species identified in the paddock will determine the most effective treatment for your needs. See the following pages for some of the more common spring germinating weeds to look out for.

Blackberry

Blackberry is a prickly perennial shrub with long, arching canes that often exceed 2m in height. Once introduced by early settlers for hedgerows, erosion control, and food, it is now a major scrub weed in pastures and forests. Canes carry rear-facing spines, while leaves usually have five spiny leaflets radiating from a central point. White flowers develop into clusters of red to black berries packed with seeds, enabling rapid spread and making control challenging.

Gorse

Gorse is a tall, very prickly perennial shrub, growing 2–4m high and invading pastures, scrubland, forests, riverbeds, and wasteland. Introduced from Europe as stock-proof fencing, it quickly became a major weed. Seedlings have true leaves, but mature plants form sharp spines. Deep, woody roots support dense growth. Bright yellow spring flowers produce black, hairy pods containing prolific seeds – up to 36,000 per m^2 annually – that can remain viable in soil for over 30 years, making control difficult.

Broom

Broom is a perennial leguminous shrub that grows up to 3m tall, forming dense, almost leafless thickets. Native to the Mediterranean, it is invasive in New Zealand and Australia. Green woody stems carry silky hairs on new growth. In spring, broom produces bright yellow flowers, followed by explosive pods. Flowering and seeding occur from September to April, beginning in its second year. Seeds are hard, long-lived, and easily spread by water and soil movement.

Treatment products and timing

Below is a summary of the three most common situations and the product recommendation for control.

Problem	Planned Outcome	Options	Notes
Dense gorse and no vegetation under plants	Re-establish new ryegrass/ white clover pasture	WeedMaster Dry Associate 600WDG* Conquest* Pulse Penetrant	Likely to require follow-up spray.
Gorse and other brushweeds in low producing browntop and native grass pastures	Re-establish new ryegrass/white clover pasture	WeedMaster Dry Associate 600WDG* Conquest* Pulse Penetrant	Effective on many brushweeds. May require follow-up spray.
Brushweed re-invasion in good quality improved pastures (ie. ryegrass or fescue)	Keep established pasture grasses	Conquest* Pulse Penetrant Red Marker Dye	Safe on grass but will severely damage clover. Ideal follow-up spray in improved pastures.

** These products have plant-back periods and must be observed prior to reseeding – refer to label.*

Application methods

Application timing

For best results, it is important to apply the chemical at the correct time of the year. Most brushweeds should be sprayed when they are actively growing from spring to autumn and not under drought stress or during the key flowering window.

Knapsack

Used only when treating small bushes. Spray the entire bush inside and out.

Handgun

Suited for spraying large plants from close-up. Take care to completely wet the foliage inside and out and thoroughly cover stems.

Stump swabbing

Using a paintbrush or applicator, liberally swab the cut surface and stem to ground level. This should be carried out within 20–30 minutes of cutting as the wound healing process in plants starts quickly and limits herbicide penetration and translocation.

Aerial

Application rates need to be 'slope-adjusted' when spraying steep country. Water rates are important. Use as high a water rate as practicable given the size and density of brushweed population being targeted. Usually 200–400L/ha.

The application technique needs to be tailored to suit the job. In most cases, double pass, half overlap is the minimum that will give consistent results. Use a quality penetrant at label rates. In most cases Pulse Penetrant needs to be added. Please refer to the individual product label for rate recommendations.

Application

Good application practice

When the target species is treated by a foliar-absorbed herbicide, always ensure there is sufficient leaf present to enable absorption. Excessive dust or dirt on foliage will result in reduced absorption and therefore poorer control. Plants that are under stress from drought, frost, hard grazing, waterlogging, previous cutting, or salt damage will not be consistently controlled. Avoiding application during the main flowering period is important, as flowers are unable to effectively absorb herbicides.

Do not allow spray droplets to drift onto desirable plants. It is an offence to use herbicides in a manner that results in damage outside the treated property. Always read the label first and take particular note of the safety precautions advised therein.

Dealing with poor coverage

Initially, poorly treated or under-dosed plants will brownout. Regrowth is usually distorted and may not be evident for some months after application. Every effort should be made to achieve complete coverage at the outset.

With Associate 600WDG, poorly treated brushweed plants will show some brownout, but also some regrowth 12–18 months later. This gives even greater importance to good spray coverage at the outset. A quality penetrant such as Pulse Penetrant can help avoid this.

Blackberry leaves showing signs of discolouration post-spraying

Application rates

Weed	Product	Handgun rate/100L	Knapsack rate/10L	Boom/Aerial rate/ha
Blackberry	Associate 600WDG	20–35g	5–8g	200–300g
	Conquest	500–650ml	60ml	10L
	WeedMaster Dry	500–700g	75g	4.5–10kg
Bracken	Associate 600WDG	35g	5g	170g
	WeedMaster Dry	500g + Pulse Penetrant 200ml	75g + Pulse Penetrant 30ml	4.5kg + Pulse Penetrant 250ml
Broom	Conquest	250ml + Pulse Penetrant 100ml	60ml + Pulse Penetrant 10ml	10L + Pulse Penetrant 2L
	WeedMaster Dry	500g + Pulse Penetrant 200ml	75g + Pulse Penetrant 30ml	4.5kg + Pulse Penetrant 250ml
Gorse	Associate 600WDG	20g + Pulse Penetrant 100ml	5g + Pulse Penetrant 10ml	500g + Pulse Penetrant 400ml/100L
	Conquest	250–300ml + Pulse Penetrant 100ml	60ml + Pulse Penetrant 10ml	10L + Pulse Penetrant 2L
	WeedMaster Dry	500g + Pulse Penetrant 200ml	–	–
Lupin	Conquest	100ml	–	2L
Mānuka	Associate 600WDG	30g	5g	300g + Pulse Penetrant 500ml/100L
Matagouri	Associate 600WDG	25g	5g	170g
Sweet brier	Associate 600WDG	35g	5g	300g
	Conquest	300–500ml	–	12L
	WeedMaster Dry	500g + Pulse Penetrant 200ml	75g + Pulse Penetrant 30ml	6kg + Pulse Penetrant 250ml
Tutu	Conquest	250ml	60ml	10L
Woolly nightshade	Conquest	250ml	–	10L

Note: *Check product labels for weeds controlled and correct rate depending on weed species and size. Add Red Marker Dye when spot spraying to track sprayed areas.*

Product profile

Associate® 600WDG

Herbicide

Active ingredient: 600g/kg metsulfuron-methyl as a water dispersible granule.

Associate 600WDG is used for the control of gorse, broom, blackberry, Mānuka scrub and broadleaf weeds in forest site preparation, waste areas and pasture.

Key benefits

- Semi-selective, non-volatile, non-hormonal herbicide.
- Well suited for spot treatment and aerial applications.
- Can be mixed with most commonly used herbicides and marker dyes. Use mixes with marker dyes within 24 hours.

Mode of action

GROUP	2	HERBICIDE

Associate 600WDG is absorbed by the foliage and roots, and is translocated through the plant. It quickly stops cell division in the growing tips followed by slow decline death. Associate 600WDG has residual activity and controls seedlings germinating shortly after spray.

Ideal situation

- For best results, treat actively growing weeds from spring to autumn.
- When there are dense infestations of brushweeds with poor or run-out pasture, or where some possible pasture suppression can be tolerated.

Brushweeds treated

- Barberry
- Blackberry
- Bracken
- Gorse
- Hawthorn
- Mānuka/Kānuka
- Matagouri
- Old man's beard
- Privet
- Sweet brier
- Tutu

Plant-back period

- Soil residue persistence varies depending on dose rate, soil type and climate. Allow at least 3 months before oversowing.
- To check for any remaining residue, oversow a small test area 1–2 months before the planned sowing time.
- If quick vegetation cover is needed, oversow with a resistant grass such as cocksfoot or browntop.

Withholding period

- Withholding period of 3 days for dairy cows and 1 day for other stock.

Conquest®

Herbicide

Active ingredient: 100g/L picloram + 300g/L triclopyr as an emulsifiable concentrate.

Conquest provides control of gorse, broom, blackberry and other brushweeds such as thistles and ragwort. Grass selectivity makes it easier to maintain the current pasture species without having to re-grass.

Key benefits

- Grass-friendly herbicide that controls brushweeds without browning pasture; full effect in up to three months.
- Easy to measure liquid formulation that mixes readily with water.

Mode of action

GROUP	4	HERBICIDE

Conquest is absorbed by leaves, stems and roots, then moves to growing points. It disrupts cell division and elongation, killing the vegetation.

Ideal situation

- Ideal to use as a spot spray for pasture weeds when they are at the rosette to early flowering stage. Multi-crowned plants will also be controlled.
- A slow breakdown and disintegration of bushes occurs over a one to two year period.

Brushweeds treated

- Blackberry
- Broom
- Gorse
- Lupin
- Matagouri
- Sweet brier
- Tutu
- Woolly nightshade

Watch out for

- Do not apply if rain is likely within three hours after treatment.
- Poisonous plants (eg. hemlock, inkweed, ragwort, tutu) may become more palatable after spraying; keep stock away until plants have died down.

Plant-back period

- Residues may prevent re-establishment of legumes like clover. Residue persistence depends on site conditions, climate and application rate.
- Oversow small test areas 1–2 months before planned sowing to check for harmful residues.
- Avoid using Conquest where susceptible crops or legumes (eg. clover, lucerne) will be sown soon after application.

Product profile

WeedMaster® Dry

Herbicide

Active ingredient: 680g/kg glyphosate as a water soluble granule.

WeedMaster Dry is a broad spectrum, non-selective, non-residual herbicide that is not volatile and may be used in agriculture, horticulture and for other uses including general weed control.

Key benefits

- Controls a wide range of species.
- Faster speed of kill.
- Nil plantbacks.
- Well suited to aerial application to dense populations.

Brushweeds treated

- Blackberry
- Boxthorn
- Broom
- Gorse
- Old man's beard
- Sweet brier

Mode of action

GROUP	9	HERBICIDE

WeedMaster Dry is absorbed by plant foliage and green stems. It is inactivated immediately upon contact with the soil and does not provide residual weed control. WeedMaster Dry moves from the point of foliage or stem contact into the root system controlling the plant above and below the ground. Visible effects may take up to 14 days or even longer depending on growing conditions.

Watch out for

- Rainfall occurring up to 6 hours after application may reduce effectiveness. When Pulse Penetrant is added the rainfree period may be reduced to 30 minutes.
- WeedMaster Dry will control all plants present. If desirable plants are present they will be controlled.

Ideal situation

- Where dense brushweed is present and faster regrassing is desired.

Plant-back period

- Nil.

Red Marker Dye

Adjuvant

Active ingredient: 150g/L rhodamine B.

A bright liquid marker dye for use with a range of agrichemicals to visually identify sprayed areas.

Key benefits

- Improves weed control by supporting coverage visually.
- Minimises missed areas or over spraying.
- Flexible use range.
- Non flammable.
- Compatible with most commonly used herbicides and foam markers.

Success stories

- Significantly reduces the likelihood of missing bushes or double spraying.
- Helps ensure the job is done well the first time.

Ideal situation

- Scattered brushweed spraying.
- Handgun spraying.
- Backpack spraying.

Watch out for

- Thoroughly rinse sprayer after use.

Product profile

Pulse® Penetrant

Organo-silicone penetrant

Active ingredient: Greater than 800g/L organomodified polydimethyl siloxane.

Pulse Penetrant reduces droplet surface tension on foliage, allowing for both rapid uptake and decreased drying times. The amount of herbicide entering the plant quickly is greatly increased.

Key benefits

- Superior wetting ability.
- Improved penetration through stomatal uptake leading to faster herbicide uptake.
- Improved adhesion to hard-to-wet plants such as gorse.

Ideal situation

- Must be added to some herbicides when spraying brushweeds.
- Ensure the correct water rate is applied and apply to dry foliage.

Watch out for

- Add Pulse Penetrant when the tank is 85% full to avoid excessive foaming.
- Avoid application to wet plants as this may negatively effect rainfast period.
- When spray mix has been stored overnight, Pulse Penetrant should be re-added before spraying the next day.
- Make sure Pulse Penetrant is needed for the weeds you are targeting — check the herbicide label first. It is not required for some species such as barberry and blackberry.

Uptake

- Pulse Penetrant is essential for achieving effective control of certain weed species. Poor results are often due to insufficient penetrant or the use of a low-quality product.
- Figure 1 (opposite) shows a gorse spine under a microscope, where the visible holes are stomata (the plant's "breathing" pores). For some species, herbicides need to enter through these stomata – this is why Pulse Penetrant is necessary.
- Figure 2 (opposite) illustrates the percentage of herbicide uptake (glyphosate and metsulfuron) in gorse 24 hours after treatment, with and without Pulse Penetrant. The data clearly demonstrates the significant improvement in herbicide absorption when Pulse Penetrant is used.

Note

- Use on plants as per the product label.

Uptake of herbicides into gorse*

Gorse spine

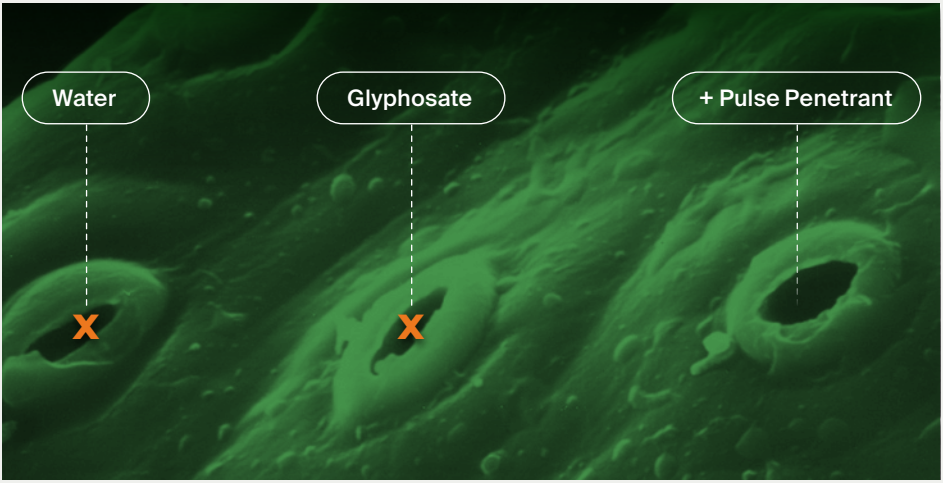


Figure 1: Gorse spine – water and glyphosate require Pulse Penetrant to ensure stomatal uptake

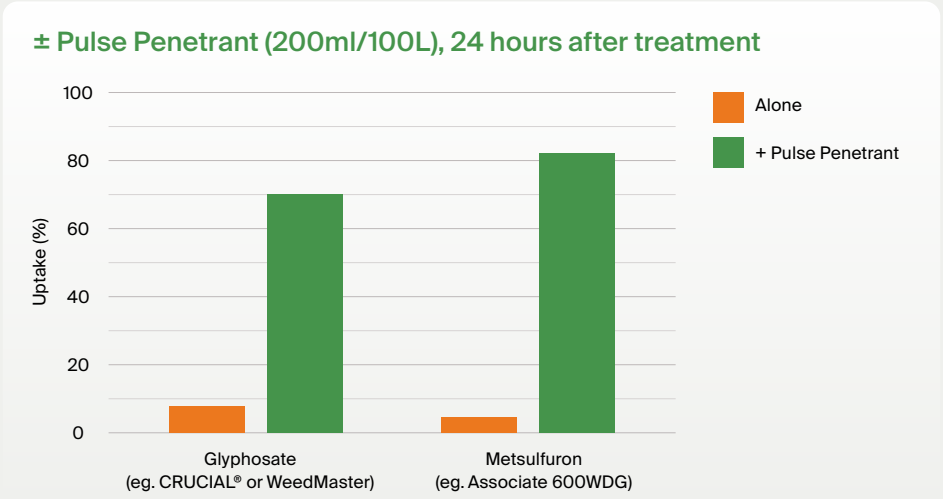


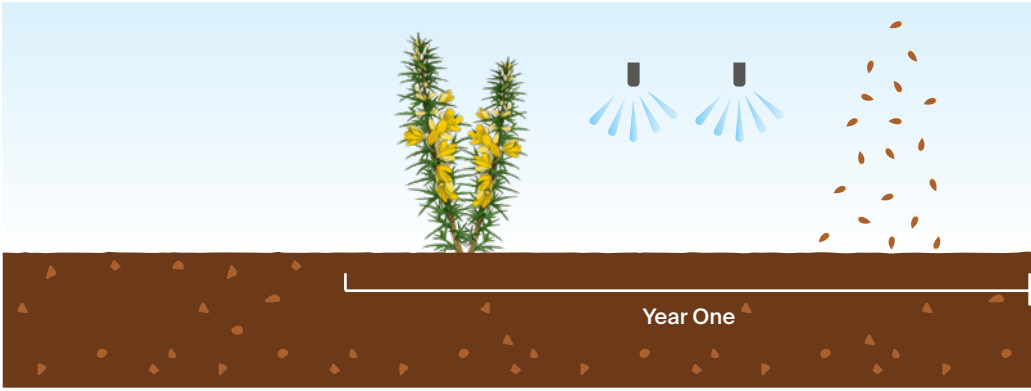
Figure 2: Uptake of herbicides into gorse

** Reference: Plant Protection Chemistry New Zealand*

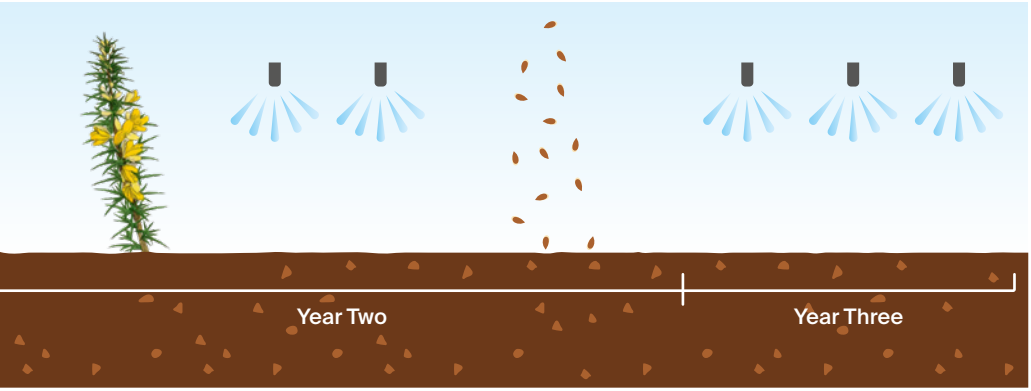
Brushweed control programme

Problem	Spring	Summer	Autumn	Winter
Scattered brush weeds	Conquest®			
Dense brush weeds slow process	associate 600 WDG			
Dense brush weeds fast process	WeedMaster DRY	Burn/Cultivate		
		Seed		
Adjuvants	PULSE PENETRANT			
	RED MARKER DYE			

** Always follow the product labels use timing for grazing and plant back periods.*



Spring	Summer	Autumn	Winter	Spring	Summer
	Conquest®				
Graze					
WeedMaster DRY	Burn/Cultivate			Conquest®	
		Seed			
	Conquest®			Conquest®	
	Conquest®				
Graze					
PULSE PENETRANT					
RED MARKER DYE					



Working out what you need

	Application rate per ha	Total ha's required	Amount required
Brushweeds			
Associate 600WDG	Refer to label		
Conquest	Refer to label		
WeedMaster Dry	Refer to label		
Pulse Penetrant	Refer to label		
Red Marker Dye	Refer to label		

Scotch broom

Priority Partnership®

Nufarm Priority Partnership® is an exclusive customer loyalty programme that values Nufarm customers for their support.

As a Nufarm Priority Partnership member you will receive a number of exclusive benefits including:

- Purchase incentives on the full range of Nufarm products.
- Information on new products, technology and services.
- Special membership offers and promotions.

Register today at:
prioritypartnership.co.nz

nufarm

More info – 0800 NUFARM
nzinfo@nufarm.com **nufarm.co.nz**