

Spear Thistle (*Cirsium vulgare*)



1 **Life Cycle:**

- Thistles are 'annual' or 'biennial' plants, meaning they complete one total lifecycle, from germination to seeding in a single year, or sometime across two years.
- Seeds germinate in autumn/winter and produce large rosettes and fleshy, branched, storage taproots
- A few of the early germinating plants may flower in spring then die. The rest continue growth over summer and into the following season or until soil moisture is exhausted and the top growth dies off leaving the roots alive in the soil
- The large rosettes produce a flowering stem in spring and flowers in summer.

2. **Dispersal:**

- Seed equipped for wind dispersal
- Seed short lived on soil surface, but may persist for year within the soil. (ie during cultivation)

3. **Eradication:**

Once established it is difficult to control but not impossible. *The key to controlling thistles, as with all annuals and biennials, is to prevent it from flowering and setting seed.*

A thistle control program will require accurate timing for initial control. Herbicide treatment should be applied when rosettes first appear, and again towards the end of rosette season, to target late germinators. All thistle should be treated BEFORE flowers develop.

Exhaust the soil seed bank – once thistle has been treated and controlled you need to manage the soil seed bank to prevent reinfestation. There will be new germination from seed bank, especially following cultivation. If this occurs, ensure these new thistles are treated early at rosette stage.

4. Control Techniques

Non-chemical Control:

- Hand weeding is possible for small plants, (wearing thick gloves)
- Repeated slashing of flowering stem may provide some relief, but would need to be regular done, and timed well to prevent flower development.

NOTE: There is a marked increase in numbers of seedlings if soil disturbance occurs.

Chemical Control:

- Cut & painting – useful for individual plants
- Knap sacking - useful for infestations up to 1m high
- Spray rigs – high volume vehicle or trailer mounted spray rigs will quickly and effectively produce a volume of spray to treat large infestations

Chemicals used

Please Note:

All chemical recommendations discussed are done so with the understanding that ANY and ALL herbicide applications are carried out within the guidelines as stated within the current chemical Material Data Safety Sheets. Any deviation from the MSDS instructions for rates, safety guidelines, applications etc are in NO WAY endorsed, instructed or recommended by Seeds Bushland Restorations.

It is common, good practice to be thoroughly familiar with any given herbicide prior to use.

Technique	Chem/Rate	OH&S	Timing	Comments
Knapsacking	Glyphosate (RoundUp) @ 100ml/10L Metsulphuron methyl (Esteem or BrushOff) plus any surfactant (Agral) @ 20ml/10L Clopyralid (Lontrel) @ 25ml/10L	Gumboots, chemical resistant gloves, long sleeves and long pants, hat, safety glasses or goggles. Face shield when mixing up. Respirator when spraying Lontrel	During rosette stage, and not during extreme heat when plant may shut down.	
Tanker Spraying	Glyphosate (RoundUp) @ 1L/100L plus any surfactant (Agral) @ 200 ml/100L Metsulphuron @ 15g/100L + plus any surfactant (Agral) @ 200ml/100L Clopyralid (Lontrel) @ 250ml/100L	Gumboots, chemical resistant gloves, long sleeves & pants, hat, safety glasses or goggles and respirator. Use all above plus face shield when mixing up.	During rosette stage, and not during extreme heat when plant may shut down.	