

NEW ZEALAND WINEGROWERS CHILEAN NEEDLE GRASS (CNG) MANAGEMENT FOR VINEYARDS

PREVENTING CNG FROM ENTERING A VINEYARD

Use good biosecurity practices to prevent CNG from coming onto the property. CNG can travel both as a seed or in soil attached to stock or machinery. Ensure that proper cleaning of machinery and equipment has taken place before it is moved between vineyards, properties or sites. CNG seed has a barb which also enables it to easily hook onto clothing. Ensure anyone working in CNG-infested areas is aware of this and cleans their clothing and boots accordingly.

A thorough washdown should be completed on vineyard machinery and implements before entering or leaving any property, especially sites known to have CNG. Compressed air can be used to blow off loose plant material, seeds, and soil, followed by a thorough washdown with a steam cleaner, water blaster, or high-pressure hose. Any plant material, seeds, soil, and wastewater must be contained on-site and disposed of correctly.

Ensure any stock coming onto your property to graze have not come from a property with CNG.

Ensure you and your staff can identify CNG plants in their vegetative and reproductive states. Early detection and control is the most effective means to prevent CNG establishment in vineyards. Carry out surveillance for CNG in the vineyard and surrounding areas, such as roadside vegetation, hillsides, and any vacant or unused areas on the vineyard.

IF CNG IS ALREADY ESTABLISHED ON YOUR VINEYARD OR IF YOU FIND CNG

CNG is a notifiable pest weed. Ring your Regional Authority and inform them if you have found CNG. Depending on your region, they may help you create a Biosecurity Plan for the proactive management of CNG, and they may provide active support.

CNG seeds conventionally in spring and early summer as an aerial seed, but it also produces seed all year round as a basal seed, so care must be taken all year round. It can also seed outside of spring and early summer, so depending on the season, you may see aerial seed at other times of the year.

CNG seed lives for a long time in the soil. If you have a known area of CNG try to prevent new seeds from coming to the surface e.g., drill new interrow swards rather than cultivate.

Map your infestation and undertake regular surveillance in areas that are not affected.

Taskforce (*flupropanate*) cannot be used in vineyards as it has a residual activity that contaminates the grapes and is therefore not approved for use in vineyards. Taskforce residue in the soil should be measured before planting grapes in a CNG infested property. If intending to use Taskforce on hills surrounding the vineyard, seek expert advice before spraying.



Figure 1. CNG growing in a vineyard.



Figure 2. CNG's clumping seeds.



Figure 3. CNG seedhead.



Figure 4. CNG's distinctive base.

FOR MORE INFORMATION

If you have any questions regarding CNG management, please contact New Zealand Winegrowers at biosecurity@nzwine.com

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LIGHT INFESTATION

- Try to isolate or fence off CNG areas.
- Do not mow. Spray with herbicide regularly.
- Cover if practical and in one isolated spot.
- Avoid grazing the CNG affected area.
- Cut and destroy all seed heads; burn or deep bury.
- Grub and remove all plants and destroy, burn, or deep bury.
- Contain plant and soil material from the affected area.
- Keep continually sprayed out if practical.

MODERATE INFESTATION

- Proactively manage CNG and put effort into reducing your infestation.
- Let all contractors and visitors know about the risk, especially if they move from vineyard to vineyard.
- Observe hygiene protocols with machinery and vehicles; always wash down thoroughly.
- Do not shift soil out of the affected area.
- Try to reduce the extent of the infestation. Consider implementing the double row spraying methodology outlined below.
- Do not graze. If necessary to graze, sheep grazed in a CNG affected area must go directly to slaughter from the property.
- Reduce mowing to the minimum required to manage your grape crop. Mow CNG blocks last. Clean machinery after mowing infested blocks to avoid spread.
- Time mowing of CNG to reduce seeding. A hard low mow, just as seed heads can be seen will reduce subsequent seed head formation.
- Recognise that once a CNG infestation has been established, spot spraying CNG in its reproductive phase may hold the infestation but may not diminish the number of plants.

HEAVY INFESTATION

- Proactively manage CNG; don't just give up and put it in the too-hard basket. Put effort into reducing your infestation.
- Don't work around the rules. Do your best to stop the spread.
- Let all contractors and visitors know the risk, especially if they move from vineyard to vineyard.
- Observe hygiene protocols with machinery and vehicles; always wash down thoroughly.
- Do not shift soil out of the affected area.
- Try to reduce the area of infestation within the interrow and headlands by spraying out and re-drilling with an alternative competitive sward.
- Do not graze. If necessary to graze, sheep grazed in a CNG affected area must go directly to slaughter from the property.
- Reduce mowing to the minimum required to manage your grape crop.
- At the edge of the infestation, manage more intensely with spot spraying or other control work.
- Consider treating with a weed wand on 4x4 bike/mule or tractor.
- Consider spraying out the interrow of every second row of infested block. Prioritise most infested blocks first. It is the drier areas within a block or dry blocks where CNG is most likely to proliferate.

CASE STUDY FOR MANAGING HEAVY INFESTATION

One protocol used successfully in a vineyard in Blind River is to spray every second row in spring before CNG has seeded (September/October) with 4L/ha of Roundup (*glyphosate*). If there has been significant weed/grass establishment spray again with 6L/ha Patriot (*glufosinate-ammonium*) in January and another Roundup spray (if needed). Then direct drilling as soon as autumn rains come (from March through to May) with 30 kg/ha of Nui ryegrass, an old fashioned ryegrass that doesn't compete over summer with the grapes. This has reduced CNG infestation to low levels and is being monitored over time. Make all traffic passes on the non-sprayed row. Or if using three row sprayers, having one row free reduces the risk of not being able to access the block and gives the option of changing the machinery set-up if needed. The following year alternate rows are treated.



Figure 5. Direct Drilling Interrow.



Figure 6. Double Row Spray.